

QUARTER CENTURY EDITION

OF THE

PARADISE OF CHILDHOOD.

A PRACTICAL GUIDE TO KINDERGARTNERS,

BY

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EDITED BY MILTON BRADLEY.

INCLUDING A

LIFE OF FRIEDRICH FROEBEL,

BY

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PROFUSELY ILLUSTRATED.

SPRINGFIELD, MASS.:

MILTON BRADLEY COMPANY.

1896.

THE THIRD GIFT.

This consists of a *cube* divided into *eight smaller one-inch cubes*.

A prominent desire in the mind of every child is to *divide* things, in order to examine the parts of which they consist. This natural instinct is observable at a very early period. The little one tries to change its toy by breaking it, desirous of looking at its inside, and is sadly disappointed in finding itself incapable of reconstructing the fragments. Fröbel's Third Gift is founded on this observation. In it the child receives a *whole*, whose *parts* he can easily *separate*, and *put together again at pleasure*. Thus he is able to do that which he could not in the case of the toys—restore to its original form that which was broken—making a perfect whole. And not only this—he can use the parts also for the construction of other *wholes*.

The child's first plaything, or means of occupation, was the *ball*. Next came the *sphere*, similar to, yet so different from the ball. Then followed *cube* and *cylinder*, both, in some points resembling the sphere, yet each having its own peculiarities, which distinguish it from the sphere and ball. The pupil, in receiving the cube, divisible into eight smaller cubes, meets with friends, and is delighted at the multiplicity of the gift. Each of the eight parts is precisely like the whole, except in point of size, and the child is immediately struck with this quality of his first toy for *building purposes*. By simply looking at this gift, the pupil receives the ideas of *whole* and *part*—of *form* and *comparative size*; and by dividing the cube, is impressed with the relation of one part to another in regard to position and order of movements, thus learning readily to comprehend the use of such terms as *above*, *below*, *before*, *behind*, *right*, *left*, *etc.*, *etc.*

With this and all the following gifts, we produce what Fröbel calls *forms of life*, *forms of knowledge*, and *forms of beauty*.

The first are representations of objects which actually *exist*, and which come under our common observation, as the works of human skill and art. The second are such as afford instruction relative to *number*, *order*, *proportion*, *etc.* The third are figures representing only *ideal forms*, yet so regularly con-

structed as to present perfect models of *symmetry* and *order* in the arrangement of the parts. Thus in the occupations connected with the use of these simple building blocks, the child is led into the living world—there first to take notice of objects by comparison; then to learn something of their properties by induction, and lastly, to gather into his soul a love and desire for the beautiful by the contemplation of those forms which are regular and symmetrical.

THE PRESENTATION OF THE THIRD GIFT.

The children having taken their usual seats, the teacher addresses them as follows:—

“To-day, we have something new to play with.”

Opening the package and displaying the box, he does not at once gratify their curiosity by showing them what it contains, but commences by asking the question:—

“Which one of the three objects we played with yesterday does this box look like?”

They answer readily, “The cube.”

“Describe the box as the cube has been described, with regard to its sides, edges, corners, *etc.*”

When this has been satisfactorily done, the box is placed inverted upon the table and the cover removed by drawing it out, which will allow the cubes to stand on the table. Lifting the box carefully, so that the contents may remain entire as in Fig. 1, the teacher asks:—

“What do you see now?”

The answer is as before, “A cube.”

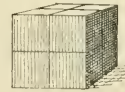


Fig. 1.

One of the scholars is told to push it across the table. In so doing, the parts will be likely to become separated, and that which was previously whole will lie before them in fragments. The children are permitted to examine the small cubes; and after each one of them has had one in his hand, the eight cubes are returned to the teacher who remarks:—

“Children, as we have broken the thing, we must try to *mend* it. Let us see if we can put it together as it was before.”

This having been done, the boxes are then distributed among the children, and they are practiced in removing the covers, and taking out the cube without destroying its unity. They will find it difficult at first, and there will be many failures. But let them continue to try until some, at least, have succeeded, and then proceed to another occupation.

PREPARATION FOR CONSTRUCTING FORMS.

The surface of the tables is covered with a net work of lines, forming squares of one-inch. A space including a definite number of squares is allotted to each pupil. In these first conversational lessons, the children must be taught to point out the right upper corner of their table space, the left upper, the right and left lower, the upper and lower edges, the right and left edges, and the center. With little staffs, or sticks cut at convenient lengths, they may indicate direction, by laying them upon the table in a line from left to right, covering the center of the space, or extending them from the right upper to the left lower edge covering the center; then from the middle of the upper edge to the middle of the lower edge, and so on. The teacher must be careful to use terms that can be easily comprehended, and avoid changing them in such a way as to produce any ambiguity in the mind of the child.

Here, as in the more advanced exercises, everything should be done with a great deal of precision. The children must understand that order and regularity in all the performances are of the utmost importance. The following will serve as an illustration of the method: The children having received the boxes, they are required to place them exactly in the center of their spaces, so as to cover four squares. Then take hold of the box with the right hand and inverting it upon the table remove the cover with the left hand by drawing it out from beneath. The right hand is used to raise the box carefully from its place and eight small cubes will stand in the center of the space forming one large cube. Lastly the cover is placed in the box and the box placed in the upper corner of the space allotted to the child.

At the close of any play, when the materials are to be returned to the teacher, the same

minuteness of detail must be observed as follows:—

Replace the box over the cubes, and draw toward the edge of the table; then slip the cover beneath, reverse the box and replace the cover.

These are processes which must be repeated many times before the scholar can acquire expertness.

FORMS OF LIFE.

The boxes being opened as directed, and the cubes upon the center squares—in each space—the question is asked:—

“How many little cubes are there?” “Eight.”

“Count them, placing them in a row from left to right,” (or from right to left).

“What is that?” “A row of cubes.”



Fig. 2.

It may bear any appropriate name which the children give it—as “a train of cars,” “a company of soldiers,” “a fence,” etc.

“Now count your cubes once more, placing them one upon another. What have you there?”

“An upright row of eight cubes.”

“Have you ever seen anything standing like this upright row of cubes?”

“A chimney.” “A steeple.”

“Take down your cubes, and build two upright rows of them—one square apart. What have you now?”

“Two little steeples,” or “two chimneys.”

Fig. 3. Thus, with these eight cubes, many forms of life can be built under the guidance of the teacher. It is an important rule in this occupation, that nothing should be rudely destroyed which has been constructed, but each new form is to be produced by slight change of the preceding one.

A number of these forms are given below. They are designated by Frœbel as follows:—

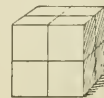


Fig. 5.

Cube or Kitchen Table.

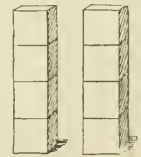


Fig. 4.

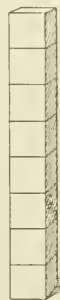


Fig. 3.



Fig. 6.

Fireplace.

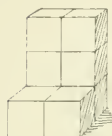


Fig. 7.

Grandpa's Chair.

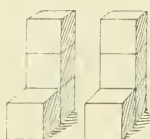


Fig. 8.

Grandpa's and Grandma's Chairs.

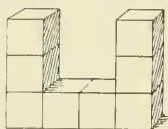


Fig. 9.

A Castle with two towers.

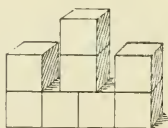


Fig. 10.

A Stronghold.

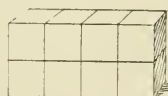


Fig. 11.

A Wall.



Fig. 12.

A High Wall.

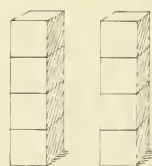


Fig. 13.

Two Columns.

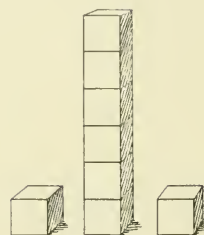


Fig. 14.

A Large Column, with two memorial stones.

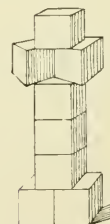


Fig. 15.

Signpost.

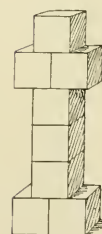


Fig. 16.

Cross.

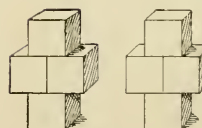


Fig. 17.

Two Crosses.

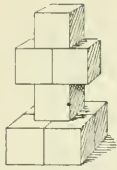


Fig. 18.

Cross, with pedestal.

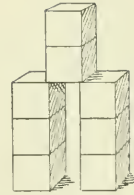


Fig. 24.

City Gate, with tower.

