THE INDIAN KINDERGARTEN

BY

C. L. GILLINGHAM

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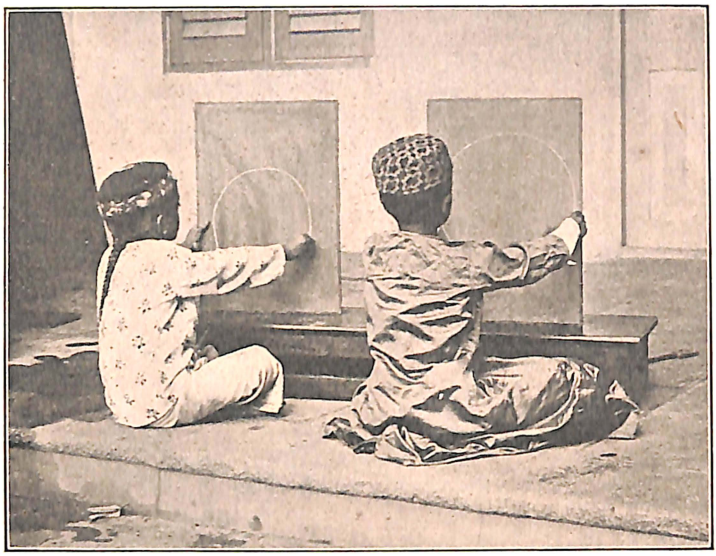

FIG. 1.—Free-arm Drawing. Sitting Position

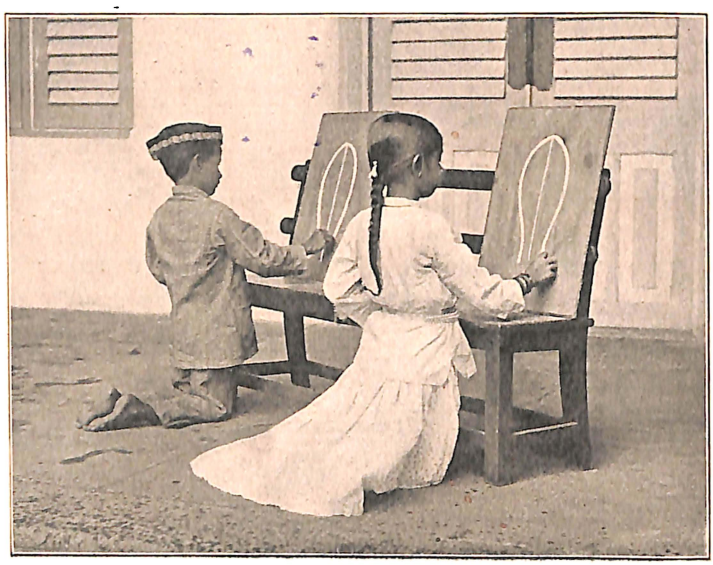

FIG. 2.—Free-arm Drawing. Kneeling Position

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Hundreds of people can talk for one who can think, but thousands can think for one who can see.—*Ruskin.*

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PREFACE.

THOUGH there are a great number of works on the subject with which this little book deals, there are few adapted to the requirements of teachers in India. It is to be hoped that the suggestions made in the following chapters will be of some help to Kindergarteners in this country. The methods and schemes of work laid down have all been tried, and have answered very successfully in the Kindergarten Department of the Teachers' College, Saidapet, Madras. In referring to the various standards the following ages are implied :—

Infant class	4 to 5 years.
Standard I.	5 to 6 years.
,, II.	6 to 7 years.
,, III.	7 to 8 years.

The prices of materials quoted are those usually paid in Madras, but they are, for the most part, materials the cost of which would not be likely to vary considerably. The writer desires to express her best thanks to Mr. J. H. Stone, M.A., Inspector of European and Training Schools, for the Introduction he has been good enough to write.

C. L. G.

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INTRODUCTION.

KINDERGARTEN has now become a recognised "subject" in Indian schools, but I think there is still room for scepticism both as to the kind and degree of usefulness it has attained. The very fact of its being considered a "subject" rather than a system or method points to a fundamental misconception, and when the nature of the work commonly done as Kindergarten is examined it is generally found to be defective in one or more of the following ways. It is too formal, it has too much the character of lessons and too little of play. There is insufficient reliance on the spontaneous activity of children, and the various "occupations" are regarded too much as ends in themselves, so that a child is taught, for instance, paper-folding in the same spirit as that in which he is taught writing, as though the ability to produce by folding paper a form called a pair of trousers were the object in view instead of some kind of valuable effect on his mind and body.

This is no doubt due a good deal to a general

want of clear thinking by teachers about the aim of any part of their work. They are, for the most part, content to carry on the schoolroom routine in blind reliance upon its efficacy to produce certain easily appreciable results. They find by experience that children do learn to read and write and cypher, and acquire facts of history and geography, and they are accustomed to have their work commended in proportion to the skill shown by their pupils in the fundamental arts and the quantity of facts they retain in their minds.

It is not strange, therefore, that they should expect their success as Kindergarteners to be measured by the skill of the children in the "occupations" and the amount they remember of stories and object lessons. Consequently a display of elaborate bead-work and paper-plaiting and the recitation of stories by heart are too often the only ends the Kindergarten teacher has in view.

Miss Gillingham entirely recognises this relative failure of Kindergarten and its causes, and has sought in her book to remedy it, both by way of precept and example.

She therefore always keeps in view the play aspect of the Kindergarten. The child must, as far as possible, be given things to do that it likes. It must be helped to do in an orderly and systematic way what if left to itself it would do in a casual, haphazard fashion. Its love of dramatisa-

tion and of imitating grown-ups must be provided for, and the scope of its imagination must be enlarged by stories. Its æsthetic inclination must be satisfied by the presentation of beautiful colours and forms, and by verse and music, and its constructive instincts by occupations, drawing and modelling.

It will be seen, therefore, that Miss Gillingham writes in the true spirit of Froebel. She has, however, in my opinion, wisely, discarded much of his practice. It is evidently desirable that teachers should find their Kindergarten material in the ordinary surroundings of the child. In India these will be of necessity Indian, and the book therefore contains very useful practical suggestions for the use of Indian material for occupations, particularly for drawing and modelling. The adaptation is by no means confined to material, as many of the stories and songs are either Indian or appear in an Indian dress.

Finally, Miss Gillingham has kept in mind the fact that Kindergarten children must eventually pursue the ordinary school course, and has shown how such matters as the elements of number and the forms of the letters may be learnt as play in the Kindergarten.

Indian teachers who have hitherto been left with very little guidance other than that to be got from English books, the teaching of many of which is not in accordance with the soundest views on the subject, should find the book of great value, par-

ticularly if they will take it as suggestive rather than dogmatic, and remember that the time-tables and courses of lessons are given by way of illustrations and help to teachers in working out systematic courses for themselves.

J. H. STONE.

A FEW MISTAKEN IDEAS OF KINDERGARTEN.

THERE seems to be no word more hopelessly misunderstood in this country than Kindergarten. The prevailing idea appears to be that Kindergarten consists wholly and solely in working a few of Froebel's Gifts and Occupations. Kindergarten is not a subject, it is a method. The literal meaning of the word is "children's garden," and Kindergarten methods of teaching are those by which the children are looked upon as human flowers and plants in a garden, and are allowed to act naturally as flowers do and are not treated as little machines. The gardener or botanist has too much common sense to expect his plants and flowers to grow in any other way, except in which nature intended them. Before he sows any seed he prepares the ground in a suitable manner, and to satisfy the desire of creepers to cling, he erects supports. By so doing he considers the original intentions of nature. In like manner the teacher must first consider the natural desires of the child before he attempts to teach him. It would be advisable for teachers to study children more than they do. A little child study is necessary to a teacher who wishes to become a good Kindergartener. Kindergarten includes not only the teaching of manual work, but also that of reading, writing and arithmetic. These three subjects with little children should all

be taught on Kindergarten plans, that is, in the form of play, and no stiff formal lessons in the same should be given until the children have passed the age of five or six years. Those teachers who imagine that, to have a good Kindergarten they must teach all Froebel's Gifts and Occupations, such as paper-folding, mat-weaving, perforating and embroidery, stick and pea-work and so on, are labouring under a delusion. None of these are absolutely necessary, although clay-modelling and drawing are quite essential. Perforating and embroidery have long ago been condemned as being of very little educational value and very trying to the children's eyesight and little fingers; and nowadays they are not to be found in any good Kindergarten. Elaborate and expensive occupations are taught in some schools and they form very interesting lessons, if in the hands of a capable teacher, but they are not at all necessary and it would be better if elementary Kindergarteners did not attempt them. So many teachers make the great mistake of looking upon these Gifts and Occupations as an end in themselves. They are not. They simply form a means to an end. Little children love doing things with their fingers, they like to feel and touch everything they see and there is a strong creative instinct in them. To satisfy these natural desires of the child, Froebel introduced his Gifts and Occupations, not simply to make pretty things with, but as a means of satisfying the child's desires. But it is not necessary to introduce these Gifts and Occupations as they stand. Froebel had to deal with German children and he taught accordingly. Obviously it would be absurd to endeavour to teach Indian children exactly as he taught German.

The surroundings, manners and customs of both nations are so vastly different. What Kindergarteners in India must do, is to understand the spirit of Froebel's teaching and teach on his lines. He educated his pupils through their senses and so followed nature. We can do likewise. He gave his pupils mat-weaving with paper. Probably there was something in Germany which suggested this idea to him. In this country instead of paper we can give our children palmyra leaves with which to weave. Basket-makers have used these leaves for generations past, so we can take a hint from them. For paper-folding it is unnecessary to use the orthodox paper squares as used in schools in Europe. Ordinary country paper will serve the same purpose, and it will be found that most of the Gifts and Occupations may be adapted to the conditions of this country without importing expensive apparatus from Europe. Teachers in this country who endeavour to follow out exactly the directions given in books on Kindergarten will hopelessly fail. In the first place, the majority of Kindergarten books are written for European and American teachers whose schools and surroundings are vastly different from those in India. Therefore, in this country to follow out exactly directions given in such books is absolutely absurd. Yet there are some teachers who try to do this. Secondly, in a good Kindergarten, the home life of the pupils, together with the surrounding district should influence the teaching and these vary in different places. For example, for a teacher in a Mofussil school to try and follow directions given in a book on Kindergarten evidently written for a big town in England would be absurd. So that it is impossible to lay down any

hard and fast rules for an Indian Kindergarten. The teacher himself must use his own discretion as to the most suitable lessons and occupations which to give his pupils. It does not matter what these lessons and occupations are, so long as they fulfil the same purpose, and serve the same end as Froebel intended his Gifts and Occupations to fulfil.

Visitors to schools expressing a desire to see the Kindergarten are frequently shown specimens of the children's work, such as elaborate baskets made with tiny beads, complicated designs in mat-weaving, atrocious-looking pictures of animals and flowers sewn in wool. Where is the educational value in any one of these occupations? They may have been in use years and years ago, but are not to be found in a good Kindergarten at the present day. The exhibitors of these specimens have entirely lost the true spirit of Froebelian teaching. We do not want detailed, beautifully finished work from our children. It is unnatural for them to produce it, and above all our children must be natural. It matters not how crude the drawing or the modelling may be, how soiled and creased the paper, providing the child has done his best. These occupations are simply a means to an end. In modelling the rabbit we do not expect a perfect representation from the little child, but we do want him, while he is in the act of modelling to observe and see for himself the shape and form of the animal. He may have learnt these before in the nature lesson, but now he sees for himself by doing. A very common mistake with respect to Kindergarten is that it is expensive, that is to say, costly materials are required. Never was there a greater fallacy. The cheapest materials may be used, the majority of which are

obtainable in the bazaar. It is quite unnecessary to import from Europe. One of the chief aims of Kindergarten training is to bring the child as much as possible into contact with nature, and in no country is this easier than in India. There are numberless trees and plants, fruits, cows, sheep, donkeys, horses, etc., which the child sees daily and which he may be allowed to draw and model. And nature is not likely to send in a bill for the use of her trees and animals, etc, which the children draw and model. Yet this observation from life is one of the most valuable points in Kindergarten teaching.

Below is given the monthly cost of materials which are used in a school consisting of 100 children and in the following chapters the cost of apparatus is given in each case.

Cost per month for materials used in a school consisting of 100 children :—

	Rs.	As.	Ps.
Clay for modelling	0	12	0
Country paper .	0	12	6
Brown paper .	0	7	0
Chalk . .	0	4	0
Total .	Rs. 2	3	6

Clay, brown paper and chalk are used throughout the school, from infants to the third standard inclusive, and there is a modelling lesson every day. Country paper is used for drawing, brush-work and crayon-work. Brown paper is also used for drawing and brush-work.

AIMS AND EFFECTS OF KINDERGARTEN TEACHING.

ONE of the chief aims of Kindergarten teaching is to educate the child in accordance with the laws of nature. To do this the Kindergartener studies the child himself, notices his likes and dislikes, his natural instincts and desires, and as far as possible arranges his teaching in order that it may satisfy these characteristics. The child should not be aware that he is being watched. For directly a child becomes conscious of observation, he ceases to be natural. The parent or teacher, studying the child, should simply observe him as he is in everyday life, both at work and play, and take note of the little peculiarities he displays, and from these mental notes arrange his scheme for teaching. Different children display different characteristics, but the majority of them possess many in common; and it is upon the strength of these common characteristics we base our Kindergarten teaching.

In almost all children there is a creative instinct and a love of doing; these we endeavour to satisfy by means of clay-modelling, sand-play, string-laying, drawing, and such like occupations. Directly opposite to the creative instinct is the child's love of destruction. This has an outlet in the fraying or unravelling lesson. The powers of observation

are trained and exercised in nearly all the occupations, as well as in the conversation and nature-lessons, while by the two latter the child's general knowledge is increased. Most children are to a certain extent imaginative, and this element of child nature is usually termed the "child's sense of imagination". Picture-reading and story-telling exercise this faculty. The child's love of movement has an outlet in the physical exercises, the Kindergarten games and in most of the occupations. The æsthetic side of child nature is called into play in the lessons in brush-work design, and drawing from nature, while scope for originality is given in picture-reading, designing and in many other of the occupations. One important element of child nature is that of "make-believe". How often when listening to a group of English children at play do we hear them say, "Oh! let's pretend"; and from experience of Indian little ones, it appears that they also possess this characteristic. Who has not seen the boy astride the chair or stool, pretending that it is a horse, or the little girl holding a bundle of clothes in her arms, making believe that she holds a doll? This sense of make-believe is gratified in the Kindergarten games and the dramatisation of stories, when the little ones pretend to be trees, animals, fishes, birds, men or women as the case may be. In satisfying these natural desires of the child we make his education a pleasure and delight to him, instead of a task.

Many teachers argue that by teaching on Kindergarten methods they are unable to get such good results from the pupils as they would by the old mechanical methods. The question is, what kind of results are looked for? If being able to read in parrot-like fashion a number of pages from

a reading book and to recite in like manner numberless arithmetical tables and to work a few sums on slates, without knowing the why and the wherefore of the calculations made, constitute good results, then good results will not be obtainable by Kindergarten methods. But if intelligent, self-reliant pupils, who are capable of thinking for themselves, independent of teachers, constitute good results then the arguments of these teachers fall to the ground. Kindergarteners do not expect, or even look for excellent results from their pupils during their early training, but the effects of Kindergarten methods of teaching show very clearly later on in the school life, when the children prove themselves to be apt pupils at more difficult subjects. Given two boys at the age of ten years, with the same amount of brain power, the one trained on Kindergarten methods and the other on mechanical lines, the former will be found to be the more intelligent, self-reliant and ready to take in fresh knowledge. What is the reason of this? Simply, that the Kindergarten boy has not been allowed to blindly follow his teacher in all things, but has been taught how to find and reason out things for himself.

THE KINDERGARTEN TEACHER.

THE teacher who desires to be a successful Kindergartener must be cheerful, lively and entertaining, and above all, capable of being a child with his children. The teacher who sits upon a high stool, and looks down upon his pupils from above in a high and dignified manner, is not a Kindergartener. In class-rooms where the little ones sit upon the floor, the teacher should sit likewise, and play and converse with them in that position. The cleverest teacher is he who can come down to the level of the children and see things from their point of view. He remembers the time when he was their age and the ideas which he then had. He allows the pupils to think that he is as anxious to learn and find out fresh facts about things in general as they. He does not assume an attitude of boredom in teaching, and so convert the lesson into a dry uninteresting period. But he expresses surprise and wonder at each new discovery, as though, like the pupils, it were the first time he had seen such a thing. He is ever cheerful, lively and energetic and so carries his children's interest and attention with him. He does not repeatedly say, "*You* do that," and "*You* do the other," but he includes himself in the number, saying, "*We* will find out about this" and "Let *us* do the other". He encourages competition between himself and the children,

as to who can see or do a thing the better or the quicker, and is slow at finding fault, but quick to give praise when deserved. He does not praise the most perfect worker in the class, but the hardest, judging by intentions rather than by results. His voice is clear and distinct, reaching every child in the class without any of that objectionable shouting which characterises the weak teacher. He does not wear a stern hard face (which many teachers think necessary to their profession) but is ready to smile or laugh on the slightest provocation. The teacher's look is reflected upon the faces of his pupils, and a visitor may always judge the disposition of the teacher by the appearance of the faces of the children.

The true Kindergartener is young, not necessarily in years, but in his manner. Although he works himself, he takes care that his pupils do their full share also, not as a task, but more as an amusement. The children are allowed to think that they are playing the whole time, but the teacher does not lose sight of the knowledge which is unconsciously taken in during the play by his pupils.

As to his dress, he silently sets an example to his pupils by his personal smart and neat appearance, and encourages them to dress in a similar manner. Many teachers think, that because they are teachers they must dress in a sombre and dowdy manner. Nature does not clothe herself so; she dons her prettiest colours, blending them harmoniously for our benefit. Can we do better than follow her example? Little children do not care for sombre colours. They are attracted by all that is bright and gay looking. We as teachers must consider this side of child nature as well as the many others.