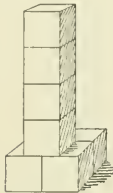


Fig. 19.

Monument.

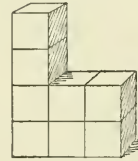


Fig. 25.

Church.

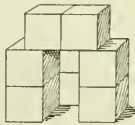


Fig. 20.

Sentry-box.

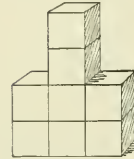


Fig. 26.

City Hall.

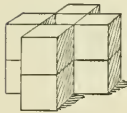


Fig. 21.

A Well.

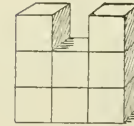


Fig. 27.

Castle.

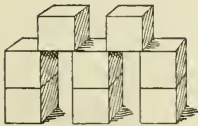


Fig. 22.

City Gate.

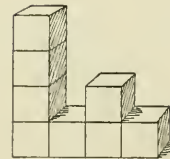


Fig. 28.

A Locomotive.

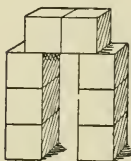


Fig. 23.

Triumphal Arch.

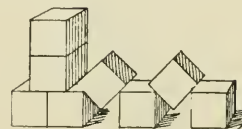


Fig. 29.

Ruin.

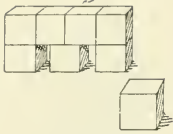


Fig. 30.

Bridge with Keeper's House.

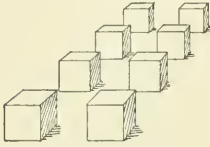


Fig. 31.

Two Rows of Trees.

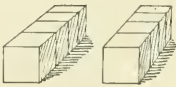


Fig. 32.

Two Long Logs of Wood.



Fig. 33.

A Platform

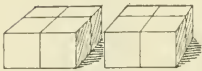


Fig. 34.

Two Small Logs of Wood.

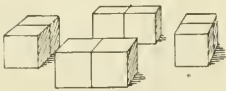


Fig. 35.

Four Garden Benches.

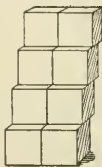


Fig. 36.

Stairs.

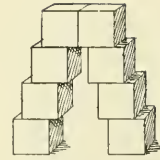


Fig. 37.

Double Ladder.

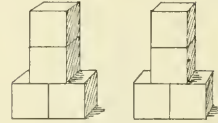


Fig. 38.

Two Columns on pedestals.



Fig. 39.

Well-trough.



Fig. 40.

Bath.

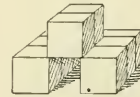


Fig. 41.

A Tunnel.

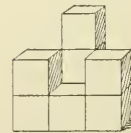


Fig. 42.

Easy Chair.



Fig. 43.

Bench with back.

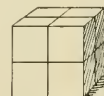


Fig. 44.

Cube.

Several of the names in this list represent objects which, being more specifically German, will not be recognized by the children. Ruins, castles, sentry-boxes, signposts, perhaps they have never seen; but it is easy to tell them something about these objects which will interest them. They will listen with pleasure to short stories, narrated by way of explanation, and thus associating the story with the form, be able, at another time, to reconstruct the latter while they repeat the former in their own words. It is not to be expected, however, that teachers in this country should adhere closely to the list of Fröbel. They may, with advantage, vary the forms, and if they choose, affix other names to those given in these pages. It is well sometimes to adopt such designations as are suggested by the children themselves. They will be found to be quite apt in tracing resemblances between their structures and the objects with which they are familiar.

In order to make the occupation still more useful, they should be required also to point out the dissimilarities existing between the form and that which it represents.

It is proper to allow the child, at times, to invent forms, the teacher assisting the fantasy of the little builder in the work of constructing, and in assigning names to the structure. When a figure has been found and named, the child should be required to take the blocks apart, and build the same several times in succession. Older and more advanced scholars suggest to younger and less able ones, and the latter will be found to appreciate such help.

It is a common observation, that the younger children in a family develop more rapidly than the older ones, since the former are assisted in their mental growth by companionship with the latter. This benefit of association is seen more fully in the Kindergarten, under the judicious guidance of a teacher who knows how to encourage what is right, and check what is wrong, in the disposition of the children.

It should be remarked, in connection with these directions, that in the use of this and the succeeding gift it is essential that *all* the blocks should be used in the building of each figure, in order to accustom the child to look upon things as mutually related. There is nothing which has not its appointed place, and each part is needed to constitute the whole. For example, the well-trough (Fig. 39) may be built of six cubes, but the remaining two should rep-

resent two pails with which the water is conveyed to the trough.

FORMS OF KNOWLEDGE.

These do not represent objects, either real or ideal. They instruct the pupil concerning the properties and relations of numbers, by a particular arranging and grouping of the blocks. Strictly speaking, the first effort to count, by laying them on the table one after another, is to be classed under this head. The form thus produced, though varied at each trial, is one of the forms of knowledge, and by it the child receives its first lesson in arithmetic.

Proceeding further, he is taught to add, always by using the cubes to illustrate the successive steps. Thus, having placed two of the blocks at a little distance from each other on the table, he is caused to repeat, "One and one are two." Then placing another upon the table, he repeats, "One and two are three," and so on, until all the blocks are added.

Subtraction is taught in a similar manner. Having placed all the cubes upon the table, the scholar commences taking them off, one at a time, repeating, as he does this, "One from eight leaves seven;" "One from seven leaves six," and so on.

According to circumstances, of which the Kindergarten, of course, will be the best judge, these exercises may be continued further, by adding and subtracting two, three and so on; but care should always be taken that no new step be made until all that has gone before is perfectly understood.

With the more advanced classes, exercises in multiplication and division may be tried, by grouping the blocks.

The division of the large cube, to illustrate the principles of proportion, is an interesting and instructive occupation; and we will here proceed to give the method in detail.

The children have their cube of eight before them on the table.

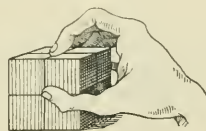


Fig. 45.

The teacher is also furnished with one and lifting the upper half asks:—

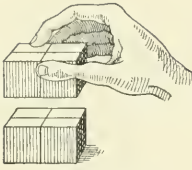


Fig. 46.

“Did I take the whole of my cube in my hand, or did I leave some of it on the table?”

“You left some on the table.”

“Do I hold in my hand more of my cube than I left on the table, or are both parts alike?”

“Both are alike.”

“If things are alike, we call them *equal*. So I divided my cube into two equal parts, and each of these equal parts I call a *half*.”

Where are the two halves of my cube?”

“One is in your hand; the other is on the table.”

“So I have two *half* cubes. I will now place the half which I have in my hand upon the half standing on the table. What have I now?”

“A whole cube.”

The teacher, then separating the cube again into halves, by drawing four of the smaller cubes to the right and four to the left asks:—

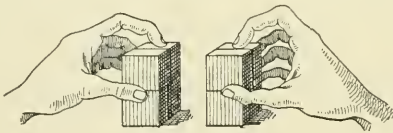


Fig. 47.

“What have I now before me?”

“Two half cubes.”

“Before, I had an upper and a lower half.

Now, I have a right and a left half. Uniting the halves again I have once more a whole.”

The scholars are taught to repeat as follows, while the teacher divides and unites the cubes in both ways, also as represented in Fig. 48:—



Fig. 48.

“One whole—two halves.”

“Two halves—one whole.”

Again, *each half* is divided, as shown in Figs. 49, 50 and 51. The children are required to repeat during these occupations:—

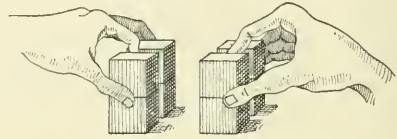


Fig. 49.

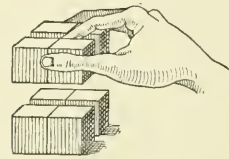


Fig. 50.

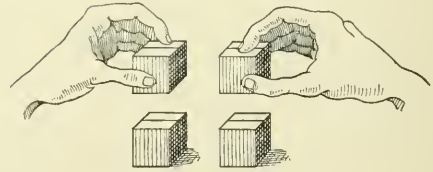


Fig. 51.

“One whole—two halves.”

“One half—two quarters (or fourths).”

“Two quarters—one half.”

“Two halves—one whole.”

After these processes are fully explained and the principles well understood by the scholars, they are to try their hand at dividing of the cube—first, individually then all together. If they succeed, they may then be taught to separate it into eighths. It is not advisable in all cases, to proceed thus far.

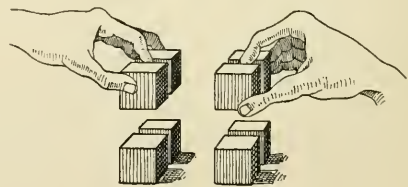


Fig. 52.

Children under four years of age should be restricted, for the most part to the use of the cubes for practical building purposes, and for simpler forms of knowledge.

FORMS OF BEAUTY.

Starting with a few simple arrangements, or positions, of the blocks, we are able to develop the forms contained in this class by means of a fixed law, viz., that every change of position is to be accompanied by a corresponding movement on the opposite side. In this way symmetrical figures are constructed in infinite variety, representing no real objects, yet, by their regularity of outline, adapted to please the eye, and minister to a correct artistic taste. The love of the beautiful cannot fail to be awakened in the youthful mind by such an occupation as this, and with this emotion will be associated, to some extent, the love of the good, for they are inseparable.

The works of God are characterized by perfect order and symmetry, and his goodness is commensurate with the beauty manifest everywhere in the fruits of his creative power. The construction of forms of beauty with the building blocks will prepare the child to appreciate, by and by, the order that rules the universe.

These forms are of only one block's height, and, consequently, represent outlines of surfaces. It is necessary that the children should be guided, in their construction, by an easily recognizable center. Around this visible point all the separate parts of the form to be created must be arranged, just as in working out the highest destiny of man, all his thoughts and acts need to be regulated by an invisible center, around which he is to construct a harmonious and beautiful whole.

In order to produce the varied forms of beauty with the simple material placed in the hands of the scholar, he must first learn in what ways two cubes may be brought in contact with each other. Four positions are shown in Figs. 53 to 56. The blocks may be arranged either—side by side, as in Fig. 53; edge to edge, as in Fig. 54; or edge to side, and side to edge, as in Figs. 55 and 56. Figs. 53 and 55 are the opposites to Figs. 54 and 56. Other changes of position may be made. For example, in Fig. 53 the block marked *a* may be placed above or to the right or to the left of the block marked *b*. The cubes may also be placed in certain relations to each other on the table, without being in actual contact. These positions should be practiced perseveringly at the outset, so as to furnish a foundation for

the processes of construction which are to follow. It is one of the important features of Froebel's system, that it enables the child readily to discover, and critically to observe, all relations which objects sustain to one another. Thoroughness, therefore, is required in all the details of these occupations.

We start from any fundamental form that may present itself to our mind. Take, for illustration, Fig. 57. Four cubes are here united side to side, constituting a square surface, and the outline is completed by placing the four remaining cubes, severally side to side with this middle square. In Fig. 58, edge touches edge; in Fig. 59, side touches edge, and in Fig. 60, edge touches side midway. Another mode of development is shown in Figs. 61-67.

The four outside cubes move toward the right by a half cube's length, until the original form reappears in Fig. 67.

Now, the four outside cubes occupy the *opposite* position. Fig. 68, edges touch sides. They are moved as before by a half cube's length, until, in Fig. 74, the form with which we started, is regained.

We now extract the inside cubes (*b*), Fig. 75, and each of them travels around its neighbor cube (*a*), until a standing, hollow square is developed, as in Fig. 81.

Now cube *a* again is set in motion. (Fig. 82). It assumes a slanting direction to the remaining cubes, and, pursuing its course around them, the form reappears in Fig. 88.

Next *b* is drawn out, (Fig. 89) and *a* pushed in, until a standing cross is formed, (Fig. 90) *b*, constantly traveling by a half cube's length, until all cubes are united in a large square, (Fig. 95) and *b* again begins traveling, by a cube's length, turning side to side and edge to edge. In Fig. 100, *b* performs as *a* has done.

But with more developed children we may proceed on other principles, Fig. 101, introducing changes only on two instead of four sides; and thus arriving successively at the forms found in Figs. 102-112.

After each occupation, the scholars should replace their cubes in the boxes, as heretofore described, and the material should be returned to the closet where it is kept, before commencing any other play.

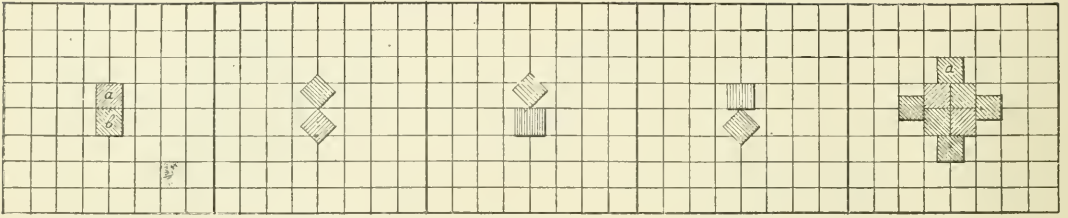


Fig. 53.

Fig. 54.

Fig. 55.

Fig. 56.

Fig. 57.

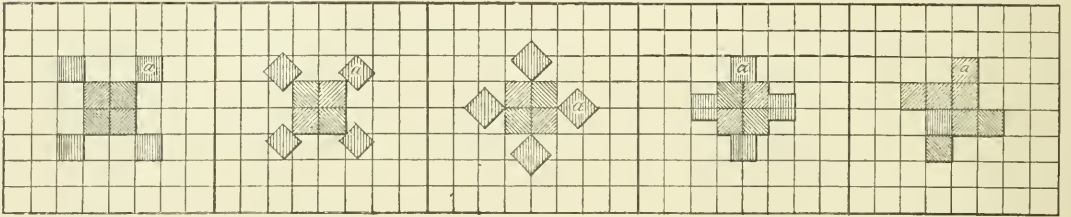


Fig. 58.

Fig. 59.

Fig. 60.

Fig. 61.

Fig. 62.

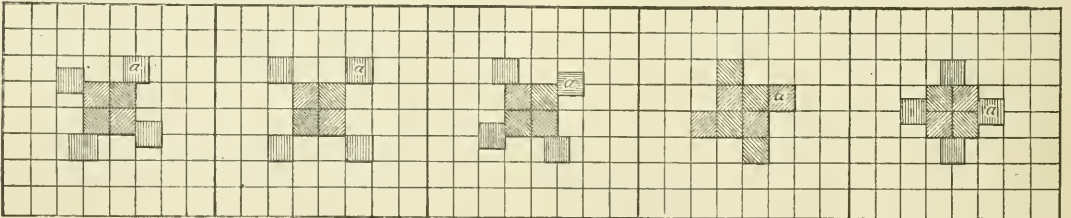


Fig. 63.

Fig. 64.

Fig. 65.

Fig. 66.

Fig. 67.

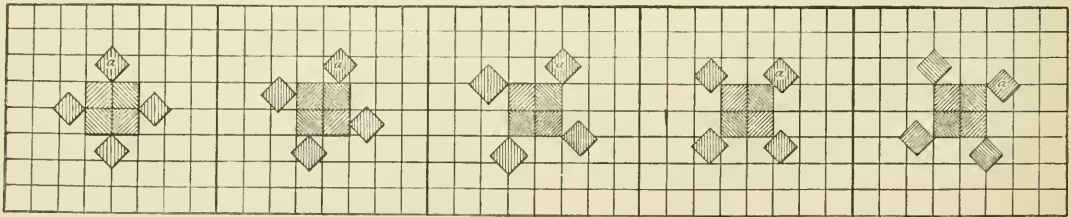


Fig. 68.

Fig. 69.

Fig. 70.

Fig. 71.

Fig. 72.

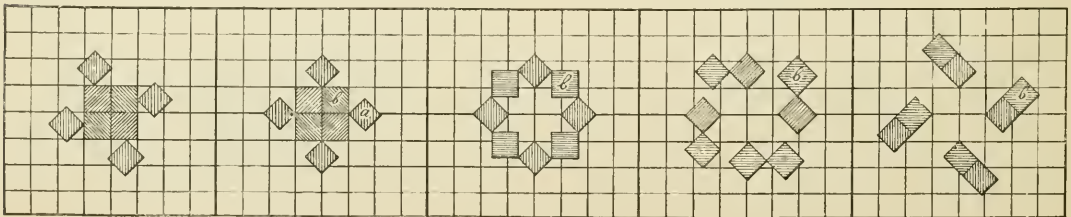


Fig. 73.

Fig. 74.

Fig. 75.

Fig. 76.

Fig. 77.