The pupils of the true Kindergartener are encouraged to keep their class-room tidy by their own individual efforts. They are not allowed to throw paper and slates about in an irresponsible manner, but are taught to take a pride in the appearance of their class-room. They respect the wishes of their teacher out of regard and not fear, and are always ready to confide in him their little troubles and joys while he encourages them to look upon him more as a companion and friend than as a schoolmaster. Lucky are the little ones who possess such a teacher, and happy the teacher who is capable of managing his pupils in such a manner.

DISCIPLINE IN THE KINDERGARTEN.

By discipline in the Kindergarten we do not mean the sitting bolt upright of the children, with their arms tightly folded across their chests or backs, as the case may be. This is not discipline. That children should sit up straight in order that they may develop straight backs is not disputed. But nature never intended that a little child of five or six years of age, or even older children should sit in one position very long. A constant change of position and a certain amount of movement are absolutely necessary to the child. He has a certain quantity of self-activity given him by nature, which it is impossible to restrain. We as grown-ups so frequently forget this and grumble at the child for fidgeting when it is ourselves who deserve the scolding, for being so foolish as to expect the child to be unnatural. We tell the child to "sit still and be good". But why should sitting still constitute being good? We cannot understand the child's frequent movements because we ourselves have no desire to continually run and jump. We scold him simply because he is not as we are. It would rather surprise us if he were to retaliate and scold us for not desiring to run and jump as he does. Yet there would be as much justification in the child's scolding as there is in ours.

If the child desires to have plenty of movement, we must

take care to give him scope for that movement. For this reason the lessons in the Kindergarten should be short and opportunity given for physical exercises and marching. If this is done and the children are allowed to work off some of their activity in this manner, there will not be so much of what is usually termed "fidgeting" in class.

In looking in upon a Kindergarten class, we should see the children sitting in all positions; one child may be so interested in the lesson that he is resting his head between his two hands, and gazing in rapt attention at his teacher's face, while another child may have moved his seat a little nearer to the teacher in order that he may see and hear better. Other little ones, affected by the heat of the day, who have fallen asleep, are left undisturbed by their teacher and class-fellows. If a child is called out in front of the class, he is not made to walk out stiffly with his hands behind him, like a little machine, but he runs out eagerly, not stopping to walk all round the long bench, but taking a short cut, by either hopping over, or crawling under it. In their drawing lessons, the little ones are not compelled to maintain a rigid silence as though they were a class of wax dolls, but are allowed to hold little conversations with one another and are encouraged to admire the work of their class-fellows. In the free-arm drawing lesson, they run to and fro, at intervals, admiring or criticising the work of the other children, and trying themselves to draw better. Of course, when they form up in line, or assemble in the central hall for dismissal, they are not allowed to talk, and this little exercise in silence trains them in self-control, and prepares

them for the higher classes, in which they will of a necessity observe stricter discipline.

The movements of the little child are all spontaneous and should not be checked. There is nothing more pleasing in a class of little ones than after asking one of them to come out in front to perform some trifling act, to see his face immediately brighten up with pleasure and for him to come scrambling out of his seat as quickly as his little legs will bring him.

As to the punishment of children it is hard to lay down any hard and fast rule. It depends so much upon the temperament of the offender. While a serious talking to will suffice for one child a thrashing is necessary to another. But the frequent use of corporal punishment is very undesirable. "Familiarity breeds contempt" and continual experience of the cane only tends to lessen the seriousness and disgrace of such punishment, in the eyes of the guilty one. Speaking generally, the cane should never be used on boys under seven years of age, and seldom, if ever on girls. To thrash a boy at too early an age is cruel, while to thrash him when he is too old for such punishment is worse than useless. A threat of corporal punishment, or even a sight of the implement of torture, would make some children positively ill with nervousness, while on others, hardened to such remedies, this would have no effect whatever. In both these cases, the wise teacher would make no mention of the cane, but resort to other remedies. The mode of punishment depends to a great extent on the home life of the child.

The wise teacher knows that very few, if any, children are really at heart bad, and that most of the little wrong-doings

they commit are not due to wickedness on their part, but simply to the thoughtlessness and inexperience of their childhood. These little misdoings are not usually committed with any vicious intent, so that it seems rather unfair to punish the children, as though they were. We grown-ups have had too much experience to do some of the things which children do. Therefore to punish children for their inexperience is obviously unjust. Certainly, they must learn that there are things which they may or may not do, but it would be better for them to learn as far as possible the reasons for doing or not doing them, as the case may be. For example, to tell a child not to touch a hot lamp without telling him why he should not, is unreasonable. It will not do to answer his query, "Why may I not touch?" with the answer, "Because I say you may not". This is not fair to the child. Like ourselves he seeks a reason for everything. Should he insist upon touching after being told the reason as to why he should not, he will have received sufficient punishment in being burnt, without any further efforts in this direction, on the part of the parent or teacher. And what is more, he will see the reason and justification in his punishment. Of course, in some cases, this method of allowing the child to learn by his own experience is not feasible. For instance, it would be folly to stand by and see a child run over by a carriage or motor-car, simply because he refused to leave the middle of the road when called. But we should, as far as we can, appeal to the reason of the children when we expect obedience from them. Again, we should never suspect the child of wrong-doing; let us always give him the benefit of the doubt. Many a child

has been encouraged to do wrong, and not only to do wrong, but to lie about it afterwards, by parents or teachers who always seem to be on the alert to catch the child in doing something which he ought not to be doing. No wonder that the child, seeing what is expected of him, takes care to live up to his reputation, knowing that whatever he does will be looked upon with suspicion. Why is it that we grown-ups are so apt to forget that little children, like ourselves, have their own personal feelings and that the "Naughty boy" and "Bad child" which we ejaculate so freely and frequently, hurt those children as much as it would hurt us to be called unkind names by our dearest friends. Children treated in such a manner become hardened and callous to scoldings, and their effect is lost.

There is rather a good story told of a boy in a certain class, called we will suppose Tom Jones, who was looked upon as the black sheep of the school. Everything that went wrong was always attributed to Tom Jones, until he became so used to being scolded and punished, that at length he became rather proud of his misdoings than otherwise. On a certain occasion the master lost his spectacles and asked the class as to who had taken them. No reply forthcoming, he immediately accused Tom Jones of being the culprit, but he denied the charge. The teacher then threatened to keep the whole class in school during the tiffin hour unless one of the boys confessed to having taken the glasses. Hereupon Tom Jones said that he had taken them. Five minutes after this, the wife of the master appeared, carrying in her hand the missing spectacles, saying that she had found them on her husband's table after he

had left home. On being questioned as to why he had said that he had taken the spectacles, Tom Jones replied that he knew he was suspected and as his false confession would result in the release of the whole class at the correct time, he thought it wiser to confess to having taken them.

This little anecdote makes rather an amusing story, but the same kind of thing is to be found in many schools, where the teacher takes no trouble to use tact and discretion in the management of the pupils.

As far as discipline in the Kindergarten is concerned there should be little or no difficulty whatever. If the teacher loves and understands little ones, his very manner and style of teaching will fascinate them to such an extent that they will have no desire to attend to anything else but the teacher. Therefore the chief aim on the part of the Kindergartener should be to cultivate an interesting and lively style of teaching.

A FEW ESSENTIALS OF A GOOD KINDERGARTEN.

1. *The Correlation of Lessons.*—This is dealt with in a separate chapter.

2. *Keeping Animals as Pets.*—In tending animals and plants the child is trained to think of others besides himself and this way he becomes more unselfish. It matters not what animal or animals are kept in the Kindergarten, so long as the children are allowed to feed them themselves. This they can do by bringing a small portion of their daily rice for them. A dog, a cat or a bird will answer the purpose, neither of which is much trouble to look after. White rabbits and white rats are very tame and most pleasing creatures to keep as pets. The rabbits run in and out of the class-rooms at will and become quite friendly with children; they feed on grass or any green stuff, being particularly fond of croton and cabbage leaves and plantains. The white rats feed on rice and milk and should be kept in a wooden cage of reasonable size with a wire-netting front. Aquariums containing fish or tadpoles are kept in some Kindergartens, while silk-worms when obtainable form very interesting studies. It has been found better to keep white rabbits and rats in pairs in preference to one alone, as they are fond of companionship and are much happier when in company with others.

3. *A Kindergarten Garden*, however small, is necessary. It is quite possible in most schools to spare a small portion of the compound for the use of the children where they can attend to the soil and sow their own seeds. In most compounds there is a well, in the proximity of which the garden should be laid out, and during the dry season the children will find plenty of employment in watering their plants with water obtained from the well. The garden, if divided into beds, one for each class, will be the means of encouraging competition among the pupils as to which class shall obtain the best results. Even if this cannot be done a few plants in pots will answer the same purpose. But the children must do the work themselves, under supervision of course. In this way they are brought into direct contact with nature and learn that plants as well as animals require food and attention. They will also be led to notice the wonderful development of plants from the seed to the full-grown stage, the various ways in which different plants grow, the way in which a leaf or a flower will of its own accord turn to the most favourable position in which to catch the light and the effects of rain, cold and heat or of insects upon the plants. In doing this, we do not wish to train our pupils as professional gardeners or botanists, but we do wish to train them to notice and think for themselves about the great wonders of this earth on which we live, and to use those powers of thought and observation which have been given to us all by nature, and which so few of us make any use of. Because these works of nature are everyday occurrences, and are going on around us perpetually, we are apt to pass over them lightly, and cease to wonder at the marvel of them. But if we only

think a few minutes on some of these works, the great wonder of them dawns upon us. What we want to teach our children is to see and think for themselves. This is the great aim of Kindergarten teaching, and it will be found that nothing helps the child so much in this respect as to bring him in direct contact with nature, and this we do when we give him plants and flowers to tend.

4. *Nature Observation.*—Unless the child observes for himself, the tending of animals and plants will be useless, and not only must he observe, but say and draw what he observes. Nature observation does not consist, as so many teachers seem to think it does, in simply gazing at a tree or flower and doing nothing further. The child must be trained to seek the reasons for phenomena which occur in nature. Every effect has a cause, and the child when he sees the effect should of his own accord seek the cause, *e.g.*, in looking at a fallen tree, an intelligent child naturally asks himself why it has fallen, and probably comes to the conclusion that its roots were not deep enough in the ground, or that it had grown too tall. Again, on hearing that the price of rice was very high and on inquiring the reason, was told that it was owing to the lack of rain, he would naturally be anxious to find out the connection between rain and the cost of rice, and when he had found this out for himself he would begin to see how all branches of nature are dependent upon one another, the man upon the rice, the rice upon the rain and so on. We as grown-ups are apt to become impatient with the child's perpetual questioning, but if the child does not ask about what he does not understand, how is he to learn? Generally speaking, it is the most intelligent child who questions most.

5. *Drawing*, both by teachers and pupils, is absolutely necessary to a good Kindergarten.

6. *Clay-modelling* is one of the most important occupations and no Kindergarten is complete without it.

7. *Sand-play*.—This also is important and like clay-modelling forms the subject of another chapter.

8. *Music*.—The child if left to himself naturally sings over his work, and play and singing should certainly form part of the school curriculum. Most of the Kindergarten songs published are in English or German, but there are many pretty little Indian song-books suitable to Indian children. One of these is *Method of Learning and of Teaching Music*, by Rau Bahadur C. Nagojee Row, published by Messrs. Srinivasa, Varadacharry & Co., Mount Road, Madras, price one rupee, which contains a number of Kindergarten songs in Tamil. The book is also published in Telugu.

9. *Physical Exercises or Drill* should also have a place in the school time-table, the difficulty of the exercises and the time given to them varying as to the age of the pupils.

10. *Story-telling*.—All children love to hear an interesting story related and a certain time should be set aside for the telling of stories.

11. *Kindergarten Games*.—These are very necessary and will be dealt with in a separate chapter.

12. The last and greatest essential of all is a lively and cheerful teacher who is capable of being a child with the children. Without these attributes nobody can be a successful Kindergartener.

It will be noticed that mat-weaving, paper-folding,

perforating and sewing, stick and pea-work and such like occupations, to which many teachers in this country pay so much attention, are not mentioned as being *essential* to a good Kindergarten, though the prevailing idea seems to be that they are.

THE TIME-TABLE.

In drawing up a time-table for a Kindergarten the following points must be borne in mind :—

1. The lessons requiring most brain power, *e.g.* reading and arithmetic, should be given in the morning, when the child is fresh and lively, and ready for hard work. Where possible, drill should also take place in the morning.

2. All lessons should be short. For children between the ages of five and seven, no lesson should be longer than twenty-five minutes, while for little ones under five, fifteen to twenty minutes is quite long enough.

3. For children under seven, plenty of scope for their natural activity should be given. Five minutes in every twenty should be devoted to physical exercises, singing or marching.

4. The day's work should commence with five or ten minutes' conversation between the teacher and children on general topics. This is usually spoken of as the "morning talk" and is intended to lead the children to observe what is happening around them. As far as possible, the home and school life should be connected and the children encouraged to talk about their homes to the teacher. Current events, *e.g.* a feast, a thunder-storm, a flood, a holiday may form subjects for the morning talk.

The accompanying tables have been drawn up with a view

to showing how the lessons in a Kindergarten should be arranged. It will be noticed, especially in the lower classes, how lessons during which the children are obliged to sit still, *e.g.* nature and arithmetic lessons, are followed by those which admit of a certain amount of movement, *e.g.* drill and recreation, while other periods are freely interspersed with exercises of one kind and another. These tables are not intended as specimens to be strictly followed, but more as a suggestion as to the arrangement of lessons. The time-table of Standard I. would be similar to that of the infant class, while that of Standard III. would to a certain extent resemble the time-table of Standard II. In drawing up time-tables for a school, a separate one, in which the lessons are shorter in duration, should always be made for children under six years of age.

TIME TABLE.

INFANT STANDARD.

Morning.

	9.55 to 10	10 to 10.10	Period I.		Period II.		Period III.			12.25 to 12.30
			10.10 to 10.30	10.30 to 10.50	10.50 to 11.15	11.15 to 11.40	11.40 to 12	12 to 12.5	12.5 to 12.25	
Monday. . .	Assembly in Hall	Morning Talk and Feeding Animals	Nature Lesson Story	Drill	Arithmetic	Organised Games	Reading	Exercises	Picture Reading	Assembly in Hall and Dismissal
Tuesday . .			Nature Lesson	,,	,,	Playing with Toys	,,		Story	
Wednesday .			Conversation Lesson	,,	,,	Organised Games	,,		Picture Reading	
Thursday . .			Nature Lesson	,,	,,	Guessing Games	,,		Oral Picture Drawing	
Friday . . .			,,	,,	,,	Playing with Toys	,,		Stick-laying	

Afternoon.

	1.25 to 1.30	Period IV.			Period V.		Period VI.			3.55 to 4
		1.30 to 1.50	1.50 to 1.55	1.55 to 2.20	2.20 to 2.45	2.45 to 3.10	3.10 to 3.30	3.30 to 3.35	3.35 to 3.55	
Monday . .	Assembly in Hall	Writing	Exercises or Finger Play	Singing	Observation Drawing	Free Play	Conversation Lesson	Exercises	Drawing to Illustrate Conversation Lesson	Assembly in Hall and Dismissal
Tuesday . .		,,		,,	Free-arm Drawing	Blowing Bubbles	String-laying		Clay-modelling	
Wednesday .		,,		,,	Mental Drawing	Nature Observation in Compound	Bead-threading		Sand-play in Class-room	
Thursday . .		,,		,,	Nature Lesson Drawing	Sand Play in Compound	Story		Drawing to Illustrate Story	
Friday . . .		,,		,,	Memory Drawing	Kindergarten Garden Cultivation	Fraying		Kindergarten Games	

TIME TABLE.

STANDARD II.

Morning.

	9.55 to 10	10 to 10.10	Period I.		Period II.		Period III.		12.25 to 12.30
			10.10 to 10.30	10.30 to 10.50	10.50 to 11.15	11.15 to 11.40	11.40 to 12.5	12.5 to 12.25	
Monday . .	Assembly in Hall	Morning Talk and Feeding Animals	Arithmetic		Writing	Drill	Reading		Assembly in Hall and Dismissal
Tuesday . .			,,		,,	,,	,,		
Wednesday .			,,		,,	,,	,,		
Thursday . .			,,		,,	,,	,,		
Friday . . .			,,		,,	,,	,,		

Afternoon.

	1.25 to 1.30	Period IV.		Period V.		Period VI.		3.55 to 4
		1.30 to 1.55	1.55 to 2.20	2.20 to 2.45	2.45 to 3.10	3.10 to 3.35	3.35 to 3.55	
Monday . .	Assembly in Hall	Chequered	Drawing	Nature Lesson Story	Nature Observation in Compound	Crayon-work	Seed-designing	Assembly in Hall and Dismissal
Tuesday . .		Free-arm	Drawing	Singing	Kindergarten Garden Cultivation	Conversation Lesson	Drawing to Illustrate Conversation Lesson	
Wednesday .		Drawing from Copy	Memory Drawing	Nature Lesson	Organised Games	Brush-work		
Thursday . .		Ruler	Drawing	Singing	Kindergarten Garden Cultivation	Tablet-designing	Clay-modelling	
Friday . . .		Model Drawing	Drawing from Nature	Nature Lesson	Free Play	Story	Drawing to Illustrate Story	

CORRELATION OF LESSONS.

By the correlation of lessons, we mean the connection of one lesson with another, so that instead of isolating subjects from each other, we seek to draw a connection between them, and so make one complete whole. It is so easy to connect one subject with another that it is to be wondered at that teachers do not seek to correlate their lessons more than they do. History and geography in the upper classes in many cases are connected in a most interesting way, and the lessons consequently taught and learnt in a more intelligent manner.

In Kindergarten teaching we endeavour to follow nature's laws as far as possible. Everything in nature is part of one complete whole, and every little element is connected with, or dependent upon another, *e.g.*, the birds depend upon the trees in which to build their nests, the trees depend upon the soil and the soil upon the rain and so on. Again, the child does not think in sections, he naturally seeks to connect one thing with another. We all know how much easier it is to learn a new fact if we can in any way connect it with another with which we are already familiar. The latter serves as a peg on which to hang the former, so to speak. So it is with children's minds. They learn new facts much more quickly if connected with an old one. Therefore in our Kindergarten we correlate as far as possible one lesson with an-

other. One lesson is chosen as the ground work on which to teach, or as the central point round which all the other subjects revolve. For this central point, the nature lesson is taken by some teachers while the story is chosen by others. This choice is purely a matter of opinion. Suppose that we take the nature lesson as the central point, and choose the donkey for our lesson. The same lesson is taken in all classes throughout the school and will last for one week. In the first nature lesson of the week, which would most likely be on Monday, the story of "The Old Man, his Son and the Ass," from Marsden's III. Tamil Reader, or some similar tale, including an ass, would be told to the children. By relating this story we arouse in the pupils an interest in the donkey, and the next day and following days they learn the habits and customs, etc., of that animal. This story is nothing whatever to do with, and is quite separate from the story told in the story lesson. This nature-lesson story is told in the nature lesson. In the clay-modelling lesson the children may either model a donkey, a dhobi's bundle or pot. In the drawing lesson they will draw a donkey, a dhobi with his donkey, or a dhobi at the riverside washing clothes. In their sand-play they make a realistic representation of the river bank, the likeness being made more faithful by the addition of a few stones and shells picked up in the school compound, while the donkeys modelled in clay stand by waiting to carry away the clothes. In like manner the other occupations and lessons would be grouped round the nature lesson. Compare this method with that of teachers who do not correlate their lessons. Where is the sense or the reason in taking a group of lessons as follows :—

Nature lesson	donkey.
Drawing .	cow.
Brush-work .	flowers.
Modelling .	mango.

Yet there are teachers who work in a similar manner to this. By so doing, they give themselves more work, and arouse in their pupils less interest that they otherwise might do. Again, in taking one nature lesson throughout the school, one set of apparatus only is necessary for that week, while the children in various classes are enabled to compare notes on the lessons, outside school. The time-table of course must be arranged in order that the classes do not clash in their lessons; otherwise the apparatus will be required in several classes at once.

A couple of examples of correlation are here given, and from these it will be seen how the lessons may be connected with each other. When it is impossible to naturally correlate the lesson or occupation with the central point, the connection is not forced, but is simply left alone.

PLAN OF WORK FOR ONE WEEK.

NATURE LESSON—DONKEY.

	Standard II.	Standard I.	Infants.
Story . . .	"The Old Man, his	Son and the Ass"	--
Clay-modelling .	Donkey	Dhobi's Tub	Dhobi's Washing-slab
Drawing .	Donkey	Donkey's Head	Donkey's Ear, Tail, Hoof
Brush-work . .	Compound in which Donkey Grazes	—	—
Stick-laying .	—	Shed for Donkey	Shed for Donkey
Paper-folding .	Dhobi's Tub	Dhobi's Tub	—
Seed-designing .	—	—	—
Sand-play . .	—	River Dhobi's Donkeys	Bank— Waiting Near
Fraying .	—	—	—
String-laying .	—	—	Donkey's Ear, Tail, Head, Feet, Bundle, Food, etc.
Bead-threading .	—	—	Necklace for Donkey
Kindergarten Games . .	—	Children represent Donkeys, going to with Clothes	Dhobies and their and from the river

PLAN OF WORK FOR ONE WEEK.

NATURE LESSON—COCOA-NUT.

	Standard II.	Standard I.	Infants.
Story	"The Cocoa-nut and the Miser" or any other Suitable Story		
Clay-modelling	Half Cocoa-nut Shell	Half Cocoa-nut	Full Cocoa-nut
Drawing	Cocoa-nut Tree	Cocoa-nut Flowers, Bunch of Cocoa-nuts	Full Cocoa-nut and Leaves
Brush-work	Cocoa-nut Tree	Cocoa-nut Leaf	—
Stick-laying	—	Ladder to Climb Cocoa-nut Tree	
Paper-folding	Toddy Tub	Boat made from Outer Covering of Flowers	—
Seed-designing	Bunch of Cocoa-nuts	Cocoa-nut Leaf	—
Sand-play	—	Cocoa-nut Tope	
Fraying	—	—	Cocoa-nut Fibre Brush
String-laying	—	—	Suspension Rope used in Climbing Tree
Bead-threading	—	—	String of Cocoa-nuts
Kindergarten Games	—	Climbing Trees, Buying and Selling	Gathering Nuts, Nuts, Oil-mill

NATURE AND OBJECT LESSONS.

THE choice of the nature or object lessons will to a very great extent depend upon the condition and surroundings of the pupils. The subjects chosen for object lessons in the Kindergarten should be those with which the children are already familiar. It would be absurd to give a class of English children, residing in England, a lesson on a mina or jackal. Equally absurd would it be to give a lesson on the robin or English fox to a class of Indian little ones. One of the first principles of teaching is to proceed from the known to the unknown, and this is applied here by first giving the child lessons on things and animals with which he is already acquainted, and afterwards in his later school-days proceeding to subjects which are unknown to him. In the Kindergarten, lessons should be given on animals, birds, fruits and minerals with which the children are familiar.

As to the method of teaching the nature lesson, it is necessary to state that the sole aim of the lesson is not to learn every little detail about the subject in hand. It would be a matter of impossibility for little ones to remember all the nature lessons which they are taught in the school year. The nature lesson should encourage the pupils to take an interest in the animals and plants around them;

they should learn to observe for themselves and to seek a cause for every effect, and after a series of nature lessons they will see how one branch of nature depends upon another and how all branches form one great whole.

It is surprising how very dull and uninteresting some of the most interesting lessons may be made by ignorant teachers. In lessons on animals, for instance, where is the good in spending half the lesson in learning and repeating the various parts of the animal's body. It is no uncommon thing for a teacher to start a lesson on the horse or any other animal in the following manner. He shows a picture and asks, "What is this?" The children reply, "A horse". Then he proceeds thus :—

"How many legs has the horse?" "The horse has four legs."

"How many eyes has the horse?" "The horse has two eyes."

"How many ears has the horse?" "The horse has two ears."

All these facts the pupils know beforehand, and it is unnecessary to spend time over them in the lesson. The horse is an animal which they probably see every day, so the fact that it has four legs, two eyes and two ears and so on, is well within their knowledge. But if the habits and food of the animal are first discussed, and the teacher then shows how the various parts of its body are adapted to its mode of living, the lesson will assume a more interesting aspect and the reasoning powers of the children be brought into action. For instance, in a lesson on the rabbit, the teacher would first talk about the way in which it runs and leaps, and

would then show how the long hind legs and the short fore legs were especially adapted to this method of movement. Then he would dwell upon the gnawing and burrowing propensities of the animal, and show how its teeth are formed for this purpose. In a lesson on the cat, after dwelling upon its mode of living by catching mice, the teacher would bring out the connection between its cushioned paws which enable it to walk silently, and the way in which it catches its prey.

Again, the lives of animals and plants may to a very great extent be compared with the life of the child, and this fact the teacher should take into account in his lessons as much as possible. In his own little opinion, the child himself is the most important personage in the universe. For him the sun shines, the trees grow and the flowers put forth their beauteous colours. If the teacher will remember this little characteristic of the child he will be enabled to make his lessons much more attractive to the pupils. For instance, a "tree" would appear to some teachers as a most unattractive lesson to give to little ones. But if the growth of the tree be followed from its birth upwards and compared at the same time with similar growths on the part of the child, what a difference is effected?

The teacher refers to a certain tree in the compound of the school, with which the pupils are familiar. He speaks of it as the parent tree which gave a number of little baby trees to the earth. He questions as to what a baby tree would be like and what it would be called, and is told that it is a seed. He then tells the children how one of the baby trees was blown by the wind to another part of the

compound, where the kind soft earth covered it. The baby tree was fast asleep inside the seed, covered up, so that it might not take cold, in the same way as the little baby boy or girl lies in the cradle and is guarded by the mother. Very soon the baby tree began to grow and it grew so quickly that what happened? The teacher asks what would happen to the child if he were shut up in a small box and grew too big and fat to stay inside. He would break open the box and come out. That is just what the baby tree did. It burst open its cradle and sent one leg upwards to form the stem, and another downwards into the earth for the root. It was not a baby any longer, it was now beginning to grow up to be a big tree just as children are growing up to be big men and women. The teacher asks what makes the children grow, and what their mothers give them every day before they come to school. She gives them rice. The teacher then asks what the rice does to the children. It helps them to grow strong and big. He then questions as to what the little tree takes to make it strong and big, and whether it eats rice like the children, and is told that it does not eat rice, but other food, and in this way the children see the necessity of rain to the plant and so on. The teacher then goes on to tell how the rain not only feeds the tree, but washes it, and makes it clean in the same way as the children are washed by their mothers. In this way the lesson may be made very interesting and attractive, and children have been known to ask for the same lesson over and over again. It is scarcely necessary to add that the lesson is illustrated throughout by black-board sketches. In fact black-board sketches are necessary

in all nature lessons. There is invariably something which lends itself in a lesson to this mode of illustration. A sketch on the black-board made as the lesson proceeds is worth in most cases more than all the other apparatus put together. Elaborate apparatus and models are not necessary for lessons, but black-board sketches are. The teacher who argues that he has no grift for drawing must practise making illustrative sketches. It matters not how elementary and crude the drawing may be, so long as it illustrates the point in hand. Elaborate sketches made *before* the lesson are not worth half the value of a series of small illustrative sketches drawn before the class *during the lesson*. A class of children weary and tired of a subject will immediately rouse themselves on seeing the teacher sketch on the black-board.

In lessons on animals, where possible the living specimen should be used for illustration, *e.g.* cat, dog, rabbit, squirrel, etc. But if the animal shown is one which is not used to captivity, it should be explained to the children that it will be released as soon as the lesson is over, *e.g.* after a lesson on the squirrel, two squirrels which had been brought to school by one of the pupils were released in the compound in full view of the children. In a lesson on the mango or plantain, or any other fruit, should there be a fruit tree of this description in the school compound, the pupils should be taken out to the tree for the lesson.

As is shown in the chapter on the correlation of lessons one subject per week for the nature lesson should be chosen, and during that week all the occupations should be connected with the nature lesson. The same subject is taken

in all classes. The number of lessons given to that subject will depend upon what the teacher thinks best. In the first nature lesson of the week, the introductory story is related which is in connection with the subject of the nature lesson, and by which the interest of the children is aroused for the rest of the week.

The nature and object lessons chosen for the school year will to a very great extent depend upon the district and surroundings of the school, but the following list, as used in Madras, may offer some suggestions to teachers in other districts. Animal products are taught in connection with the lessons on the animals.

Animal.—Cat, Dog, Cow, Horse, Donkey, Goat, Rabbit, Rat, Squirrel, Bat, Jackal, Mungoose, Monkey, Frog, Snakes, Lizard, Crow, Duck, Hen and Chickens, Owl, Parrot, Mina, Ants, Spider, Silkworm, Bee.

Vegetable.—Mango, Plantain, Cocoa-nut, Rice, Orange, Sugar, Coffee.

Mineral.—Silver, Gold.

DRAWING AS A MEANS OF EXPRESSION.

THE greatest mistake in this country in dealing with this important subject seems to lie in the fact that teachers of little children expect too much from them, and are disappointed if the work of the pupils does not approach perfection. Such teachers expect impossibilities when they hope for perfect work from little fingers. We do not want perfect drawings from our pupils; it is unnatural for a young child to turn out faultless work unless he is particularly gifted in this direction, and the majority of children are not so gifted. The school is not a studio and we are not training our pupils to be artists.

The early efforts of the little ones in the Infants' class (age four to five) should be devoted principally to drawing the mass, the aim of the teacher being to train the child's eye to see the shape correctly and its hand to represent that shape by a mass of colour. The medium employed should be soft, *e.g.* chalk on black-board or brown paper. A simple form, *e.g.* orange, cocoa-nut, mango, bird, egg, etc., should be shown and drawn by the teacher on the black-board, and imitated by the children, the purpose of the lesson being to induce the little ones to appreciate proportion and the shape of the whole mass. When possible this should be from the

object itself. At a subsequent lesson the same drawing might be produced from memory.

The work of the following year—Standard I. (age, five to six) should be on the same lines as that of the previous year, more attention being given to the practice of drawing in bold soft line, and to the setting out of work with the view of obtaining greater accuracy in proportion and balance, than had hitherto been attempted. At the end of the school year the children should be able to set out and draw in soft outline well-balanced forms composed of simple curves and straight lines.

The drawing lesson in the lower classes, *viz.*, Infants and Standard I (age four to six years) should not be looked upon so much as a means of teaching drawing, but as a method of allowing the children to express themselves on paper. The child when left to himself with a pencil and paper invariably draws objects with which he comes in contact in his daily life, such as horses, dogs, cats, jutkas and so on. In the olden days, when the English boy, as soon as he had finished his sum turned his slate and commenced to draw what he termed "an old man," he was scolded for being naughty. Nowadays, sensible teachers, seeing that this desire for drawing "old men" and familiar objects is given by nature to the child give him opportunity for gratifying this desire. The vocabulary of the little child is not wide enough to allow of his satisfactorily expressing his thoughts verbally, but he will do so readily enough on paper.

Story Drawing.—The children produce on slates or paper a picture or series of pictures of a story previously told by the teacher. Simple stories involving only one per-

son or animal should be chosen at first, for example, "The Greedy Monkey"—"Siva and the Squirrel"—"The Little Shepherd".

Observation Drawing.—One of the chief characteristics of Kindergarten teaching is the training of the child's powers of observation. In this drawing he expresses some of the observations he has made. He is asked to draw some object or objects which he has seen on his journeys to and from school. In this way, knowing that he will be requested to say and draw what he has observed, he will be more likely to look about him as he walks along the road, and find out things for himself. As each child will have probably seen something different to his neighbour a variety of drawings should be the result, *e.g.* jutkas, bullock-carts, dhobies' donkeys, cows, goats and cocoa-nut trees,etc.

Memory Drawing.—The children may be allowed to draw from the object first and then reproduce it from memory, or they may have a little time in which to observe it and then reproduce it from memory.

1. The children draw from the object. The object is removed. The children reproduce the object from memory.

2. The object or objects are placed before the children for a few minutes. The children gaze at them. The objects are then removed, and the children reproduce them from memory.

The models chosen should have as little detail as possible, *e.g.* box, bag, table, stool, pail, pot, etc.

Mental Drawing.—This also is a means of encouraging the child to make observations for himself. The teacher chooses the object to be drawn, *e.g.* the gate of the school

compound. The children make a mental picture of the same. After a short interval they reproduce this mental picture on slates or paper.

For this purpose objects with as little detail as possible, and with which the children are familiar, should be chosen to test how far they observe for themselves, *e.g.* the school clock, table, a tree in the compound, an almira, etc. If the drawing at first is not a success the children should be given a few days in which to make fresh observations and then the exercise should be given again.

Oral Pictures.—These are verbal descriptions of ideas suggested to the children by a word or a sentence. The mental picture is made clear by the oral description. The picture is then drawn on paper, *e.g.* some children were asked to draw what the word "music" conveyed to their minds. The pictures drawn were a man playing a violin, a girl playing a *veena*, the bull carrying the drum in sacred processions, a boy singing. On another occasion they were asked to draw what thoughts the word "wind" conveyed to them. The pictures drawn in this case were a ship in a storm, a boy flying a kite, a punkah, a windmill, a boy's hat being blown off, some clothes hanging on a line to dry and so on.

In all this drawing, perfect execution is not looked nor even hoped for. It is simply a means by which the child expresses himself and it matters not how imperfect the drawing is so long as it is the child's own work and the expression of his inner thoughts.

Model Drawing.—This should form part of the drawing scheme of every class from the infants upwards, the difficulty

of the model varying according to the age of the pupils. Objects with a clear outline should be chosen as models, both straight lined and curved, such as a box, an almyra, table, stuffed birds and animals, living birds and animals, etc. The teacher should not, as many do, simply put the model before the pupils with directions to "draw that," and nothing further.

Five minutes should be spent by the teacher and children in studying the general proportions, length compared with width, the position of the model and so on. The teacher should give hints as to blocking out the drawing while the children also make suggestions as to the best methods. It is a good plan to allow the children to sit on all sides of the model so that they get different views and are so thrown upon their own resources more.

Drawing from Nature.—This should also be found in the time-table of all classes from the infants upwards. The children may sometimes go out in the compound with their slates and pencils and draw certain trees, plants, fruits, etc., while in another lesson in the class-room, each pupil may have his own leaf, spray of leaves, flower, plantain or mango from which to copy. If the school looks on to the road the trees at the side, the pillar-box, the street-lamps, the gate, the jutkas and carriages passing, as well as the goats and the cows may all form models from which to draw.

Free-hand Drawing from Copy.—This should only be given to the upper classes, Standards II. and III., and then under strict supervision. Here again as in model drawing a few minutes should be spent at the beginning of the lesson in studying the proportions and blocking out. The

children should not be allowed to build up the drawing piece by piece with the teacher, but should see the copy as a whole before they start. Then they might put in the chief lines with the teacher, and be allowed to finish the less important parts alone.

Apparatus.—Brown paper and chalk. Black-board and chalk. The cost of brown paper is 3 to 5 annas per quire, and it may be cut into whatever sizes the teacher pleases. A quire will cut up into 96 sheets of 11 inches by 8, or 96 sheets of 11 inches by 7, or 144 sheets of $5\frac{1}{2}$ by $8\frac{1}{2}$ inches.

Country chalk may be obtained in the bazaar at the small cost of 2 to 3 annas a viss.