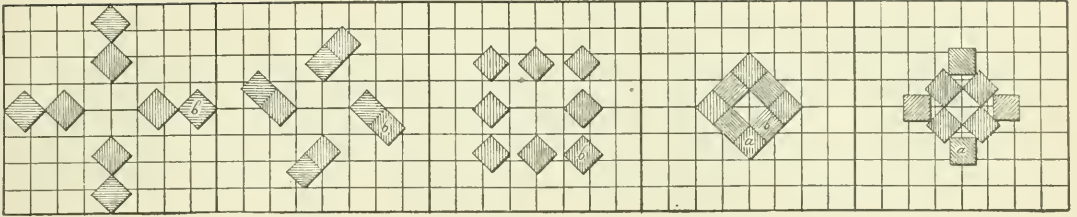


Fig. 78.

Fig. 79.

Fig. 80.

Fig. 81.

Fig. 82.

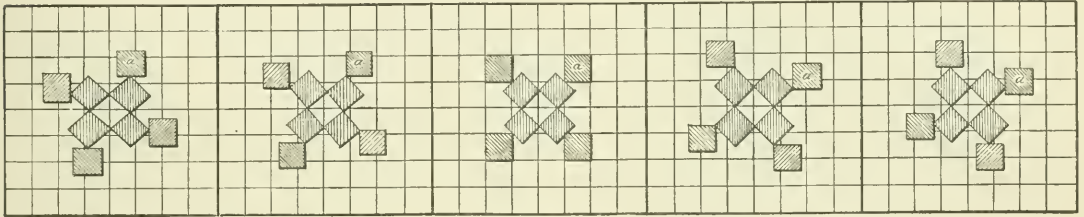


Fig. 83.

Fig. 84.

Fig. 85.

Fig. 86.

Fig. 87.

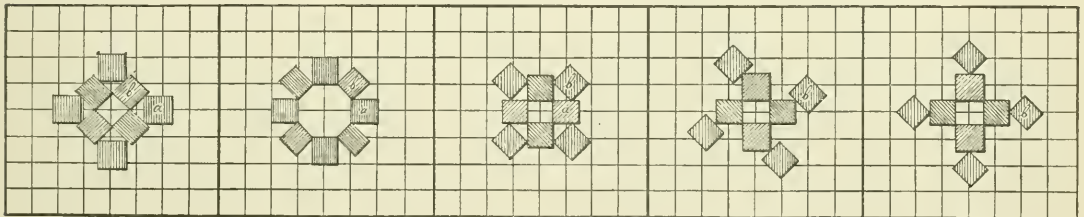


Fig. 88.

Fig. 89.

Fig. 90.

Fig. 91.

Fig. 92.

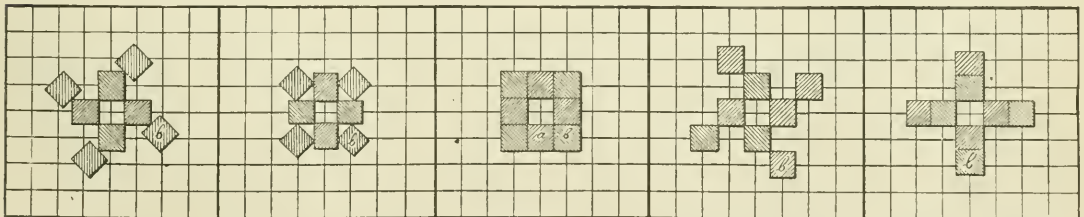


Fig. 93.

Fig. 94.

Fig. 95.

Fig. 96.

Fig. 97.

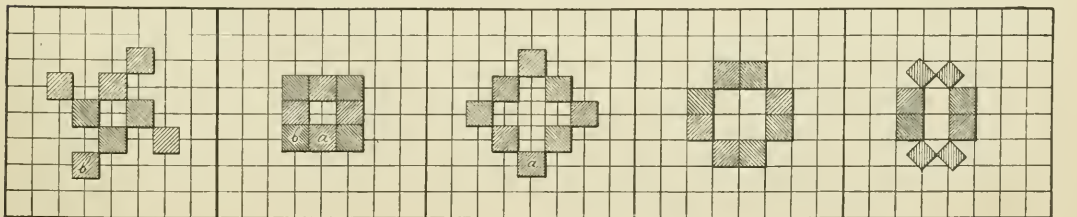


Fig. 98.

Fig. 99.

Fig. 100.

Fig. 101.

Fig. 102.

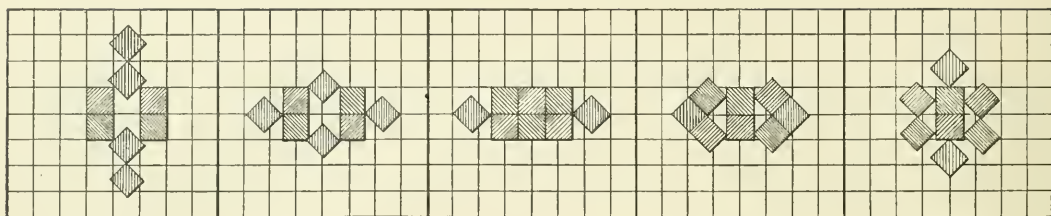


Fig. 103.

Fig. 104.

Fig. 105.

Fig. 106.

Fig. 107.

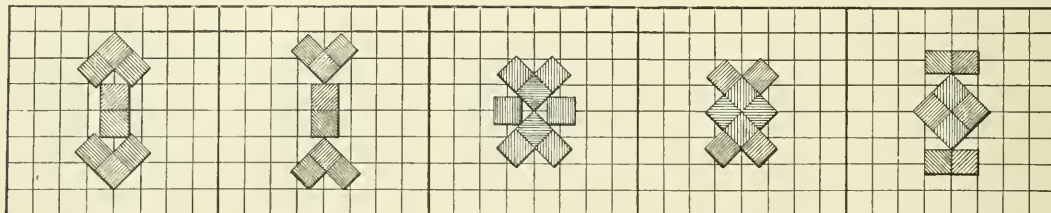


Fig. 108.

Fig. 109.

Fig. 110.

Fig. 111.

Fig. 112.

EDITOR'S NOTES.

As the best knowledge cannot be attained without division or analysis of a whole, the divided solids follow those which give the impression of wholes. An arbitrary division cannot give clear ideas, so a regular division, according to certain laws, is necessary.

Prominent features of this gift are the likeness of each part of the cube to the whole, and the contrast of size between the cube and its parts. The chief object of the gift is to develop the creative power of the child; so that he is encouraged to follow his instinctive wish to see the construction of things, and begins his investigation of particular phenomena. He divides the cube to find its component parts and examines the pieces. He finds that each part is like the whole, only smaller, so that the impression of this particular form is deepened; he can create many forms and by re-arranging discover new qualities and uses.

The material allows the child to express outwardly his inner conceptions, which is one of the first demands of life. The desire to look at the interior of things is the germ of the fullest development, the beginning of the formation of the scientific mind.

While this gift is similar to the cube of the second in size and material, and interests the child because of this likeness, it is the contrast between the two cubes that holds his attention.

Thus he is taken from what he already knows, into a wider field of knowledge.

Let the child compare the two gifts in regard to faces, corners, edges, direction and element of rest; in this way test his memory and lead him to commence a classification of objects by deciding that all bodies of similar proportions and qualities must be cubical in form.

The harmony of the child's development through this gift rests chiefly on the method with which he begins and ends his play with it. If he takes the cube from the box as a whole, it stands before him a type of the unity he would learn about; and if after the play he reconstructs the typical whole, his inner nature is satisfied, for he has proceeded from unity, through his play to unity again; but if he takes the parts out one by one all is confusion, appealing only to the external side of his nature.

In playing, every part should be used, otherwise the material is wasted. The child should early learn that nothing is isolated and unconnected, nothing without its purpose and its appointed use. If all the given material is used the relation of the part to the whole is kept constantly before the mind and eye of the child; each part being of value only as it helps to make the whole complete.

Details in small things are of great impor-

tance, and the kindergartner should carefully impress on the child the idea of order and neatness in the taking out and putting away of the cube. As soon as the box containing this gift is given out the child recognizes it as another cube, and the kindergartner should call attention to the paper upon it, compare it with the other boxes, and talk about it. Then placing the box four inches from the front of the table reverse it so that it rests upon the top, draw out the cover, lift the box so as not to disturb the cubes, place the lid diagonally inside and remove the box to give free play for the work. This simple operation gives the child an example of order.