The little ones are also occasionally given match-boxes containing the ends of the coloured chalks used by the teachers and the bigger boys.

FREE-ARM DRAWING.

THIS drawing should be taken in every class from the infants upwards, and it is surprising to note the improvement in the children's work after a few months' training in the free-arm exercises. As the name indicates the drawing is executed by the free movement of the arm, and should be as large as the space and the height of the child will admit. The drawings of the infants' class, for example, will of a necessity be smaller than those of the third standard, for the length of the arm in the latter class will be greater than that in the former.

For this branch of drawing the most perfect conditions are for each child to have his own black-board or for the walls round the class-room to be prepared for chalk drawing. Directions for preparing the walls in such a manner will be found at the end of the chapter. Failing either of these, the next best method is for the pupils to have the largest slates possible, which they hold out at arm's length with the left hand, while they draw with the right, or it is possible to obtain stands in which to fix the slates. But the best and the cheapest method of all is to prepare the walls with the composition given.

In free-arm drawing the chalk is held at arm's length, the arm is quite straight and the children either sit or stand

in an upright position. Every lesson is introduced by a drill which consists in the main form of the object to be drawn. This form becomes modified into an object. At least one third of the lesson, if not longer, should be spent in this drill, for it is this practice in the free movement of the arm which enables the child to improve his drawing so much.

The Circle.—We will suppose for instance that we are taking a free-arm lesson on the circle. Now it is much more interesting to young children to draw something definite and with which they are all well acquainted, than it is to draw something abstract, so to speak, like a circle. So we show them the school clock and tell them we will draw the face of it. We question as to the shape and are told that it is round. We ask the children to find any corners that may be in the circle. They reply that there are none, so therefore there must not be any corners in their drawings. The children stand in front of the black-boards. The chalk should be held in the middle, with finger and thumb lying flat, the chalk in position almost at right angles to the line to be drawn. The stages of the drill are as follows :—

1. The children draw an imaginary circle in the air, imitating the teacher; the arm should be moved from the shoulder, the shoulder acting as a pivot. This should be done several times to get the correct sweep of the arm.

2. The children draw an imaginary circle several times on the black-board. From this they can judge the size of the circle which they intend drawing, and in what position they must stand to get the largest drawing possible in the space allowed.

3. The children now draw the circle on the black-board. One continuous unbroken circular line should be the result. If the pupils have been standing in the correct position and have used their arms in the right manner they will have produced almost perfect circles. The teacher should point out the defects in the children's drawings by reference to the model, *viz.* the clock face. The duster should not be used till now, when it is taken to clean out the whole drawing for the purpose of running through the exercise again.

These three stages should be gone through several times so that the pupils may get facility in the movement. The circle may then be converted into the clock face. The duster should not be used at all during the exercises except for the purpose of cleaning out the whole drawing and starting again. The children should never be allowed to clean out small portions of their drawings to patch them up. In fact it would be better during the first lessons in free-arm drawing to forbid the children to touch their dusters at all, except when directed to do so by the teacher. The great tendency on the part of children first starting this drawing, is to draw a line and immediately clean it and to draw another without rhyme or reason. The fault lies in the fact that they have insufficient self-confidence, so the teacher must make it clear to his class that he does not expect perfect work from them, but simply their best.

There are numerous other articles into which the circle may be converted, *e.g.* apple, orange, wheel, full-moon, ball, rupee, anklet, bangle, etc. So that it would be possible to have several lessons on the circle without the children becoming bored. A crescent moon can be obtained from

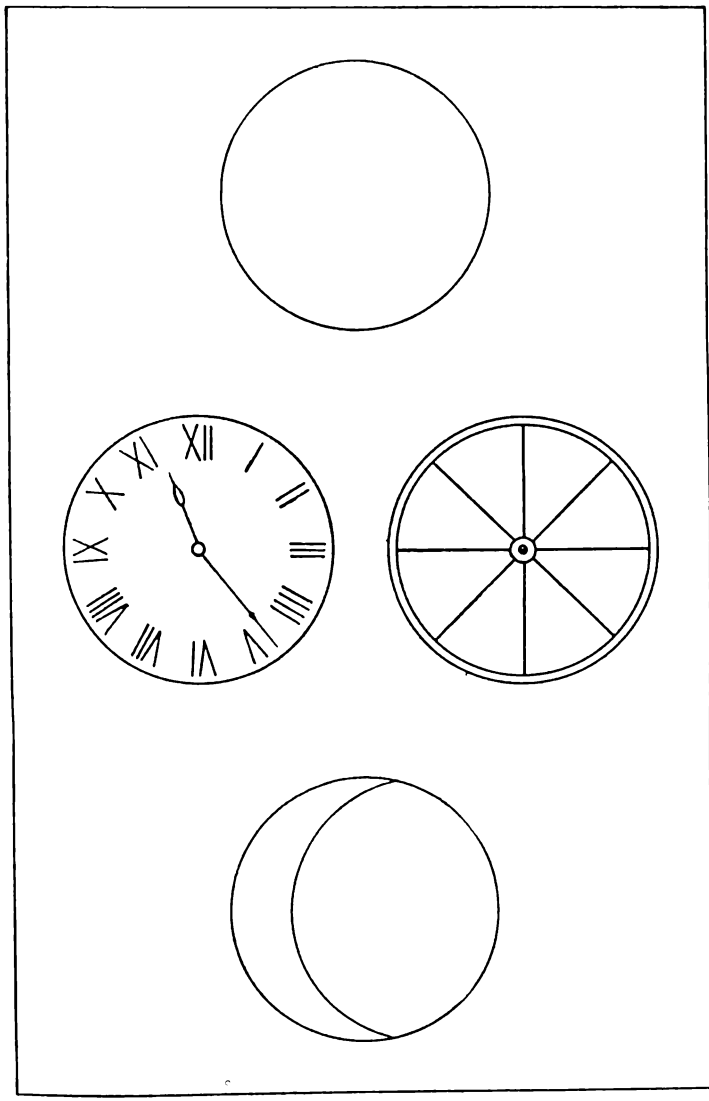

FIG. 3.—Circle.

the circle as is shown in the illustration, also a quarter of an orange or apple. The resourceful teacher will no doubt think of many other examples.

Straight Lines.—After a lesson on the circle a contrast should be next taken. Suppose we take a lesson on straight lines. Here again we choose some familiar object by which to illustrate the lesson. Suppose we take a walking-stick, the stages of the drill would be as follows :—

1. Children observe the walking-stick closely and are questioned as to its form, etc. It is first presented to them in a vertical position. They draw an imaginary vertical line in the air, imitating the teacher.

2. They decide how large they can make their drawing according to the size of their black-boards, and put guiding marks for their starting and finishing points.

3. They draw an imaginary straight line several times between these marks in order to get the correct movement of the arm.

4. They draw the line on the black-board, starting at the first mark and keeping their eyes all the time not on the chalk, but on the goal, that is the finishing point. The pupils should not be allowed to use the duster even if the line is incorrect until the teacher has looked at each child's drawing and pointed out the mistakes by reference to the model, *viz.* the stick.

5. The children say what is necessary to complete the picture of the walking-stick, *viz.* the handle. This they may be allowed to add to the drawing.

Exercises on horizontal and oblique lines may be taken in the same way, the walking-stick being used for a model

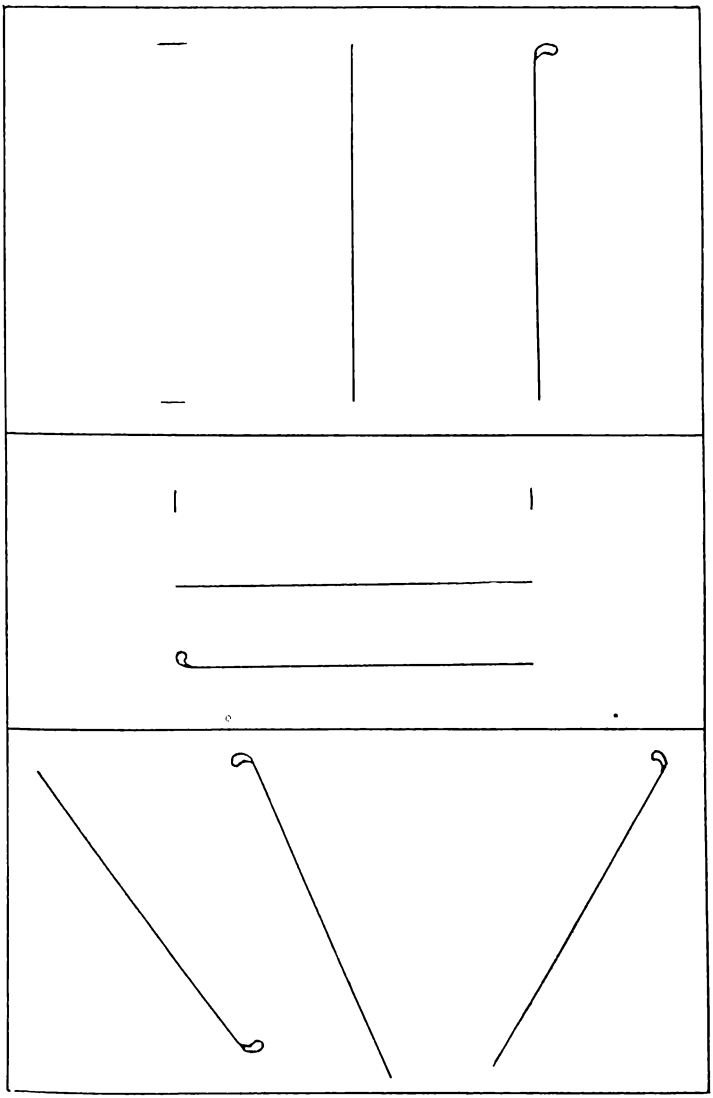

FIG. 4.—Straight Lines.

in each exercise and the same drill being taken before the final line is arrived at. The drawing of imaginary lines in the air and on the black-board should not be omitted, as this gives the desirable free movement to the arm. In drawing a straight line of any description the starting and finishing points should always be marked first. The child should not be allowed to start a line anywhere and then trust to luck for it to finish at the right point. The length and position of the line must be decided upon first, before any attempt at drawing is made. Patching the line must not in any case be allowed. If the line is incorrect the whole drawing must be erased and done again. One continuous firm line should be aimed at. The pupil should hold his chalk firmly but not necessarily tightly; shaky indefinite lines should be discouraged.

After a lesson on vertical, horizontal and oblique lines a lesson on the combination of these lines might be taken, the models being a house, table, bench, black-board, easel, slate, wall, punkah, box, etc.

Oval.—Suppose that the object to be drawn is an egg. In this case it is advisable to draw a centre line for guidance. This should be drawn on the methods shown in teaching straight lines. The oval differs from the last two forms taken in that it is drawn in two pieces, each side balancing with the other. The same drill and exercises as in the lesson on the circle should be taken here. The pupil should draw the imaginary oval in the air and on the black-board before the final drawing is executed. The egg should be drawn in all positions. The oval may be converted into a cocoa-nut, boy's peg-top, boy's kite, a leaf and many other forms.

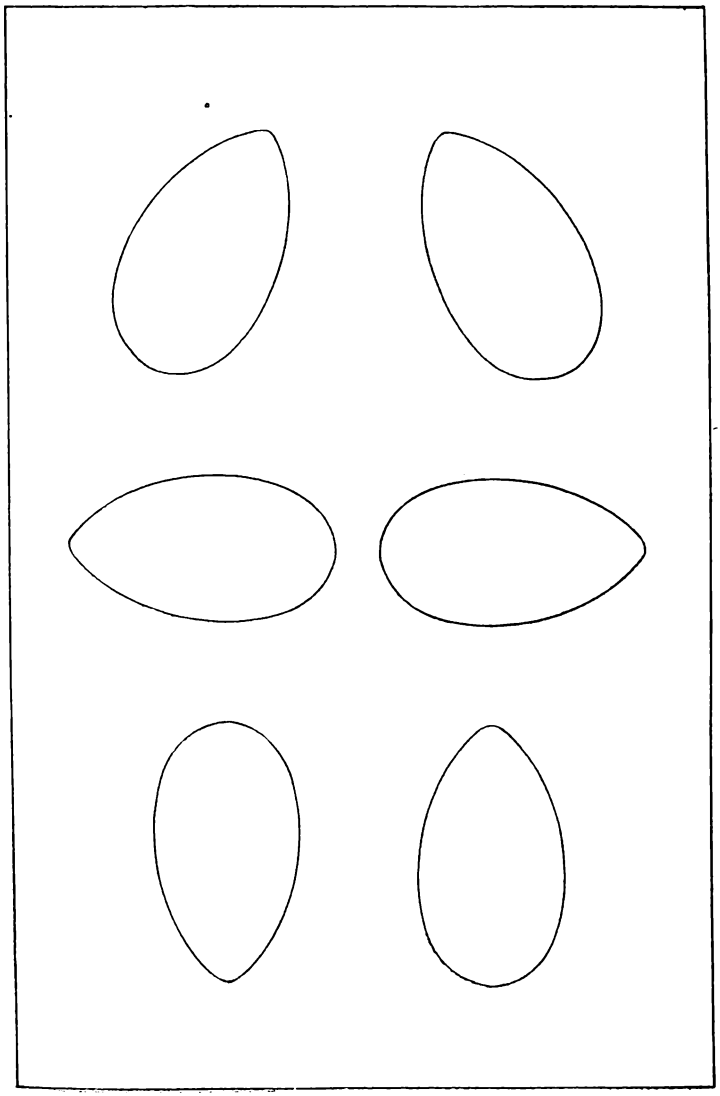

FIG. 5.—Oval.

Ellipse.—For a lesson on the ellipse a pail or a cup might be shown. The children are shown the mouth of the pail in full view, and are told to draw it. They are then shown the bottom of the pail in full view and draw that. The result will be two circles, the former larger than the latter. They are then shown the pail in an upright position and notice the difference in appearance of the mouth and bottom of the pail from that of the former position. They draw them as they now appear and are told that this shape is called the ellipse. The picture of the pail may now be completed by the addition of the side lines. The ellipse should be drawn in several positions. The technique of the ellipse should not be taught to young children but the idea of the widest part may be. After a lesson on the ellipse the children might be given a lesson on the combination of straight and curved lines, for example, cup, jug, drum, etc.

Spiral Forms.—These forms will be found to be of considerable value in the development of patterns, *e.g.* shells and conventional copies. The pupils should have practice at drawing spirals from the centre outwards and also from the outer side towards the centre. It will be found that the more rapidly the spirals are drawn the better they will be in shape.

These free-arm exercises, although taken in every class from the infants upwards, should naturally be graded according to the age of the children, the simpler exercises being commenced in the lower classes and the more difficult in the higher.

Ambidextrous Drawing.—There is a great deal of controversy as to the advantage of ambidextrous drawing.

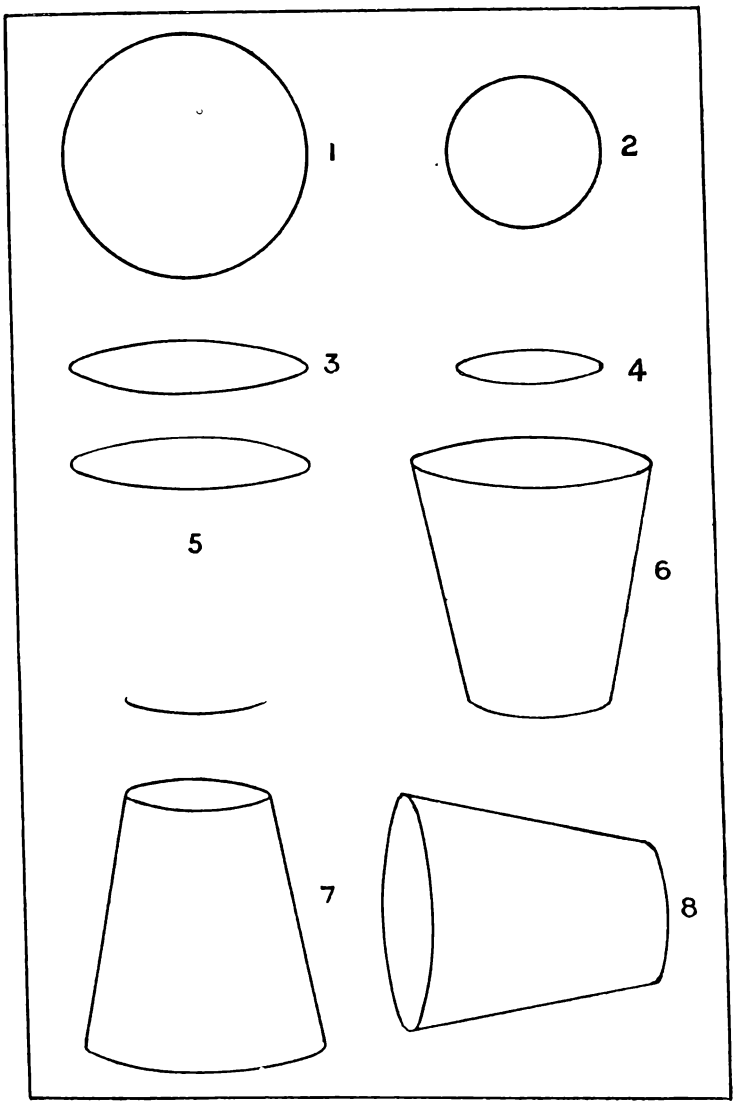

FIG. 6.—Ellipse.

Some say that there is nothing to be gained by it while others aver that it improves the drawing of the pupils considerably. That it encourages the free movement of the arm, so necessary in free-arm drawing, cannot be denied, and nothing is lost by giving the children practice in the use of both arms simultaneously. It has been found to be very successful in the free-arm drill and the pupils have certainly attained a freer movement of the arm by means of it. Circles, straight lines, spirals and drawing copies, the sides of which are alike, form very good exercises for the use of both arms simultaneously, and teachers would do well to give their pupils opportunity for exercising the left arm as well as the right.