In this first presentation of the divided cube, lead the child to see it as a whole that can be divided into parts, so that he shall get a definite idea of the whole, its parts, of form and comparative size and of the relations of number and position, learning readily to comprehend the use of such terms as front, back, top, bottom, right and left. Review the naming of opposites and the directions of the different lines. Divide the cube in all its various ways, so that it has top and bottom halves, front and back halves and right and left halves; give a simple sequence with a short story, thus: Move the right half of the cube two inches to the right, to make the road which little Mary takes on her way to grandma's in the country. Place the halves together again, and move the left-half two inches to the left (the brook which runs by the foot of the meadow where she sails her tiny boat and watches the fishes play). Put the parts together again and remove the top-half, placing it two inches to the back, (two lunch tables in the grove back of the house).

As from the whole to the half, so also proceed from the half to the quarter-cubes by dividing the halves into halves, then to the eighth of the whole cube, by dividing the quarters into halves. Show that two-fourths and four-eighths equal one-half, that two-eighths equal one-quarter, that eight-eighths equal the whole, etc. Of course these progressive steps can only be taken slowly and in accordance with the child's comprehension, the kindergartner making sure that each point is understood, before another is given. For the division of the gift sing the following song to the tune of "All for Baby," in Miss Poulsson's Finger Plays:—

(Whole cube).

Here is mamma's kitchen,
Built so close and tight:

(Place the top half on the table against the right of the lower half).

Here's the breakfast table,
Which we'll dress in white.

(Draw right-half one inch to the right).

Now we will divide it,
See! we have two more;

(Separate these halves right and left).

Again we will divide it,
Now we each have four.

Push back all the back ones,
Each one from its mate.
Now if we should count them
We'll find that we have eight.

Push them up together
As they were before.
One and one are two, and
Two and two are four.

Lift the right half up,
And place it on the top;
Now our cube is whole
And, it's time to stop.

The children find pleasure in dividing the cube into its parts, examining each separate piece, and in arranging and re-arranging the eight parts in different ways.

To bring out the number and position of the faces, call the cube a barn; let a little bird fly from the top, another from the front, one from the back, from the right side and from the left. Show the edges and their directions by building walls, platforms and columns of different heights and lengths in different directions, bringing the square faces of the cube so constantly before the child that his concept of a square becomes a true one.

In the use of the building material allow the little children much freedom. Check from the beginning any tendency to knock down any of the forms which they make, and lead them to change one form into another related to it by slight alterations. Keep this up until the child acquires the habit of following this plan. Have them build neatly and accurately according to the measurements of the squared table, as this brings the play building of the child under the fundamental law of all building and its beauty as well as its practicability is soon seen.

To increase the interest of the child, and draw out involuntary freedom, connect the building with his own experiences; connect the forms in

his play by a simple story or let a child tell of something he has seen, and illustrate by building the object. Show the different ways cubes may touch each other, as face to face (direction front and back, or right and left); edge to edge, with the corners front, faces front right and left, or front and back; edge to face at the front, back, right and left. To add interest let the children invent and tell a story about the object. They are delighted to see

their cube grow into a table, a chair for grandpa, a bed, a church, a bridge, a lighthouse to guide the sailors. These objects they clothe with life, developing their imagination and originality. Thus through this gift the formative and expressed powers of the child are exercised, his judgment and reason are developed and he gains a love of all that is beautiful and harmonious.

THE FOURTH GIFT.

THE preceding gift consisted of cubical blocks, all of their three dimensions being the same. In the Fourth Gift, we have greater variety for purposes of construction, since each of the parts of the large cube is an oblong block, whose length is twice its width, and four times its thickness. The dimensions bear the same proportion to each other as those of an ordinary brick; and hence these blocks are sometimes called bricks. They are useful in teaching the child difference in regard to length, breadth, and height. This difference enables him to construct a greater variety of forms than he could by means of the third gift. By these he is made to understand, more distinctly, the meaning of the terms vertical and horizontal. And if the teacher sees fit to pursue the course of experiment sufficiently far, many philosophical truths will be developed; as, for instance, the law of equilibrium, shown by laying one block across another, or the phenomenon of continuous motion, exhibited in the movement of a row of the blocks, set on end, and gently pushed from one direction.

PREPARATION FOR CONSTRUCTING FORMS.

This gift is introduced to the children in a manner similar to the presentation of the third gift. The box is reversed upon the table and the cover is removed. Lifting the box carefully, the cube remains entire. The children are made to observe that, when whole, its size is the same as that of the previous one. Its parts, however, are very different in form, though their number is the same. There are still eight blocks. Let the scholars compare one of the small cubes of the third gift with one of the oblong blocks in this gift; note the similarities and the differences; then, if they can comprehend, that notwithstanding, they are so unlike in *form*, their *solid contents* is the same, since it takes just eight of each to make the same sized cube, an important lesson will have been learned. If told to name objects that resemble the oblong blocks, they will readily designate a *brick*, *table*, *piano*, *closet etc.*, and if allowed to invent forms of life, will doubtless construct *boxes*, *benches*, *etc.*

The same precision should be observed in all the details of opening and closing the plays with this gift as in those previously described.

FORMS OF LIFE.

The following is a list of Frœbel's forms. If the names do not appear quite striking, or to the point, the teacher may try to substitute better ones:—

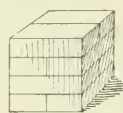


Fig. 1.

The Cube.

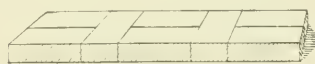


Fig. 2.

Part of a Floor, or Top of a Table.

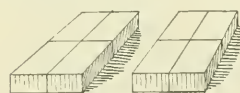


Fig. 3.

Two Large Boards.

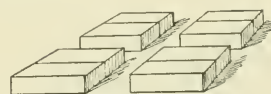


Fig. 4.

Four Small Boards.



Fig. 5.

Eight Building Blocks.



Fig. 6.

A Long Garden Wall.

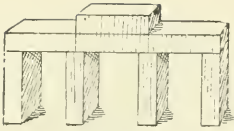


Fig. 7.

A City Gate.

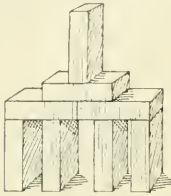


Fig. 8.

Another City Gate.

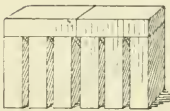


Fig. 9.

A Bee Stand.

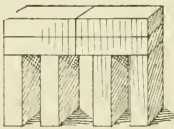


Fig. 10.

A Colonnade.

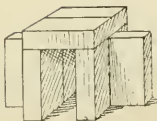


Fig. 11.

A Passage.

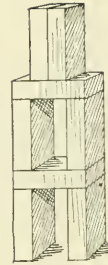


Fig. 12.

Bell Tower.

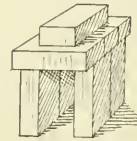


Fig. 13.

Open Garden House.

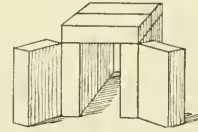


Fig. 14.

Garden House, with doors.

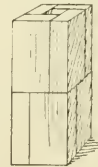


Fig. 15.

A Shaft.

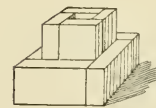


Fig. 16.

Shaft.

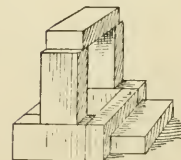


Fig. 17.

A Well, with cover.

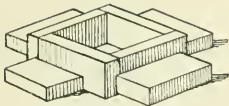


Fig. 18.

A Fountain.

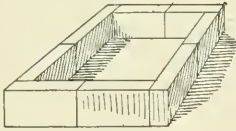


Fig. 19.

Closed Garden Wall.

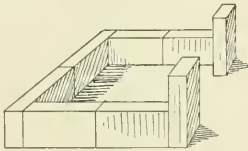


Fig. 20.

An Open Garden.

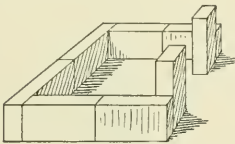


Fig. 21.

An Open Garden.

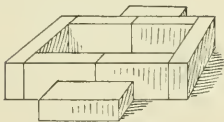


Fig. 22.

Watering Trough.

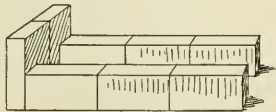


Fig. 23.

Shooting Stand.

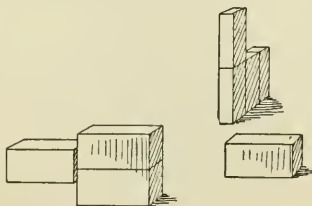


Fig. 24.

Village.

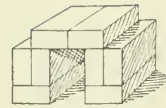


Fig. 25.

Triumphal Arch.

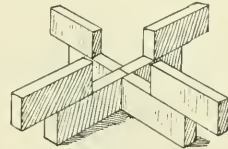


Fig. 26.

Merry-go-round.