In free-arm drawing the children should be allowed to draw animals either from copy or the original, a leaf or a spray of leaves, each child to have his own spray from which to copy common objects used either in school or the home, objects seen in the street, as jutkas, motor-cars, bicycles, carriages, etc., and free-hand copies, etc.

A very good book containing chapters on drawing, brush-work, clay-modelling, colour-work, etc., is Nelson's *New Drawing Course*, by J. Vaughan, published by T. Nelson & Sons, London and Edinburgh, price 6s. or 4 rs. 8 as. Another valuable book on this drawing is *Black-board Drawing*, by M. Swannell, published by Messrs. Macmillan & Co., Ltd., London.

Directions for preparing the walls for black-board drawing are as follows :—

1. Take for 10 square feet—

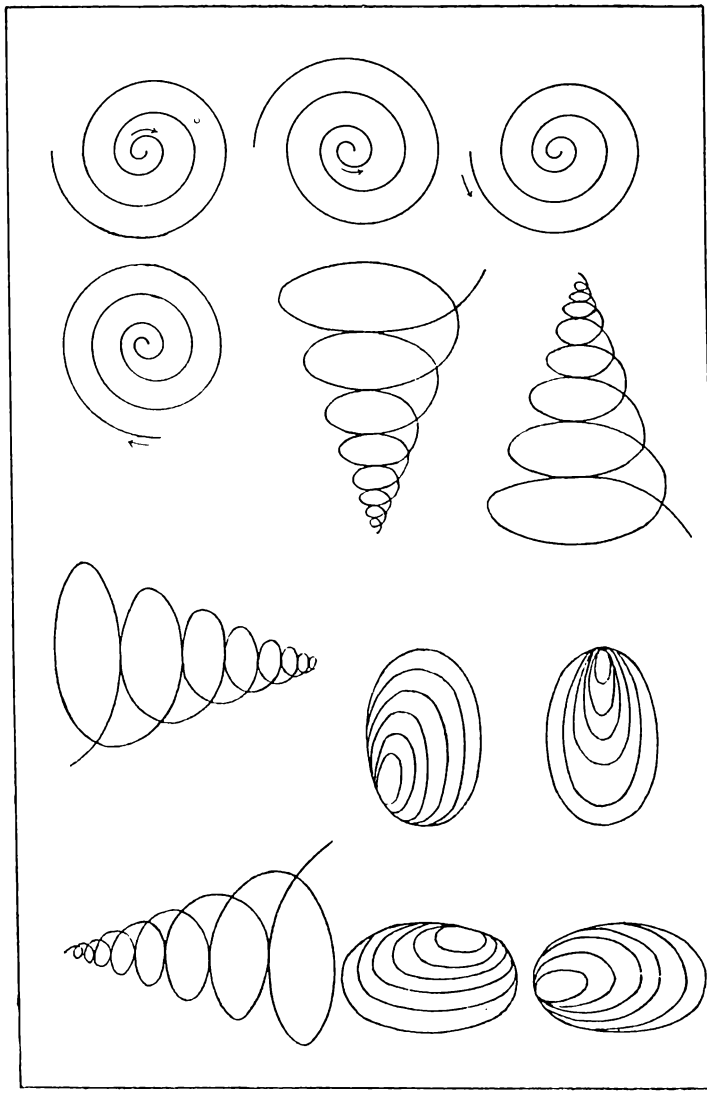

FIG. 7.—Spirals.

2 measures dry sifted slaked lime.
1 measure charred cocoa-nut powder.
1 measure sifted sand.

2. Prepare water—

1 polam gum
2 polams Mirabolam } to one big pot of water.
4 polams jaggery

Break Mirabolam and put it in with the rest in water the previous night. This water alone to be used all through.

3. Take the mixture as in (1); moisten with this water and grind fairly fine on a flat stone (Ummi).

4. Scrape the wall one-fourth inch deep, moisten the surface with this water. Apply the plaster and press it down with the plasterer's board or the trowel.

5. Smooth the plaster with the trowel or the plasterer's stone so as not to bring on a glaze.

6. Wipe off the exudation of water particles (from the second day till the surface is dry) both morning and evening with a clean towel, and then rub the surface over with the palm for about ten minutes.

7. Crayons or ordinary chalk without grit can be used.

The black-board should be washed with clean water every other day.

The surface of the wall should be quite even.

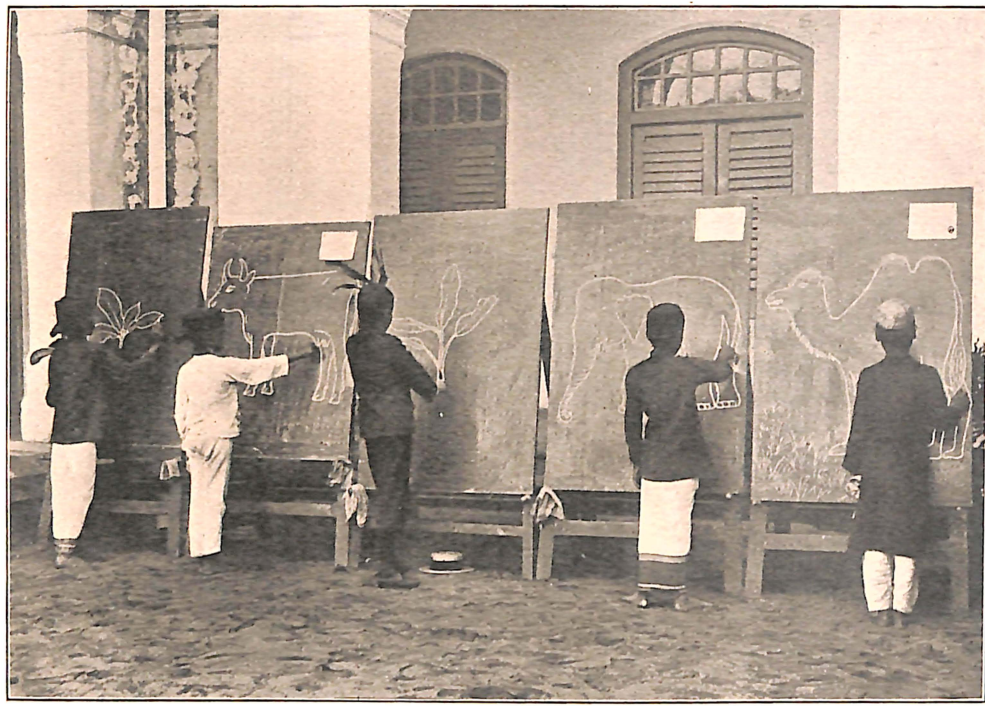

FIG. 8.—Free-arm Drawing. Standing Position.

MECHANICAL DRAWING.

MECHANICAL drawing is from an educational point of view just as important as free drawing, and both branches should be taught to children over seven years of age. The chief characteristic and advantage of the former is that it trains the pupils in habits of precision and neatness and so helps to counterbalance the tendency to inaccuracy of free drawing. It is not proposed to give here full directions for the teaching of this subject but rather suggestions of methods on which teachers may work. There are many other ways of teaching mechanical drawing more advanced than these methods given, but these will be found to suffice for children from seven to nine years of age.

Chequered Drawing.—This drawing when given to children under seven years of age is extremely bad, but as a means of training older children in precision and neat work is very valuable. Teachers in the olden days possessed the idea that as little children were not capable of doing perfect drawing, they should have guiding lines to help them. The consequence was that the little ones were given lined paper or slates, and were made to draw row upon row of monotonous exercises, in covering the printed lines with pencil, or were allowed to draw some animal or objects within these lines, which when finished bore about as much likeness to what

they were supposed to represent as the man in the moon. Apart from the fact that the giving of chequered drawing to little children is incorrect, because it satisfies no natural desire of the child, it is also incorrect from a physiological point of view. This fine detailed drawing entails the use of the finger muscles, which are not sufficiently developed for such work at this stage of the child's life. The nerve centres which cause the shoulder muscles to move are developed at birth, so that we are perfectly justified in giving free-arm drawing to young children which admits of the free movement of the arm from the shoulder. But we are not justified in giving drawing to them which requires the use of those muscles not yet developed. Hence an attempt to execute this kind of drawing by children at this age is apt to result in an exhausting and injurious expenditure of nervous force. But after the child has passed the seventh year his accessory muscles are better developed and it is then that chequered drawing is allowable. It trains the pupils in precision and helps to counterbalance the tendency to inaccuracy of free-arm drawing. Strict attention should be paid by the teacher to see that the drawing is clean, neat and exact. If attention is not given to these three points the value of chequered drawing as a means of training in precision is entirely lost. It is not proposed to give directions for teaching this subject, as it is probably well known in Indian schools, and all that is necessary to teachers is a variety of patterns from which to copy. These may be found in a cheap little book entitled *Kindergarten Drawing*, by Ada S. Bailey, published by A. Brown & Sons, Ltd., London, price 1 rs. 4 as., and in many other books. It is quite easy for the resourceful

teacher to invent his own patterns and the children should be given opportunity to design for themselves.

Apparatus.—Slate pencils and lined slates or lead pencils and chequered paper. Country paper may be obtained in the bazaar for 2 annas a quire and this can be lined for chequered drawing by the local printer at the cost of 1/- for a ream. The chequers should not be less than quarter of an inch square. Chequered paper may also be obtained from Messrs. Longmans, Green, & Co., 8 Hornby Road, Bombay, or 303 Bowbazar Street, Calcutta.

Ruler Drawing.—This also is a means of training the pupils in precision and neatness, and should not be given to children under seven years of age.

In holding the ruler, the ruler should be held flat with the tips of the first three fingers of the left hand, which should be placed firmly on the middle of the ruler and not at the end.

In holding the pencil, the pencil should be held firmly, though not tightly, with the thumb and forefinger of the right hand, about two inches from the point, while the second finger touches the pencil, and the remaining two bend inwards.

In ruling a line the pencil should be kept nearly upright and not allowed to bend forwards or sideways. The first few lessons would be on the drawing of straight lines in all directions, so that the children may get facility in the use of the ruler. They will first learn the markings on the ruler so that they may draw these lines to measurement. They should be taught to measure in inches, half and quarter inches. After a few lessons on the drawing of lines in all directions, lessons

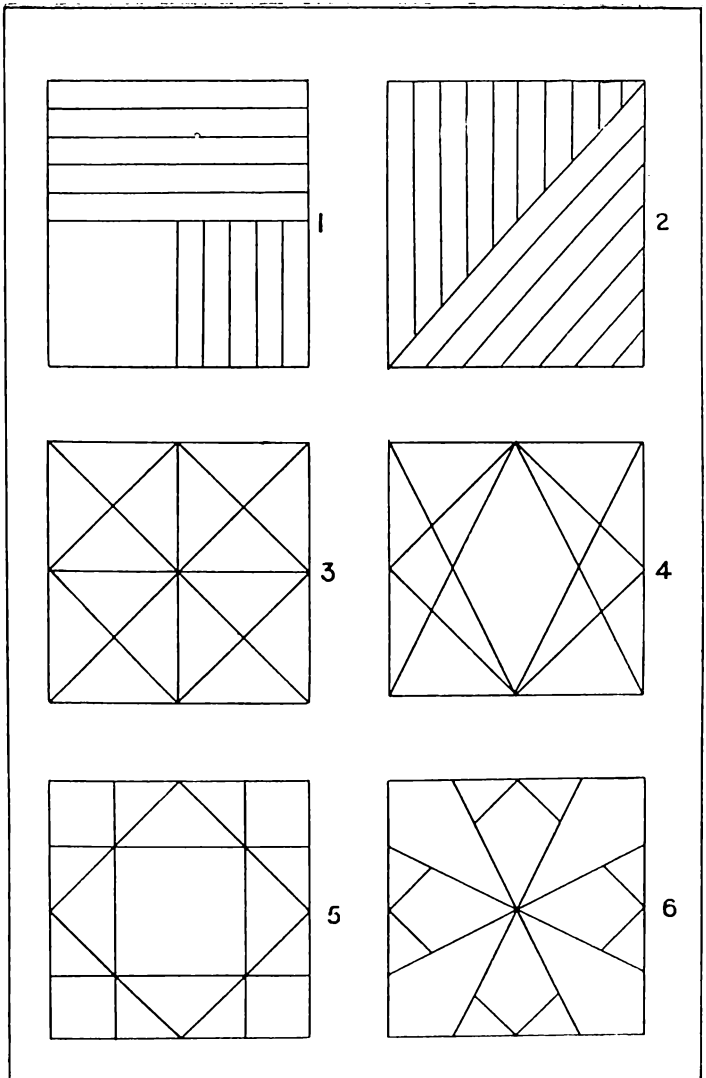

FIG. 9.—Ruler Drawing.

1-2. Exercises on Lines.
3-6. Original Designs of Pupils (age 7-9 years).

on the combination of these lines should be given, *e.g.* square, oblong, triangle and other forms, and designs from the same. After lessons on both free-hand and ruler drawing lessons on the combination of these two may be given.

Apparatus.—Slates and pencils. Country or brown paper. Foot-rulers, the price of which is 9 to 12 annas per dozen, and black-lead pencils at a cost of 3 pies each, may be obtained in the China bazaar.

CLAY-MODELLING.

THERE is an inborn desire in every normal child to dabble in dirt or mud, and at no other time is he happier than when he is playing in this manner. In fact, the dirtier some children are, the happier they seem to be. This causes many a heart pang to the fond parent or teacher who would prefer to see the little ones in a perpetual state of spick and span neatness. When a little dirt can be removed so easily, and with soap and water so cheap, it seems a pity that so much trouble should be taken to make children unhappy by continual warnings to keep themselves clean. But even though, in their free play with dirt or mud, the children seem to take a huge delight in making themselves as dirty as possible, clay-modelling itself is not a dirty occupation, except in the hands of a careless teacher.

There is a creative instinct in every child and to satisfy this, and also the desire for playing with mud, clay-modelling figures as one of the occupations in the time-table. Clay-modelling and drawing are two of the most important essentials of a good Kindergarten. In drawing, the outline only, showing two dimensions, is expressed, but in modelling the three dimensions, length, breadth and height, may be recognised.

It is not intended to give here instructions for teaching ad-

vanced modelling, for this is not required in the Kindergarten. What is wanted is for the pupils themselves to express by means of the clay what they have learnt in a former lesson, *e.g.* after a lesson on a rabbit a class modelled a rabbit from the living specimen. The models were not by any means good, as far as modelling and finish were concerned, but the children by their attempts showed clearly that they had grasped the facts taught in the nature lesson. One child had modelled an atrocious rabbit, but the ears were perfect in shape, which proved that he had observed and learnt at least one fact correctly, while in another model the difference between the hind and fore legs was clearly shown. Again, after a lesson on a duck, the children modelled a miniature pond or tank, showing a mother duck and ducklings.

The children should frequently be given leaves or flowers from which to model, each child having his own specimen. This trains them in independence, for each model in this case will be different, and each child dependent upon his own observation for a good result. It is the work of a couple of minutes only to gather a handful of leaves from the school compound for the lesson.

The children should always when possible model from the original; if this cannot be done, a good model should be put before the class; failing this, a picture must serve the purpose. Before the children start modelling, the teacher draws their attention to the chief characteristics of the animal or article to be modelled, and gives them a few hints as to the best way in which to set about the work. But in no case are the children to copy from the teacher's or another model. By so doing they simply copy all the imperfections and so come to

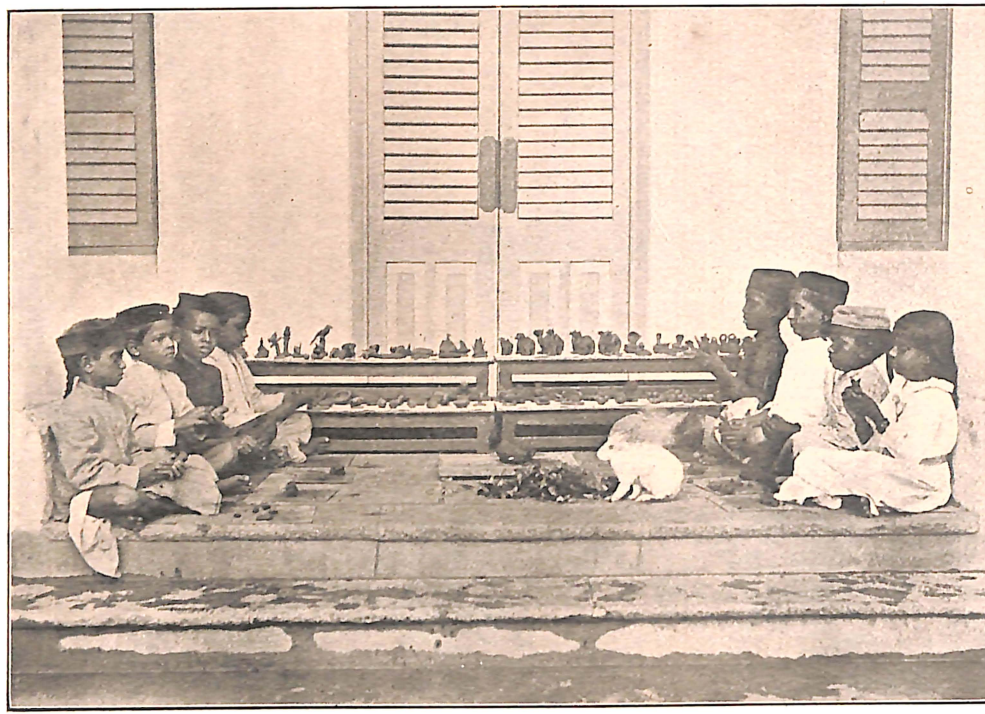

FIG. 10.—Modelling a pair of Rabbits from Life.

look upon them as part of the original. This is worse than having no model at all.