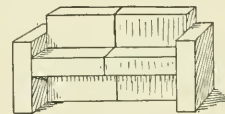


Fig. 27.

Large Garden Settee.



Fig. 28.

Seat.



Fig. 29.

Settee.

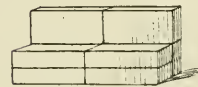


Fig. 30.

Sofa.



Fig. 31.

Two Chairs.

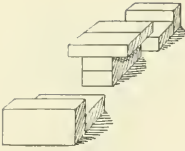


Fig. 32.
Garden Table and Chairs.

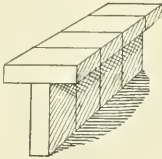


Fig. 33.
Children's Table.

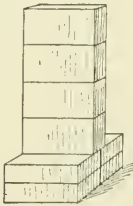


Fig. 34.
Tombstone.

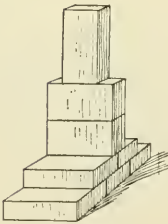


Fig. 35.
Tombstone.

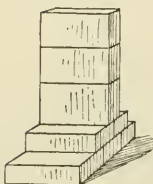


Fig. 36.
Tombstone.

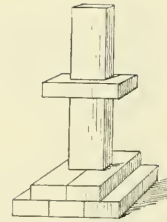


Fig. 37.
Monument.

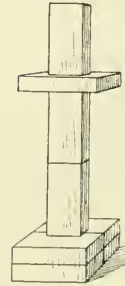


Fig. 38.
Monument.



Fig. 39.
Winding Stairs.

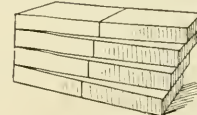


Fig. 40.
Broader Stairs.

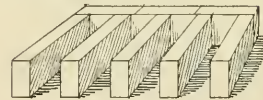


Fig. 41.
Stalls.

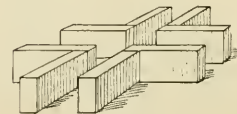


Fig. 42.
A Cross Road.

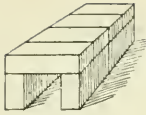


Fig. 43.

Tunnel.

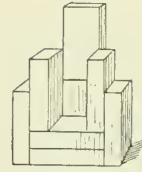


Fig. 48.

A Throne.

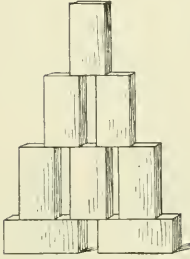


Fig. 44.

Pyramid.



Fig. 49.



Fig. 50.

Figs. 49 and 50 are illustrations of Continuous Motion.

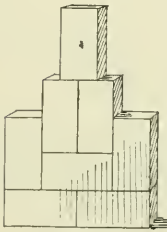


Fig. 45.

Shooting Stand.

Here as in the use of the previous gift, one form is produced from another by slight changes, accompanied by explanations on the part of the teacher. Thus, Fig. 30 is easily changed to Figs. 31, 32, and 33, and Fig. 34 may be changed to Figs. 35, 36, and 37. In every case, all the blocks are to be employed in constructing a figure.

FORMS OF KNOWLEDGE.

This gift like the preceding, is used to communicate ideas of divisibility. Here, however,

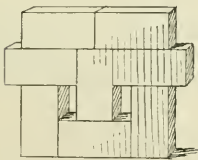


Fig. 46.

Front of a House.

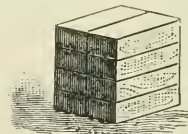


Fig. 51.



Fig. 52.

on account of the particular form of the parts, the processes are adapted to illustrate the division of a surface, as well as of a solid body.

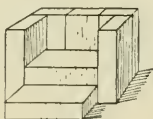


Fig. 47.

Chair, with Footstool.



Fig. 53.

The cube is arranged so that one vertical and three horizontal cuts appear, (Fig. 51) and the child is then requested to separate it into



Fig. 54.

halves, (Fig. 52) these halves into quarters, (Fig. 53) and these quarters into eighths, (Fig. 54). Each of the latter will be found to be one of the oblong blocks, and this for the time may be made the subject of conversation.

- “Of what material is this block made?”
- “What is the color?”
- “What objects resemble it in form?”
- “How many sides has it?”
- “Which is the largest side?”
- “Which is the smallest side?”
- “Is there a side larger than the smallest and smaller than the largest?”

In this way, the scholars learn that there are three kinds of sides, symmetrically arranged in pairs. The upper and lower, the right and left, the front and back, are respectively equal to and like each other.

By questions, or by direct explanation, facts like the following, may be made apparent to the minds of children. “The upper and lower sides of the block are twice as large as the two long sides, or the front and back, as they may be called. Again, the front and back are twice as large as the right and left, or the two short sides of the block. Consequently, the two largest sides are four times as large as the two smallest sides.” This can be demonstrated in a very interesting way, by placing several of the blocks side by side, in a variety of positions, and in all these operations the children should be allowed to experiment for themselves. The small cubes of the preceding gift may also with propriety be brought in comparison with the oblong blocks of this gift, and the differences observed.

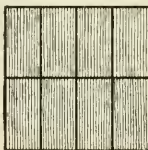


Fig. 55.

When the single block has been employed to advantage, through several lessons, the whole cube may then be made use of, for the representation of forms of knowledge.

Construct a tablet or plane as in Fig. 55. In order to show the relations of dimension, divide this plane into halves, either by a ver-

tical or horizontal cut, (Figs. 56 and 57).

These two forms will give rise to instructive observations and remarks by asking:—

- “What was the form of the original tablet?”
- “What is the form of its halves?”
- “How many times larger is their breadth than their height?”

So with regard to the position of the oblong halves; the one may be said to be *lying* (Fig. 56) while the other is *standing*, (Fig. 57).

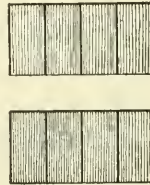


Fig. 56.

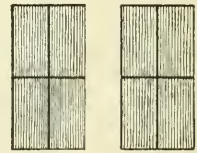


Fig. 57.

“Change a lying to a standing oblong block.” In order to do this, the child will move the first so as to describe a quarter of a circle to the right or left.



Fig. 58.

Unite two blocks by joining their small sides. You then have a large lying oblong block, (Fig. 58).

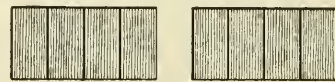


Fig. 59.

“Separate again (Fig. 59) and divide each part into halves, (Figs. 60 and 61). You have now four parts called quarters, and these are squares, in their surface form.”



Fig. 60.

Each of these quarters may be subdivided, and the children taught the method of division

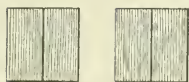
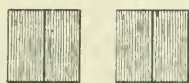


Fig. 61.



Fig. 62.



Fig. 63.

Fig. 64.

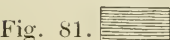
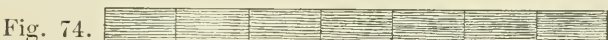
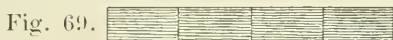
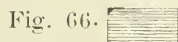


Fig. 66.

Fig. 67.

Fig. 68.

Fig. 69.

Fig. 70.

Fig. 71.

Fig. 72.

Fig. 73.

Fig. 74.

Fig. 75.

Fig. 76.

Fig. 77.

Fig. 78.

Fig. 79.

Fig. 80.

Fig. 81.

Fig. 65.

by two. Other material may also be used in connection with the blocks such as apples, or any small objects which serve to illustrate the properties of number. It is evident that these operations should be conducted in the most natural way, and never begun at too early a stage of development of the little ones. In Figs. 62-65 another mode is indicated, for the purpose of illustrating further the conditions of form connected with this gift. Figs. 66-81 show the manner in which exercises in addition and subtraction may be introduced as has already been alluded to in the description of the Third Gift.

FORMS OF BEAUTY.

We first ascertain, as in the case of the cubes, the various modes in which the oblong blocks can be brought in relation to each other. These are much more numerous than in the

Third Gift, because of the greater variety in the dimensions of the parts. In the following designs a number of forms of beauty are shown derivable from the original form, (Fig. 82). Each two blocks form a separate group, which four groups touching in the center, form a large square. The outside blocks (*a*) move in Figs. 83-90, around the stationary middle.

The inside blocks (*b*) are now drawn out (Fig. 91) then the blocks (*a*) united to form a hollow square (Fig. 92) around which *b* moves gradually (Figs 93 and 94).

Now *b* is combined into a cross with open center, *a* goes out (Fig. 95) and moves in an opposite direction until Fig. 98 appears.