Clay-modelling should be taken in all classes in the Kindergarten from the infants upwards, and the teacher must not be discouraged if the results are not good. As was explained in the chapter on drawing, we do not wish to train our children to be artists, neither do we expect them to become sculptors. Excellent and elaborate work is not looked for in any of the occupations in the Kindergarten.

As is shown in the correlation table given, each class may model something in connection with the nature lesson, the difficulty of the model depending on the age of the children, *e.g.* after a lesson on a rabbit, the second standard modelled a rabbit, the first standard, the rabbit's ears, and the infants modelled plantains with which the tame rabbits belonging to the school are occasionally fed. After a lesson on a crow, the second standard modelled a crow, the first standard a nest containing eggs, and the infants modelled a single egg.

It has been argued by some Indian teachers that they are unable to teach modelling and other occupations, because they themselves have received no instructions in teaching these subjects. But in all examples given in this book, not only in modelling but in all other subjects, the teachers have been students with no experience of Kindergarten whatever, but who have been learning themselves through their teaching. So this excuse can scarcely be accepted.

Expensive and elaborate apparatus for modelling is not necessary, neither is it desirable. Ordinary country clay is all that is required and no tools beyond the thumb and

fingers need be used. The clay may be obtained by digging, or from the potter or gardener. The monthly bill for the supply of clay to a school in which a modelling lesson was given daily, the average strength of the class being twenty, came to eight annas. This was in Madras, but the cost in Mofussil is less. Clay of course can be obtained free of charge by digging for it, but even with so small a price as eight annas per month to pay, it seems incredible that there are still so many schools in which clay-modelling is not to be found in the time-table. Old slates, or cheap tin or zinc trays to be bought in the bazaar, may be used to place the clay upon for working.

Some teachers complain that the modelling lesson makes the class-room dirty. This has been avoided by setting apart one corner of the school for the clay-modelling, and here the classes are brought in turn for their respective modelling lessons. They sit upon the floor round the specimen to be modelled, in such a position as to get the best view possible. Always when feasible each pupil should have his own model, *e.g.* a spray of leaves, plantain, orange, apple, mango, etc.

BRUSH-WORK.

ALTHOUGH brush-work is a very interesting and valuable occupation, it is not absolutely necessary to a good Kindergarten. Where possible, it should have a place in the school time-table, but in some of the smaller schools, for financial reasons, this is an impossibility. But teachers need not think that because they are unable to introduce brush-work that it is not possible to have a perfect Kindergarten. Brush-work, like drawing and clay-modelling, is a means of self-expression, but it possesses an advantage over these two, in that colour as well as form is shown. We endeavour in the Kindergarten to give the child as many ways as possible in which to express himself, and in a school in which it is impossible to introduce brush-work, it simply means that the children have one method less for self-expression. But this does not imply that that school is not a good Kindergarten.

Brush-work may be divided into three classes—blobbing, brush-drawing and painting.

A blob is simply the impression of the brush as it is laid down flat upon the paper, either in a vertical, horizontal, or oblique position. The first exercises in brush-work take the form of blobbing, by which the children learn the correct way in which to hold the brush, and the manipulation of the paint or ink. The elementary exercises in blobs are afterwards

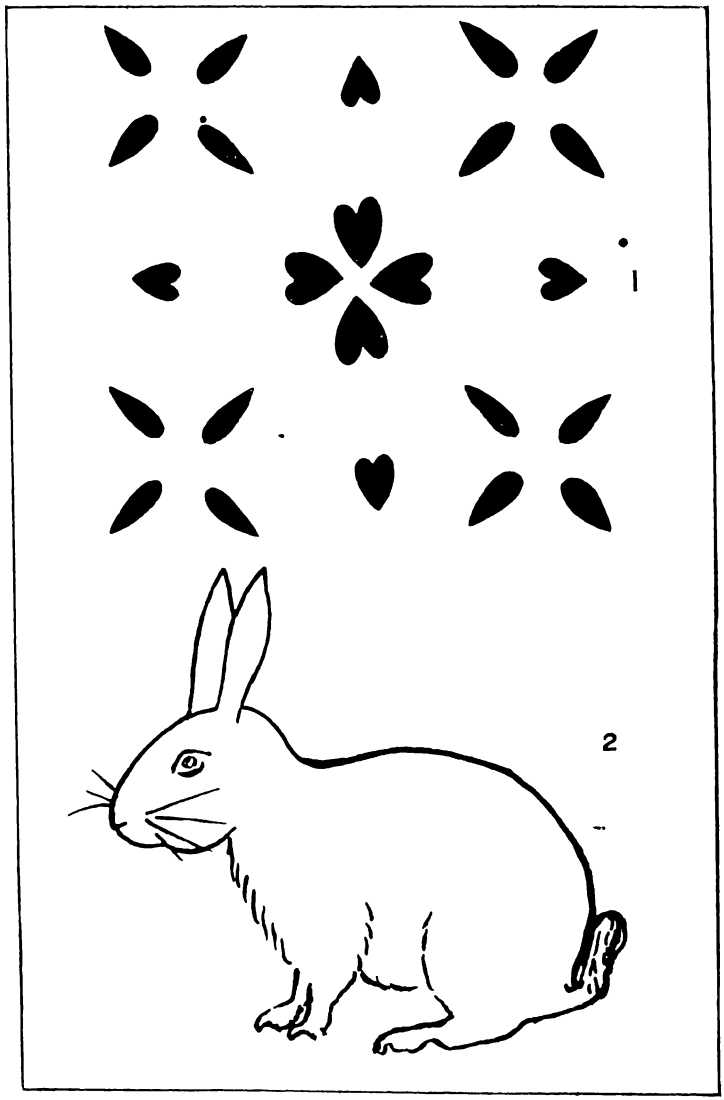

FIG. 11.—1. Blobbing Exercise. 2. Brush-drawing.

combined to form patterns or designs. Following lessons in blobbing, exercises with the point of the brush should be practised, *e.g.* straight lines and dots. This prepares the pupils for brush-drawing. Brush-drawing is simply drawing with the point of a brush instead of a pencil, showing the outline of a form only. In painting, the body besides the outline of a form is shown. Painting from nature should be practised, *e.g.* each child should have his own leaf or spray of leaves, or plantain, and paint from it.

The brush should be held firmly but not tightly, with the thumb and first finger of the right hand, about two inches from the point. The left hand keeps the paper steady.

It is not proposed to give detailed instructions here for teaching brush-work, as there are so many good books on the subject at moderate prices.

Country paper, the same as that used for drawing, at two annas per quire, may also be used for this occupation. Brushes may be obtained in the bazaar at a cost of twelve annas per dozen. Ordinary saucers, also obtainable in the bazaar at twelve annas a dozen, will serve us palettes. Ink powder or paint, if not to be found in the bazaar, can usually be bought at most stationers. But the ordinary ink powder used for writing ink has been found to answer the purpose very well, and this may be bought in violet, blue, green and red at almost all shops. Ink powder is most commonly used by teachers just starting brush-work. The powder is simply mixed with water to form ink. The original brush-work ink may be bought from Messrs. Reeves & Sons, Ltd., Ashwin Street, Dalston, London, at a cost of 1 rs. 2 annas for a pint tin. Reeves' hard cakes of colour in all colours,

at a cost of 12 annas per dozen, will also serve the same purpose. This firm will send post free on application their "Elementary School Catalogue" of materials used in brush drawing, pencil-drawing and crayon-drawing, which besides giving prices of materials, also contains a few hints on the teaching of brush-work. The firm also allows liberal discounts to schools. Prices of materials for brush-work are also to be found in the catalogue of Messrs. Longmans, Green, & Co., 8 Hornby Road, Bombay, or 303 Bowbazar Street, Calcutta.

The following books on the teaching of brush-work may be found useful:—

Longmans' Complete Drawing Course, Pt. 1, for Infants and Juniors, by J. H. Morris.

Brush-work for the Kindergarten, by Mrs Rowland Hill. Published by Messrs. Newmann & Co., London.

Brush-drawing, by J. Vaughan. Published by Messrs. Moffat & Paige, 28 Warwick Lane, Paternoster Row, London, E.C.

Nelson's New Drawing Course, by J. Vaughan. Teachers' Hand-book. Published by Thos. Nelson & Sons, London and Edinburgh.

(This book also contains articles and directions for the teaching of drawing, clay-modelling and colour-work.)

Philip's Brush-work Copy-books, by Elizabeth C. Yeats, in three parts, price 3 annas each. Published by Geo. Philip & Son, Ltd., London and Liverpool.

SAND-PLAY.

Is there anybody who has lived too long to carry his memory back to the days of his childhood, and recall the peculiar joy and delight which he took in playing and building in dirt or sand? Who has not seen the look of perfect content and happiness upon the faces of little ones playing on the sea-shore? So busy are they, and so engrossed in their occupation, that they cannot spare a minute to attend to anything else. Yet, there are teachers, knowing perfectly well this tendency on the part of the child, who wilfully exclude sand-play from the time-table on the ridiculous plea that the sand makes the children's clothes dirty. This is not correct. Sand is not dirty. It may make the children's clothes a wee bit dusty, but a little shaking will soon remedy that. A few physical exercises and a little jumping by the children will serve this purpose. But the question is, does the child exist for the sake of the clothes, or the clothes for the sake of the child? It is to be presumed that teachers who make weak excuses of this kind are one and the same with those who allow their pupils to learn physical geographical definitions off by heart, in preference to making a model in clay or sand, by which to illustrate. Could anything be more unpractical?

Nature never yet created anything without reason, and

FIG. 12.—Sand-play in Compound.

if she has given this desire for sand-play to the child, it cannot possibly be wrong to gratify it. Therefore teachers who banish this occupation from the time-table are endeavouring to work contrary to nature, which is impossible.

The development of the child is similar to that of human civilisation, and it is one of the best methods of carrying out Froebel's ideas to give occupations to the little ones which to a great extent correspond to those used in the early stages of development of the human race. In the early days, man expressed himself only by very elementary figures and pictures in sand, while his food vessels and other articles were modelled out of mud. In giving sand-play and clay-modelling to the little ones, we follow the general development of human civilisation. As man first expressed himself by pictures and crude letters in sand, so should children make their first attempts at writing in the same manner; no child should have formal lessons in writing on a slate or paper until he is at least five years of age. The letters should be drawn in sand with no respect to lines or size, the sole aim being to obtain the correct form.

In Germany and in some of the English parks a portion is set aside as a play ground for the children, and here cart-loads of sand have been deposited, in order that little ones may gratify that desire for playing in sand given them by an all-wise nature.

In the compounds of Indian schools it is the easiest thing possible to choose the shadiest part, and there deposit a heap of sand. Sand costs nothing to buy. Nature supplies it free of charge. Here the little ones build sand castles, miniature gardens, hills and mountains, while the

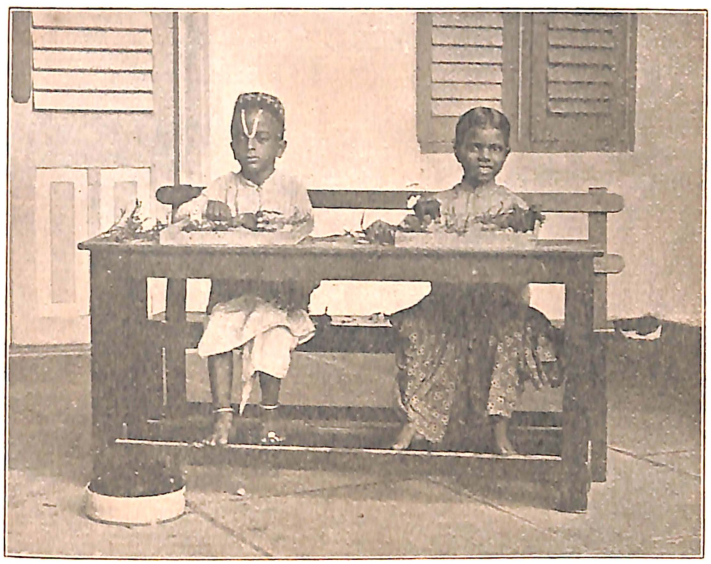

FIG. 13.—Miniature Compound—made in Sand Trays.

bigger children learn their physical geography by this means. A range of hills, a mountain, a valley, a lake, an island, an isthmus, etc, may all be made in the sand. These lessons are better illustrated when the sand is damp, as it then binds better for building, so that after a shower of rain it should be in good condition for use.

After a nature lesson on the rabbit, some little ones burrowed holes in the sand, after the custom of that animal.

Spades and pails may be supplied for sand-play, but they are not necessary. In fact, the average Indian child appears to prefer his hands and feet to any other tools. Half cocoa-nut shells may be used instead of buckets for making sand pies, and these possess the advantage of being very cheaply and easily obtained. Branches, twigs and sprays of leaves are utilised by the children to represent trees and plants in their little gardens.

It is possible to use the sand inside school, as well as out. In some schools the sand is simply scattered on the floor of the class-room, while the children sit round and write or draw in it with the first finger of the right hand, while in others, each child is provided with a tray of sand in which he writes, or makes a miniature compound, farmyard, jungle, etc. Trays may be obtained in the bazaar at a small cost, or in the place of trays slates may be used.

STRING-LAYING.

THIS, as the name implies, is an occupation which consists in laying a string in various positions to represent forms. Like bead-threading it is an occupation for infants. It possesses the double advantage of being very cheap and easily carried out. All that is required is a piece of fairly thick string or cord. This is first dipped in water and made damp. The reason for this is that damp string is much easier to manipulate than dry. Various forms are represented by the string, which is laid by the children on the desks or floor. For example, after a lesson on the donkey, the children form in string a donkey's ear, a dhobi's pot; after a lesson on the cocoa-nut, the cocoa-nut is represented.

The letters of the alphabet are also formed in string.

The teacher, besides representing the form in string himself, also draws an illustration on the black-board.

Little children should learn their letters by this method before any attempt is made at formal reading and writing lessons.

For the representation of smaller objects, the string is sometimes used double.

FIG. 14.—String-laying. Mango laid in String.

BEAD-THREADING.

THERE is some diversity of opinion as to the value of this occupation. Some aver that there is no educational value in it at all, and cut it out from the time-table altogether, while others differ, and continue to retain it in the list of occupations. However this may be, it cannot be denied that the stringing of brightly coloured beads and buttons has always been one of the chief delights of the little child. If we carry our memories back to the early years of our childhood, the majority of us will no doubt remember the particular joy and pleasure which we took in handling and playing with attractively tinted beads and buttons. We as Kindergarteners endeavour to satisfy the natural desires of the child, and if he has this desire for handling and playing with these articles, we cannot be far wrong in gratifying it. But the common mistake amongst Kindergarteners in India lies in the kind of bead-threading lessons which they give their pupils. It is not an uncommon thing to find little children in the infants' class struggling with a fine needle and cotton to thread the tiniest of beads. The same remarks made about the drawing on chequered paper by children under seven apply here. Not only is it extremely bad for the eye-sight, but the tension on the nerves of the little ones must be appalling.

Again, the elaborate, beautifully finished off baskets and other articles made of beads are for the most part useless. Bead-threading is essentially an occupation for the infants'

class, and these baskets should certainly never have been made by children under eight or nine years of age.

The beads used must be of a reasonable size. Teachers who allow their pupils to struggle with microscopic beads in making elaborate designs and patterns are entirely mistaken in the true spirit of Froebel. Instead of looking upon the occupation as a means to an end, they regard the lesson as an end in itself, which is incorrect. The occupation is given to the child as a means of satisfying a natural childish desire, and during the occupation he incidentally learns colour, design and number.

He learns colour from the various colours of the beads and by comparison of these with others in the class-room, *e.g.* different colours of the children's cloths, turbans, coats, etc. By the various ways in which the beads are strung, *e.g.* two and two, three and three and so on, the child gets some idea of design.

Number is also incidentally taught by the addition and subtraction of beads from the string.

Half cocoa-nut shells may be used as receptacles for the loose beads. The children should frequently be given opportunity to thread the beads according to their own ideas. This will give them practice at originating designs.

The bead-threading lesson may often be connected with the nature lesson, *e.g.* the children after having a lesson on the cow or donkey make a necklace for the animal. Again, after a lesson on the cocoa-nut they string the beads in imitation of a string of cocoa-nuts.

Glass beads of the correct size may be obtained in the China bazaar at the rate of 100 for an anna. String of course may be bought anywhere and is very cheap.

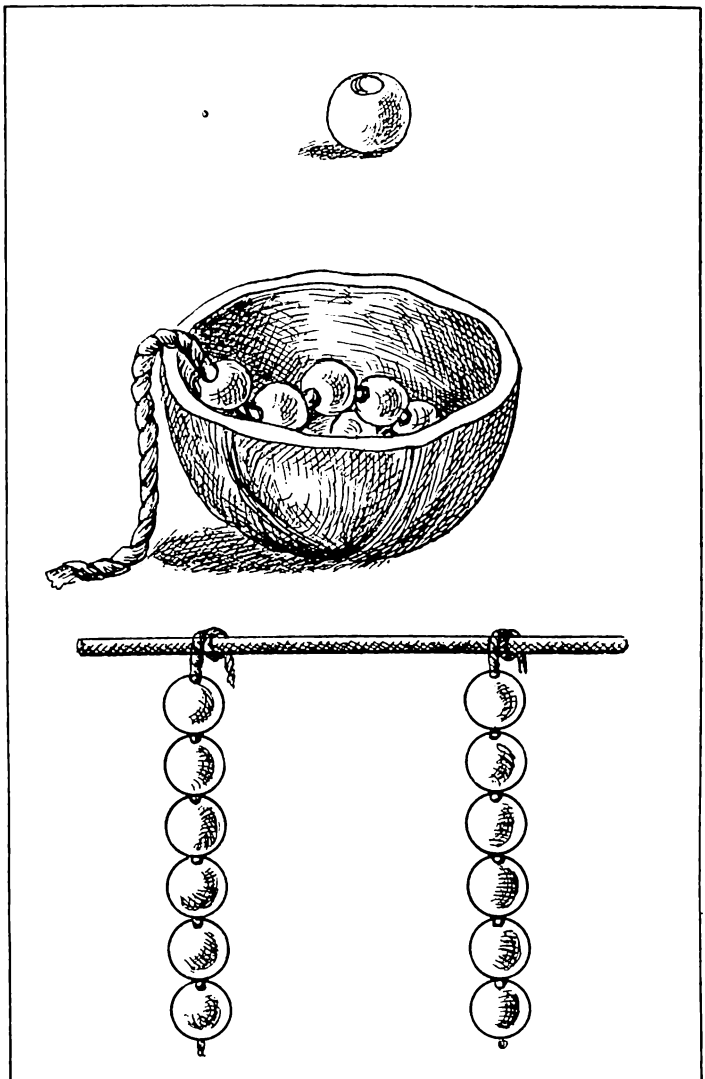

FIG. 15.—Bead-threading. Showing Minimum Size of Beads to be used.

FRAYING OR UNRAVELLING.

THERE is an innate desire in every normal child to destroy, and though, of course, wanton destruction should be discouraged, it is not always wise to condemn the child for what he evidently cannot help. We frequently tell him he is naughty for breaking his toys, and for pulling things to pieces. But let us think seriously before we scold. Botanists destroy innocent little flowers, and medical men dissect dumb animals, for the purpose of furthering their knowledge, for the benefit of humanity. Why then are they not scolded and called naughty? Because the destruction which they work is not wanton, and the end obtained justifies the means taken. But is the child's destruction always wanton? A little girl once possessed a very beautiful doll, the eyes of which opened and closed. The child, after puzzling for some time as to why an inanimate object should be able to move its eyes, determined to find out for herself. She thereupon smashed open the head of the doll, and discovered the mechanism of the eyes inside. On being found by her nurse she was severely reprimanded for breaking the doll. She endeavoured to explain that she wished to find out for herself the reason of the movement of the eyes. But the nurse scolded still further. The question is, who was the

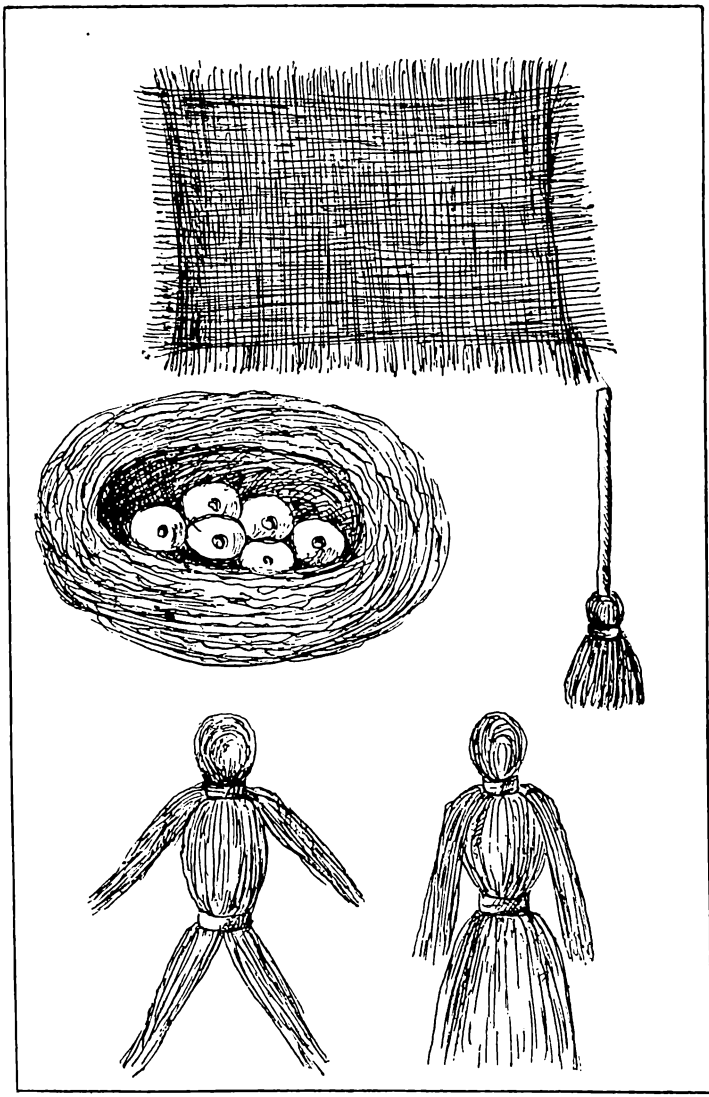

FIG. 16.—Fraying.

more intelligent—the nurse or the child? Had the destruction been wanton, with no aim in view, the nurse would have been perfectly justified in her scolding.

A little boy who had a great desire for taking clocks to pieces for the purpose of examining the wheels and screws, was given by his mother an old clock on which to experiment. This parent showed her good sense in encouraging the child to gain knowledge by personal investigation.

We endeavour in the Kindergarten to satisfy in a measure this desire of the child to destroy, but we do not encourage wanton destruction. Each child is given a loosely woven piece of material, such as bunting, about two or three inches square, which he pulls to pieces by taking out all the threads. The material is prettily coloured, each child if possible having a different colour. When the threads are all pulled out and laid on the desk or floor, the teacher makes some object from them, *e.g.* a bird's nest, a brush, a small pillow, a doll, etc. The destruction has not been wanton, because the children were told at the beginning of the lesson that they were pulling out the threads in order to form an object. This occupation, when possible, is also connected with the nature lesson, *e.g.* after a lesson on birds, a nest is made with the threads, and to make it more realistic a few white beads put in for eggs.

Any loosely woven material will do for this lesson. The cuttings which are not used by cloth merchants in the bazaar would serve the purpose, providing the threads are easily drawn out. Bunting is the most suitable material. If it is not possible for teachers to find suitable material in the

bazaar it can be obtained from Messrs. Longmans, Green,-& Co., 8 Hornby Road, Bombay, or 303 Bowbazar Street, Calcutta, and is described in their catalogue as bunting cloth for ravelling occupation, in 5 colours, 18 inches wide, 12 annas per yard, or bunting scraps 12 annas per lb. bag.

KINDERGARTEN GAMES.

FROEBEL says, "Play is the highest point of human development in the child stage, for it is the free expression of the child's inner being". Yet there are people sufficiently ignorant of the child nature to keep play and school quite apart.

The child is supposed to learn in school, and through no medium does he learn more quickly than through that of play. Then why separate the two? During the first few years of a child's life, certainly until he has passed out of the infants' class, all his learning, including reading, writing and arithmetic, should be done more or less through play. Play is not a waste of time, or a means of simply passing away an hour; it is a very valuable element in the child stage, and should be encouraged by parents and teachers alike.

When the little girl caresses and tends her doll, the maternal instinct in her is aroused, while the boy's sporting and enterprising nature is quickened in his sham tiger-hunt or in the mock battle with other boys.

As is shown in the chapter on story-telling, the story is remembered much better by the dramatisation than by endless repetition. Yet what is this but play? Again, what are string-laying, sand-work, modelling, bead-threading and

many other occupations but play? Yet we should hesitate before we said that there was nothing to be learnt through these lessons. In the Kindergarten games the children represent persons, animals and flowers and so on, *e.g.* after a lesson on the donkey, some children represented dhobies while others acted as the donkeys, going down on all fours and braying in true asinine fashion.

The Kindergarten games should be connected with the central point, *viz.* the nature lesson, so that there will be a different Kindergarten game each week. A few illustrations of games in connection with nature lessons are here given, and from these teachers can gather some idea as to how games may be played to suit other lessons.

The Crow.—A few of the tallest children stand round to represent trees, spreading out their arms for branches. The game becomes more realistic if a few branches of trees from the compound are brought into the school, for the children to hold. A boy who represents the wind blows lightly upon the trees, upon which they sway gently to and fro. The rest of the children, if there are not too many, act as crows, a pair to each tree. They fly about in imitation of crows, using their arms as wings, and talking crow language, which consists only of "Caw, caw!" The teacher has scattered on the floor some twigs and leaves, and also some threads of the material from the fraying lesson. These the crows gather up, and build nests in their respective trees, putting the twigs on the outer side and the threads on the inner. By questioning, the teacher will elicit why they build their nests so. The crows then put some white beads in their nests to represent eggs, and

after a time some smaller children, who up till now have been in hiding behind the trees, come forward as baby crows and are fed by their parents. This game played by the little ones is simply a dramatisation of the nature lesson on the crow given during the week.

The Rabbit.—Some of the children here again act as trees, or by joining hands and forming a ring they may represent the hedge of a field or compound. Others represent rabbits, leaping after the manner of these animals. The rabbits are made more realistic if ears cut out in paper, in the shape of the rabbits' ears, are pinned to the sides of the children's caps or turbans. The children representing the animals behave in a suitable manner, cleaning themselves, and eating in true rabbit fashion and burrowing imaginary holes in the ground.

The Cocoa-nut.—In this game the tallest children represent cocoa-nut trees, holding up their hands above their heads as high as possible. In their hands they hold cocoa-nuts or balls, stones, or clay models to represent nuts. Other children with bags or receptacles of some kind attached to their bodies pretend to climb the trees and gather the nuts, placing them in the receptacles for that purpose. After gathering all the nuts they proceed to sell them to the cocoa-nut vendors, who in their turn sell them to the travellers on the road. Some children acting as travellers pretend to break open the nuts and drink the milk which is inside, while others take their nuts to the temple, which is represented by one corner of the class-room.

Flower-growing.—(From Hong-Kong Mission Kindergarten).

Some children sit on the floor in a group. A child representing the gardener walks round with a watering-can and pretends to water the flowers. The flowers then proceed to grow, by putting up their hands and wriggling their fingers. This represents the petals blowing. The gardener then goes round and picks the flowers which the children are holding in their hands.

The Postman.—One boy carrying a bag containing a few old letters and papers acts as postman. Other children sit or stand in various parts of the class-room and represent ladies and gentlemen in their houses, who are to receive letters. The postman goes round to the houses, delivering letters, and in some cases receiving payment for insufficient stamping, or signatures for parcels and registered letters and so on. This game may, of course, be made more detailed by the addition of the post-office, and the sorting of letters, etc.

It will easily be seen from these few examples how other games may be played in connection with different lessons. In European schools the nursery rhymes may be dramatised, and these make very pleasing games for little ones, *e.g.* "Jack and Jill," "Little Miss Muffet," "Hi diddle, diddle," and so on.

STORY-TELLING.

EVERY child takes a keen delight in hearing stories told and not only will he hear a story once, but providing it pleases him, ask for the same story over and over again, and woe is the relator if he should vary the tale in the second telling, for the listener will most probably immediately correct him and point out the mistake. It would seem that the story teller is born and not made, for there are so few teachers who tell a story in a really interesting manner. It will not do for the teacher to stand in front of his class and simply relate the story in a monotonous, passionless tone of voice as though he were reciting his arithmetical tables. The children have no interest in such a teacher and take no pleasure in the lesson, which should be one of the most enjoyable in the time-table. The teacher should tell the story in a dramatic manner, which appeals to little ones, raising and lowering his voice at suitable times, and emphasising certain parts with characteristic gestures. It seems such a pity that so many teachers convert the story-telling into such a monotonous lesson, by the constant repetition of the story by each individual pupil, and by the continual questioning about the story after it has already been related. Their argument is, that they wish to ascertain whether the children have remembered what they have been told. Surely, if the teacher has related the story

in an interesting and dramatic manner, the pupils cannot have failed to grasp it.

This constant questioning and repetition make the story lesson into more of a task, when it should be a recreative lesson. After the story has been told it should be dramatised by the children and then drawn on paper. From the dramatisation and the drawing it will easily be seen whether the pupils have remembered the story or not. The story lesson, therefore, resolves itself into three parts, namely :—

1. Telling the story.
2. Dramatisation of story.
3. Drawing the story.

Take for example the story of " The Mungoose and the Child ".

For the sake of those to whom it is unknown it is briefly related here.

A Brahman and his wife, who had one little child, kept a pet mungoose. One day, the wife, who was going out to fetch water, told her husband to look after the child in the cradle, and see that the mungoose did not bite it. Presently the Brahman left the house and while he was gone, a huge cobra entered and was gliding towards the cradle when it was immediately seized by the mungoose and killed. The mungoose, with its face covered with blood after the fight, ran towards the door to show the Brahmani how brave it had been. On seeing the blood the woman jumped to the conclusion that the mungoose had killed her baby, and that this was the blood. She thereupon threw the water-pot upon the poor creature's head in a fury, and killed him instantly. But when she went inside the house and saw the child safely sleep-

ing and the torn pieces of the cobra lying round, her grief knew no bounds, for she then saw what a martyr the little mungoose had been.

After the teacher had related this story, the children under supervision dramatised it. The children themselves said which of them should represent the various characters, *e.g.* they chose the smallest boy in the class for the baby, and another small boy for the mungoose, while a particularly long and lithe boy represented the cobra. Two more children represented the Brahman and his wife, and the rest of the class acted as audience. An inverted bench served as a cradle, and the wastepaper basket for the water-pot. The fight between the cobra and the mungoose was realistically acted by the two boys who represented the characters, the cobra evidently intending not to die until he had had his full share of the fun, while the baby showed signs of waking before the right time in order to watch the fray. The mungoose died in a tragic manner, quite befitting his part. Needless to say the teacher did not allow the Brahmani to carry out the throwing of the water-pot too literally. After the dramatisation the children drew pictures of the story. Other stories may be treated in the same manner.

In choosing stories which to tell children, stories of unnaturally good children should be avoided, such as tales about boys who never cried, who never needed punishment, who always did exactly as they were told, and who never even desired to do what they were told not to do. This kind of child does not exist, or if he does, he is not in a perfect state of health, either mentally or physically. Rather should we choose stories of children who have been naughty,

and have suffered the natural consequences of their naughtiness. For example, the children will see that it is perfectly reasonable for a boy who has been told by his parents not to touch a poisonous insect, and who insists on doing so, to be stung ; or for a child who went out in the falling rain, contrary to his parents' instructions, to suffer fever as a result. Again, in telling a story with a moral, it is quite unnecessary to point out the moral at the end. Children dislike being preached at, and while they may listen attentively to the telling of the story, immediately the teacher starts on the moral they will lose interest. Besides, the moral itself comes out in the telling of the story without any further talk upon the subject. There is a great diversity of opinion as to the kinds of stories which should be told. They will of course vary according to the age of the children. For little ones in the infants and the first standard, short simple stories should be chosen, *e.g.* simple fairy tales, *Æsop's Fables*, "The Mungoose and the Child," "Siva and the Squirrel," and some of the stories from *Tales of Mariada Raman*. The European tales of "Cinderella," "Red-Riding-Hood," "Tom Thumb," "Golden Hair and the Three Bears," and many others, when adapted to Indian surroundings and Hindu names given to the characters, form most fascinating stories for Indian little children.

For older children, more advanced tales should be chosen. English and Indian historical tales, besides forming very interesting lessons at this stage, will also help the pupils to some extent in their later school days in history, *e.g.* "Canute and the Waves," "Sir Walter Raleigh," "The Princes in the Tower," "The Gunpowder Plot," "Clive in England".

These stories and many others are to be found in Macmillan's New History Readers and other books. Some of the simpler stories from Shakespeare, to be found in Lamb's *Tales from Shakespeare*, form very good subjects for the story lesson. If by any chance the pupils take up literature in their later school life, these simple stories will be found to be of some little help to them. In studying history and literature it is surprising how much these simple anecdotes help one, *e.g.* almost every English boy will remember every little detail of the Gunpowder Plot, and in connection with that, the events happening at that time, such as the relations existing between James I. and his subjects, the religious disputes and so on. In some of the Shakespearean stories, it has been found advisable to omit some of the characters given, as too many characters in one story tend to confuse the child. Again, if the class consists of Indian children, the names given to the various characters should be changed to Hindu names. Some of the stories from *Tales of Tennalirama*, by Pandit S. M. Natesa Sastri, B.A., and *Tales of Mariada Raman*, by P. Ramachandra Rao, may also be told to older children.

It will be found that the pupils take great delight in dramatising and drawing these stories, and seldom forget them. In the dramatisation of "Canute and the Waves," one boy, sitting on a chair, acted Canute, while others standing round him impersonated his flattering courtiers, and two boys acted as the waves which would not obey the voice of the king, in his orders to them to retreat.

These are only a few examples of various stories; there are many others which are equally suitable and of which individual teachers will no doubt think of themselves.

CONVERSATION LESSONS.

THE idea of these lessons is to train the powers of observation, and to help young children to make logical and connected sentences, instead of disjointed phrases. The teacher should choose some suitable subject and talk with the children about it, drawing from them by kindly encouragement their observation and knowledge of the same. Occasionally, two boys stand in front of the class and converse with each other on the subject in hand, the other children listening and pointing out faults or good points in the conversation. As far as possible things with which the children are familiar should be chosen as subjects, *e.g.* jutka, bicycle, bullock-cart, carriage, railway-train, etc. Current events should also form topics for the conversation lesson, *e.g.* a feast or tamasha of any description, a visit to any special place, the holidays, the monsoon, etc.

It is necessary in his later days for the child to have some knowledge of civics and this he may obtain in an elementary manner by means of some of the conversation lessons in the Kindergarten. Such subjects as a policeman, a judge, a soldier, should be chosen for this purpose. By means of these lessons the child gets a general knowledge and learns the necessity for the various men filling these posts.

Although the children are to talk themselves in this lesson,

there is no necessity for undisciplined conversation. The children must not be allowed to speak two or three at a time, but should wait patiently until the previous speaker has finished what he has to say. The shy and unassuming children should not be neglected in favour of the more precocious, but by tact and kindness on the part of the teacher, should be encouraged to talk as much as the other children. After a conversation lesson the children should be allowed to draw something in connection with the subject, *e.g.* after a lesson on a policeman, some boys drew a picture of the local police station, while after a lesson on a soldier they drew a gun and a cannon. One subject per week should be chosen for the topic of the conversation lesson, and about two lessons given to the subject.