By extricating *b* the eight-rayed star (Fig. 99) is formed. In Fig. 100 *a* revolves, *b* is drawn out until edge touches edge and thus the form of a flower appears (Fig. 101).

Now *b* is turned (Fig. 102) and in Fig. 103, a wreath is shown. In Fig. 103 the inside edges touch each other; in Fig. 104, inside

and outside; in Fig. 105 edges with sides, and *b* is united to a large hollow square, around which *a* commences a regular moving. In Fig. 110, *a* is finally united to a lying cross, and thereby another starting-point gained for a new series of developments.

Each of these figures can be subjected to a variety of changes by simply placing the blocks on their long or short sides, or as the children will say, by letting them *stand up* or *lie down*. The network of lines on the table is to be the constant guide, in the construction of forms. In inventing a new series, place a block above, below, at the right or left of the center; and a second opposite and equidistant. A third and a fourth are placed at the right and left of these, but in the same position relative to the center. The remaining four are placed symmetrically about those first laid. By moving the *a*'s or *b*'s regularly in either direction, a variety of figures may be formed.

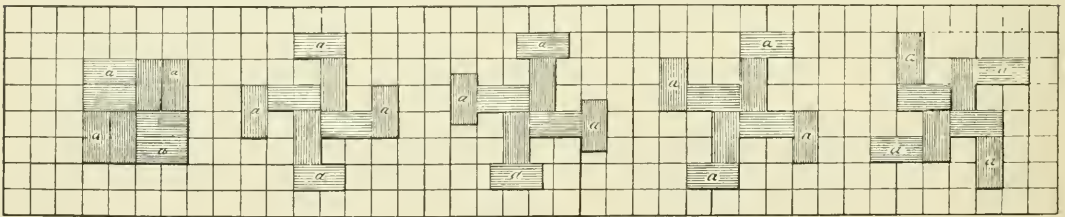


Fig. 82.

Fig. 83.

Fig. 84.

Fig. 85.

Fig. 86.

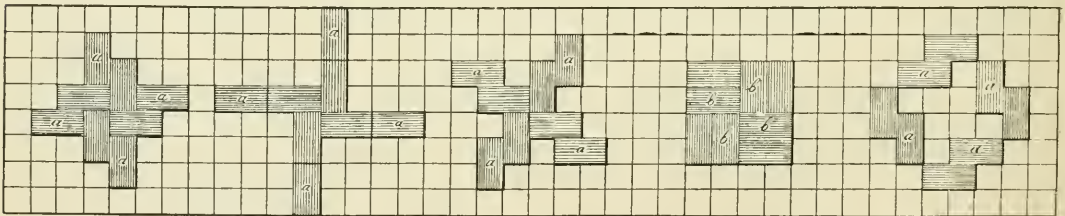


Fig. 87.

Fig. 88.

Fig. 89.

Fig. 90.

Fig. 91.

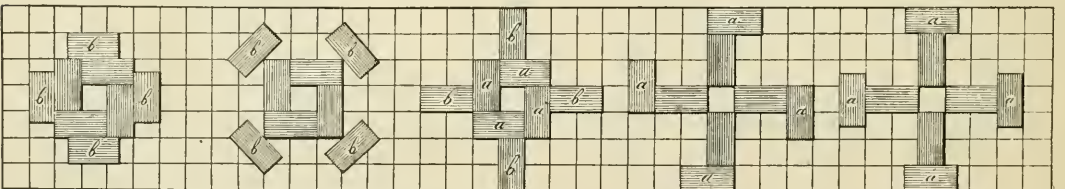


Fig. 92.

Fig. 93.

Fig. 94.

Fig. 95.

Fig. 96.

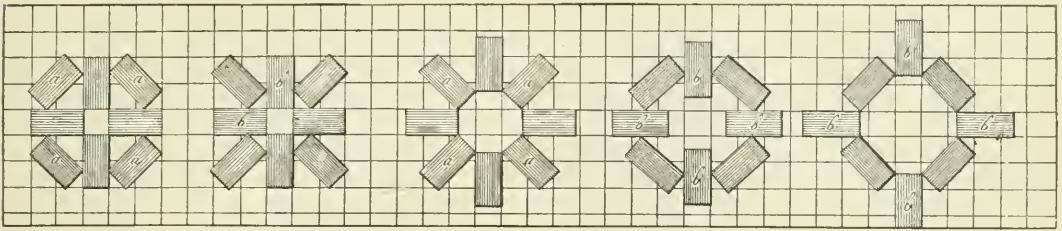


Fig. 97.

Fig. 98.

Fig. 99.

Fig. 100.

Fig. 101.

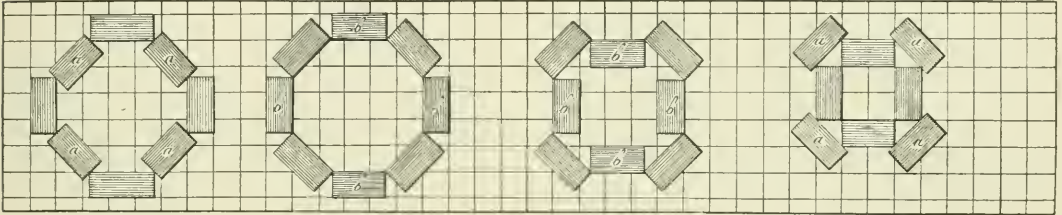


Fig. 102.

Fig. 103.

Fig. 104.

Fig. 105.

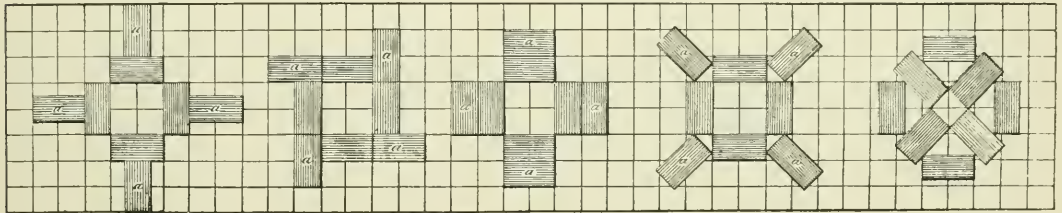


Fig. 106.

Fig. 107.

Fig. 108.

Fig. 109.

Fig. 110.

EDITOR'S NOTES.

WHILE we find that the eight equal parts of the third gift are of the same form as the whole, this gift shows eight parts in the form of parallelepipeds—solids, with three unequal dimensions, which constitute the chief characteristic of the gift, and adds to both gift and play a new and original importance.

In this as in all the building gifts, every part should be used, and when the boxes have been distributed they should be opened in such a way that the cube stands before the child as a whole, so that he may begin his work as a whole. Call attention to its being divided according to a new plan, and to the form of the component parts, which the child easily recognizes as being that of a brick.

Let a cube of the third gift be handed to the children so that they may compare it with the oblong brick of this gift; ask for similarities and

differences; the unequal dimensions in these bricks make it necessary for the child to proceed with more reflection, to compare, and to experiment, in order to produce a symmetrical position. If two cubes are given, the children will readily see that two bricks laid one above the other are just as large as two cubes laid side by side, and in this way the truth is made evident that the solid contents are the same.

While in the third gift the solid appears most prominently, in this gift the idea of surface is suggested. Every face is an oblong, and the variety of size makes more clear the form itself, so the child gains as true a concept of an oblong as of a square.

To impress on the child the differences of position which each brick can occupy, let the bricks stand, as soldiers, sit or lie flat, as if asleep. Give the child a cube, and ask him to

do the same with that. He finds it always remains the same on whichever of its faces it may rest; thus new lessons are taught him, and he is made to understand length and breadth more clearly. The different dimensions in the bricks make the variety and number of possible figures with this gift almost incalculable. Many philosophical truths may be illustrated, as the law of equilibrium—when a narrow face has to support a broader one; or continuous motion—by setting a row of blocks on end, and pushing the first one against the other, causing the whole row to fall.

As an exercise in the relation of size, let the children separate the cube into halves, which may be done by a vertical or horizontal division, and gives rise to suggestive questions and instructive observations; these halves may be separated again and divided into quarters, and again into eighths; in this manner the children are brought to comprehend successive divisions by two. These exercises admit of many variations.

Let the pupils find the different ways in which two bricks may be placed with regard to each other, and build forms while the teacher talks with them about the objects represented, so as to awaken thought within them.

Let the children work out for themselves with the blocks, a sequence of moves illustrating a story, or a sequence of thought given by the teacher. In this way they come to know the form as regards dimensions, faces and relation of parts to the whole.