The subjects for these lessons should follow one another in natural order, *e.g.* a lesson on "the parts of a child's body and their uses" should be followed by one on the rice which he eats, and on the money which he spends. Again, a lesson on a sailor should be followed by one on a ship, while a lesson on a gun would follow that on a soldier. These lessons should be suitably illustrated both by models and pictures, but more especially by the drawings of the teacher on the black-board. A list of suitable subjects for conversations is here given:—

Railway Train.	Gun.
Railway Station.	Cannon.
Bullock-cart.	Policeman.
Jutka.	Judge.
Rickshaw.	Postman.

Carriage.
Bicycle.
Motor-car.
Drum.
Parts of a child's body and their uses.
Rice.
Money.
Sailor.
Ship.
Soldier.
Gardener.
Garden.
The Monsoon.
An Umbrella.
Sun, Moon and Stars.
The Union Jack.
Shops and sights seen in the Bazaar.
Feast days.
Square, Oblong, and Triangle.

It is scarcely necessary to add that a lesson on a motor-car or a bicycle would not be given to the children until they had seen one. The teacher must take into consideration the district and surroundings of the school in which he works, before he draws up his own list. In lessons on a jutka, bullock-cart, carriage, railway train, ship, the various methods of travelling would be compared and the advantages and disadvantages of each discussed.

PICTURE-READING.

LIKE the conversation lesson, picture-reading encourages free conversation between teacher and children, and forms a very simple and attractive lesson for infants. A picture is shown to the class, and the children say what they see in the picture. This is known as reading the picture. Coloured pictures from the school walls, or pictures in illustrated story books or picture books are suitable to this lesson. The more highly coloured and attractive the picture, the more effective will it be for this purpose. A little story involving the characters shown in the illustration is invented, either by the teacher himself, or by the teacher and the children together, or by one of the children alone, or by all the children, one child starting the story, and others by adding to it, developing the plot. This gives the child scope for his powers of imagination while the powers of observation are trained in reading the picture.

SEED-DESIGNING.

THE chief aim of this occupation is to encourage the pupils to design patterns for themselves. The ordinary rice seed, dyed red, green or blue has been found to answer the purpose very well. The seeds are not laid singly, but in such a manner as to make the outline of the design one-eighth to one-fourth inch in breadth. Half cocoa-nut shells may be used as receptacles for the seed, if necessary, but this kind of seed will stay quite steadily on the desk or floor, without any receptacle. The design may be laid out on a sheet of clean paper or upon the pupils' slates. After a few exercises in designing with the teacher, the children will be in a position to design patterns for themselves. It is a good plan to occasionally give them a fixed centre-piece and to allow them to make their own patterns round it. This occupation gives the children scope for originality and prevents them from becoming mere imitators only. In all Kindergarten work, we endeavour to train the child to depend upon himself and not upon the teacher, and this is another means of carrying out this aim. After the pupils have drawn up the design in seed, they may copy it on to slates or paper. It would be easy to keep a record of the designs made by each child, by drawing the designs in a book set aside for that purpose.

Each child might keep his own book in which to copy his own designs.

Rice seed may be bought for two and a half to three and a half annas per measure, and a quarter of a Madras measure is sufficient for a class of twenty pupils. The seed may be dyed by soaking it in ordinary ink; it should be left in a shady place to dry. If left in the hot sun the seed will go to powder. The tamarind seed, which is used in some schools, is too irregular in shape for the purpose of designing.

Other methods of teaching design are by tablet-laying and ring-laying. If the apparatus for these two occupations happens to be in the school, it can also be put to this use. But it is not necessary. Seed-designing is here mentioned as the seed is cheap and easily obtained. But any other method by which designing may be taught would be equally effective.

Design is also incidentally taught in ruler and chequered drawing.

FIG. 17.—Seed-Designing. Original Designs of Pupils.

THE TEACHING OF NUMBER TO YOUNG CHILDREN.

THE teaching of number to little ones also comes under the head of Kindergarten, although so many teachers think that reading, writing and arithmetic are subjects quite apart. By teaching these three subjects in a Kindergarten manner we mean that they are taught chiefly by means of play. Number we know should be taught to little ones in the concrete, but this does not mean that the ball-frame is to be used incessantly without any change. Children are fond of novelty; they very quickly tire of any one thing, and it is to be assumed that the children in some schools must be heartily sick of the sight of the ball-frame. It is not insinuated that the ball-frame is useless for teaching number, but to use it continually when there are so many other means of teaching in the concrete, seems unreasonable. Different teachers have different methods of teaching number, but wise teachers all agree that number must be taught in the concrete before any attempt at working in the abstract is made. In fact it would be better if the formal working of sums on slates or paper were postponed until the child has passed the age of six. Nothing is lost by this little delay, but a great deal may be gained. The children after

a thorough groundwork of practical and concrete lessons in arithmetic will be much more intelligent and less mechanical in their calculations. But even at this stage the working may be done in the concrete. For instance, a teacher should not ask his pupils such a question as "What are two and two?" An intelligent child will ask "Two what?" But if the child is asked how many mangoes there will be, if two mangoes are placed beside two others, he immediately conjures up a vision in his brain of four mangoes lying side by side, and gives the answer "Four". Again, in working an addition or subtraction sum on slates or paper, the children should not be given the abstract numbers simply, but should be told to add thirty-two books, twenty books and twelve books, or to subtract twenty plantains from thirty plantains as the case may be. These sums should occasionally be given in the form of little problems. If the teacher is not careful, the children so soon become mechanical in their working of sums, without giving any thought as to the why and wherefore of the calculations made. But this should not be so in the hands of an intelligent teacher. When little children first come to school, say about the age of four or five years the lessons in number should all take the form of play. This play the children will heartily enjoy, although they will unconsciously be learning all the time. They must first get a correct and intelligent idea of the number one, before they proceed to the next number. This they will probably have before they come to school, and it will not be necessary to spend very long over the first three numbers. If one number per week be taken, and a different kind of number-play every day, the

children will become acquainted with all the numbers in turn, and will not have time to become bored with the lessons. A specimen of a week's lesson for the Infant class on the number 6 is here given. Other numbers up to 10 or 12 could be treated in the same manner. A week or more if necessary is spent on one number. The arithmetic lesson lasts for twenty minutes only. The code requirements for the Infant class, besides counting and writing numbers, include the "simple addition of two numbers neither of which exceeds 10". The time given to arithmetic in the school year is more than enough in which to satisfy these requirements, so that by the time the pupils pass up into Standard I., they should, generally speaking, be thoroughly efficient in the arithmetic of the Infant class. Besides simple addition and subtraction, children should have some idea of the analysis and building up of numbers. These may be taught in conjunction with the former, and the number lessons will, as a result, be less monotonous and more interesting, and it will be found that the children get a far more intelligent idea of number by this means. The lessons given here for the Infant class, if made a little more difficult, will serve equally well for Standard I. The counting and writing of numbers is taught in conjunction with the ordinary number lessons, *e.g.* during a week in which number 6 is being taught the children learn how to write that figure, one of the writing lessons being set aside for that purpose.

Monday.—A picture number story is given in the first number lesson of the week. The teacher sketches the various stages of the story on the black-board as the lesson proceeds. This may, to a certain extent, be connected with

the nature-lesson, *e.g.* suppose the nature-lesson for the week is the cocoa-nut. The following story might be told to the children. There was once a coolie woman who sold cocoa-nuts. She sat at the roadside every day, under a banyan-tree, selling nuts to passers-by. (The teacher here sketches the woman and a tree. An elaborate sketch is not needed; the children will no doubt be the better pleased with a simple drawing.) One day as I passed her I stopped and counted her nuts, and how many do you think she had? Six nuts. (The teacher draws six cocoa-nuts. The children count them and say "six nuts".) Well! while I was standing there beside her, a poor old man, who seemed very tired with so much walking, stopped and bought a nut, and took it to the other side of the road, where he broke it open and drank the milk. Now! I want one of you to be the poor old man who bought a nut. (One of the children impersonates the man and walks to the board, takes away the nut by cleaning it off with the duster, and then pretends to drink the milk.) Now! look at the nuts, how many are there left? Five nuts. How many did the old man take? One. Then if one nut is taken from six, how many will be left? Five nuts. Then I bought a nut. (The teacher here takes the duster and cleans off another nut.) How many nuts are left now? Four. How many have been taken away? Two. The old man took one, and I took one. So two have been taken. Then if two nuts are taken from six nuts, how many will be left? Four. Just as I was walking away, a man in a jutka drove up, stopped the horse and bought a nut. Who will be the jutka man? (A child here represents the jutka man

and takes a nut.) How many nuts has the woman now? Three. How many has she sold? Three. Then if three nuts are taken from six, how many are left? Three nuts. (The teacher proceeds in like manner until all the nuts have been sold.)

Now, the woman has sold all her stock; what must she do? She must get some more. Well! there was another woman close by who was also selling nuts. So she asked her to let her have some, but she was only able to give her one. (The teacher draws a nut on the black-board.) How many nuts can you see now? One nut. Just after this, a man, who had been picking nuts, came along, and the woman asked him to let her have one, which he did. (The teacher draws another nut.) How many nuts has she now? Two nuts. One nut and one more make two nuts. Then the man said he could give her another one. (The teacher draws a third nut.) How many nuts are there now? Three. Two nuts and one more make three nuts. (The teacher proceeds in like manner until six nuts are on the black-board.) In this way the children have learnt addition and subtraction. The teacher would, of course, invent his own stories according to the district and surroundings of the pupils. Stories about eggs in a nest, cakes and sweets, toys in a toy-bazaar and such like, usually appeal to little ones.

Tuesday.—Each child is supplied with a bundle of six sticks. Small sticks are useless. They should at least be four inches in length. The children hold their sticks in the left hands. The teacher tells them to place one stick on the desk or floor in front of them; they then say how many sticks they can see. One. They put one more and

say how many there are, and see that one stick placed beside another makes two sticks. They proceed in this way until all six sticks are side by side on the desk, and they see the number as a whole. This finishes the addition. Now, for the subtraction. The teacher refers to the sticks as policemen and invents a short story in connection. He tells how one policeman left the line and went away. The children take away one stick and hide it behind them. They say how many policemen are left and how many have been taken. The teacher then tells them how one policeman became very tired and dropped on to the floor. The children take away a second stick and say again how many are left, and how many have been taken. The teacher proceeds in this way until all the sticks are gone. A short time is now spent on the analysis of the number six. This may present a little difficulty at first, but it is astonishing how very quickly the children pick it up. The teacher asks the pupils to find out how many ones there are in six; this they do by arranging the sticks on the desk in ones, and they find that there are six ones in six. If the children have thoroughly grasped the idea of one, and what it means during the earlier lessons in number, they will find this calculation very simple. They next find how many twos there are by arranging the sticks in pairs, and find that there are three twos in six. Then the sticks are arranged in threes, and the children see that there are two threes in six, and then in fours, when they see that there is one four in six and two over; then in fives when they see that there is one five and one over; and lastly in sixes when they see that there is one six in six. The teacher, besides illustrating

with his own sticks, also draws illustrations on the black-board.

Wednesday.—The teacher organises some kind of buying and selling games, playing the part of shop-keeper first, and afterwards that of the purchaser. Any apparatus will serve as articles to be sold, the children's slates, caps, pencils or any toys which the school may possess. Suppose that the articles in this case are slates. The teacher arranges six slates on his desk, or on the floor in front of the class, and pretends that he is a shop-keeper. Various children represent different grown-up people, who come to buy. There is nothing a child enjoys more than impersonating grown-ups. One child buys at a time; the shop-keeper holds a business conversation with each as to the price and value, etc., of the slate to be sold. A few pebbles from the compound will serve as annas and pies. When each child has made his purchase, he carries it to his house which is represented by his place in class. As each slate is sold, the teacher calls attention to the number left and so on. When all the slates have been sold the teacher acts as the buyer, and the children now in possession of the slates act as shop-keepers in different parts of the district, which are represented by their various positions in class. The teacher now goes round to the shops and buys slates, one at a time with which he again stocks his own shop. At each purchase the children say how many slates there are and how many have been added and so on. It is very amusing to see the way in which children accustomed to this method of number teaching argue about the prices of articles which they wish to sell, invariably refusing to sell them unless they are to make a

profit on the original transaction. When the teacher has once more filled his shop with the six slates, he spends a little time on the analysis of the number, allowing different children to come out in front of the class and arrange the slates in ones, twos, threes, and so on, while the rest of the class say whether the arrangement is correct.

Thursday.—As on Tuesday, each child has his own apparatus. Here again, any articles which happen to be included in the school stock will serve the purpose, *e.g.* cubes, bricks, tablets, shells, stones, etc. If stones or shells are used they must be large enough for the little ones to handle and feel properly. A single stone or shell should nearly fill a little hand. Tiny seeds or shells which roll about the desk or floor, and will not keep steady, are worse than useless. The same steps which were gone through on Tuesday with the sticks apply here.

Friday.—As on Wednesday a number game should be devised by the teacher. Different children may come out in front of the class and represent the numbers. The teacher calls out one child. The children in the desks say how many children there are in front of the class. One child. The teacher calls another, and the children see there are now two. He then calls another, and the children see there are three. He proceeds in this way until six is reached. The children are then told off, one by one, to run away and hide, and the children say how many are left in each case. Six children standing in front are then arranged in ones, twos, threes, etc., by various children from the desks, the class saying in each case whether the arrangement is correct. Various other games of this description will suggest themselves to the teacher.

It will be noticed that days on which each child has his own apparatus are alternated with those on which he has not. By taking a different kind of number play each day, the children are not so apt to become bored and listless during the number lesson, and it is surprising how quickly and intelligently children taught on these lines learn their arithmetic. Any apparatus which the school possesses will answer for these number lessons, but the more attractive and highly coloured it is the better. Such toys as skittles, little dolls, toy animals and balls have been found very effective; but there should be certain days in the week when each child has his own set of apparatus. Children love feeling and touching things and they learn much more quickly by doing. One of the chief disadvantages of the ball-frame is, that it does not allow of any but the teacher or one child at a time doing anything with his fingers.

It may be argued by some teachers that a week is too long to spend upon one number, as Indian children are so quick at learning. The average Indian boy, certainly, is remarkably quick at his arithmetic, but the question is, does he learn it intelligently or mechanically? Mechanical arithmetic is useless. The child must know the reasons for all his calculations, otherwise, how is he to face new problems? He cannot always have his teacher to direct him. He must learn to reason for himself. In the number lessons here given the addition and subtraction have been worked in ones only, *e.g.* one has been added to one, and then one to two and so on. But, of course, exercises in adding and subtracting, by twos, threes, etc., would be given as well, the difficulty of the exercises varying as to the age of the pupils.

The written sign of the number should always accompany the teacher's illustration on the black-board.

In conjuction with these number lessons, practical and mental problems on the number in hand should be given to the pupils. Practical problems which the children can see and work out with their own or the teacher's apparatus should be given in most lessons, *e.g.* the teacher draws six mangoes on the black-board and asks a child to make the six into four. A child comes out, takes the duster, and rubs off two, so leaving four mangoes. The teacher then questions the other children as to what was done in order to make the six into four. He then asks the child to make the four into six again. Another method is that of having six children in the front of the class and asking one of the others to make those six children into two. This he does by sending four to their seats. Another child is then asked to change the two into four, which he does by calling out two more boys. Again two boys play at shops. The shopkeeper has six slates. The purchaser is told to buy a number of slates in order that the other boy will have three left, and so on. When each child has his own apparatus, *e.g.* sticks, the class may be told to put the six sticks on the desk and then change the six into four, or into five, etc. This kind of problem is greatly appreciated by the little ones and causes much amusement and competition amongst them. In mental problems the children are trained to calculate without the aid of apparatus, but naturally these exercises would not be given until the children have had a fair amount of practice at working in the concrete. Even then, they are not separated from the concrete, but are taken in conjunction. A few exercises in

mental work would be given at the close of the ordinary number lesson, *e.g.* after a lesson on the number 6, by means of the buying and selling game, the teacher might tell the children to close their eyes and fancy they see the six slates on his desk, where they were during the game. The majority of children delight in closing their eyes and imagining they see things, and this will appeal to them. The teacher tells them that a certain boy (he here mentions one of the children in the class by name) came and took away three slates and asks how many would be left. The children open their eyes and give the answer. They then close them again, while the teacher gives another similar problem. In like manner, after the number lesson with sticks, when the apparatus has been taken away from the children, the teacher tells them to look at their desks and fancy they see the six sticks there. He then asks them to pretend to take four away and asks how many are left ; or he tells them to fancy that the sticks are arranged in twos and asks them how many twos there are, and so on. It has been found good practice to allow the pupils to invent problems for themselves. If a quantity of exercises are taken in this manner, a week is none too long to spend on one number. Moreover, by this method, the pupils get a thorough, all-round knowledge of the number taught, and their reasoning powers are constantly in requisition, so that mechanical calculations are useless. The practice of counting on the fingers should be discouraged. The reason is this. Counting on the fingers is right as far as working in the concrete goes. When once the child has passed the stage of making all his calculations with apparatus, the apparatus is taken from him,

and he is forced to calculate mentally. But it is impossible to take his fingers from him, and if he has been allowed to reckon by means of them, he will continue to do so, which is not desirable. It is not an uncommon thing to see grown-ups, who as children have been allowed to reckon in this manner, still doing so, out of sheer force of habit. Again, in the working of addition sums, the calculations should be made mentally from the start. If the pupils have received proper training in mental exercises, there should be no difficulty in doing this. There is a practice in which some teachers indulge in the first lessons in addition sums, of allowing the children to draw beside the various figures, the number of sticks which these figures represent. The result is, that the children add up, one by one, instead of mentally calculating the total, the mental calculation which is the one aim of the addition sum, being lost; another disadvantage lies in the fact that the children continue this practice when they proceed to the higher classes.

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