A fresh delight comes to the child when he discovers how one object may be transformed into another, and particularly when there is some connection between each new figure and the child himself, who must have a clear insight into the most simple and natural relations of things, that the sight of things more complicated may not confuse him and hinder his development. The following sequences are suggestive and render it easy to find such connections.

FURNITURE SEQUENCE.

BUREAU.—Cube, with cut running right and left. Draw the front half away. Let a brick stand at either end of the back half touching it by the broad face. Join the two remaining bricks by their long narrow faces and place on top for a mirror, Fig. 111.

WASHESTAND.—Let the two bricks which formed the mirror stand directly back of the lying bricks, touching them by their broad faces. Let the top brick sit on the standing back bricks, Fig. 112.

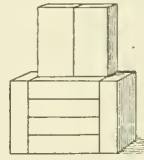


Fig. 111.

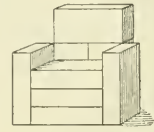


Fig. 112.

WRITING-DESK.—Lift sitting brick in the right hand, and the two bricks below it in the left hand. Let the two bricks lie on the remaining pile, projecting an inch in front, the cut running front and back. Let the remaining brick sit on them at the back, so its broad face coincides with their short faces, Fig. 113.

HAT-RACK.—Lift the three bricks just placed. Let two stand at the back as before. Lift the top brick, join it to the remaining brick by long narrow faces, and let them sit on the back bricks, Fig. 114.

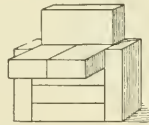


Fig. 113.

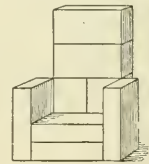


Fig. 114.

CHAIR AND TABLE.—Join right and left bricks by their broad faces. Let them lie, right and left, two inches in front of form. Lift the two top bricks and let them lie across the two front bricks, the cut running front and back, Fig. 115.

TWO CHAIRS.—Make a chair of the front bricks, facing and similar to the chair of the four back bricks, Fig. 116.

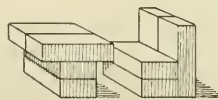


Fig. 115.

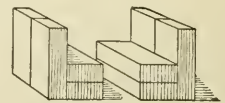


Fig. 116.

BED.—Remove the back of the front chair. Place the top brick in the back chair cushion, so that it touches the standing bricks by its broad face. Place the top front brick so that its

broad face coincides with the narrow front face of the brick below it. Fit in the remaining

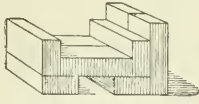


Fig. 117.

bricks for a mattress, the cut running front and back, Fig. 117. Then comes the orderly building of the cube.

BAKER SEQUENCE.

SHOP.—Cube, cut running right and left, Fig. 118.

EIGHT DRAWERS.—Remove the front half, placing it one inch to the right of the back half, in similar position, Fig. 119.

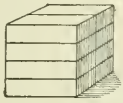


Fig. 118.



Fig. 119.

TWO COUNTERS.—Let the right and left bricks touch by their short faces. Place the top half two inches in front of the lower half, running right and left, Fig. 120.

FOUR LOAVES.—Draw the two back right bricks one inch to the right. The front bricks the same, Fig. 121.

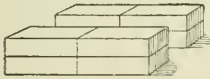


Fig. 120.

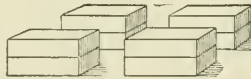


Fig. 121.

TABLE.—Push the bricks together forming a prism $4 \times 1 \times 1$, Fig. 122.

BAKING SHEETS.—Place the top half two inches back of the lower half, Fig. 123.

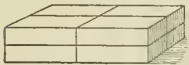


Fig. 122.

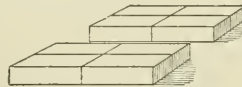


Fig. 123.

MOLDING BOARD.—Push the front and back halves together, Fig. 124.

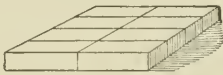


Fig. 124.

ROLLING PIN.—Lift the two front right bricks at the right of and touching the back right bricks by their short faces. Place front left brick at the right of those just placed, the

short faces just touching. Place the remaining brick at the left in a similar position, Fig. 125.



Fig. 125.

MIXING TROUGH.—Join the two end bricks by their short faces and let them sit back of the four left hand bricks touching by broad faces. Let the two front left bricks sit opposite those just placed. Take one of the right hand bricks in each hand, and let them sit at either end of the trough, closing the opening, Fig. 126.

FLOUR SCOOPS.—Draw the right half, one inch to the right, Fig. 127.



Fig. 126.

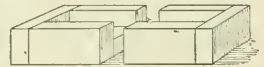


Fig. 127.

WAGON.—Place the left-hand brick directly at the left of the right half, so that it shall touch it with the broad face. Remove the brick lying at the left between the two sitting bricks, and place it front and back across the middle of the wagon. The two remaining left bricks serve as horses, Fig. 128.

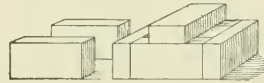


Fig. 128.



Fig. 129.

MONEY CHEST.—Lift one of the left hand bricks in each hand, place one right and left of the wagon seat, touching it by long narrow faces. This lid may be raised or lowered at will, Fig. 129. Return to cube.

HOUSE BUILDING AND FURNISHING SEQUENCE.

HOUSE.—Cube with the cutting right and left, Fig. 130.

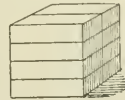


Fig. 130.

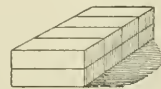


Fig. 131.

PIAZZA.—Lift the top half, place it directly in front of and touching the lower half, cut running right and left, Fig. 131.

OPEN DOOR.—Lift the two front bricks, and let them stand on the back brick, one inch apart, with the long narrow faces in front. Lift the top front brick and let it lie across the standing bricks, Fig. 132.

FOUR TABLES.—Move the five back bricks one inch back, move the front brick one inch front. Place the brick which forms the top of the door on the front brick, touching it by the broad face. Join the standing bricks by broad faces and let them lie one inch back of the back bricks, Fig. 133.

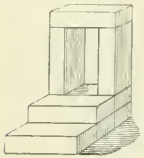


Fig. 132.

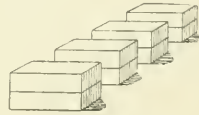


Fig. 133.

CAR-SEATS.—Let the upper back brick sit directly behind the lower back brick. Arrange remaining bricks in like manner, Fig. 134.

TWO LONG SEATS.—Lift the back seat, placing it beside the seat directly in front of it, so that they will touch by short faces. Join the two remaining seats in like manner, Fig. 135.

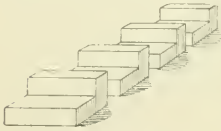


Fig. 134.



Fig. 135.

SOFA, WITH ARMS AND TABLE.—Remove the front, sitting bricks, and let one sit at either end of the back seat touching it by broad faces, the short faces being in front. Let two front bricks touch one another by broad faces, forming the table, Fig. 136.

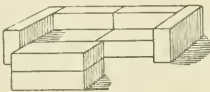


Fig. 136.

TWO SEATS WITH ARMS.—Draw three right hand bricks, two inches to the right. Let the brick which forms the top of the table, sit at the left hand end of the bricks just moved, touching them by broad faces. Left hand section the same, Fig. 137.



Fig. 137.

TWO MARBLE BASINS.—Draw out the brick which forms the right-hand seat, and let it sit one inch in front of the back brick, similar posi-

tion. Left hand section the same, Fig. 138.

TWO WINDOWS.—Holding the right-hand bricks firmly together, place them in an upright

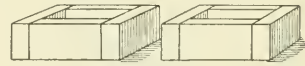


Fig. 138.

position, so that the bricks which were right and left, form the top and bottom of a window. Same with the left bricks, Fig. 139.

HIGH WINDOW.—Place the left-hand window on top of the right-hand window, Fig. 140.



Fig. 139.

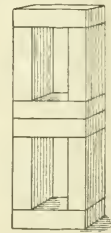
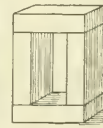


Fig. 140.

VESTIBULE.—Place the top half of the window directly in front of and touching the lower half, Fig. 141.

BAND STAND.—Let the two top bricks lie directly in front of and touching the lower bricks. Remove the standing bricks. Let one lie right and left across the cut between the two front bricks, another across the cut between the two back bricks. Let the two remaining bricks lie across the opening front and back, Fig. 142. Return to cube.

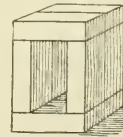


Fig. 141.

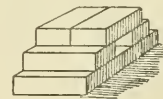


Fig. 142.

The children take pleasure in uniting, and building with this gift: also, with the third and fourth combined, when they have become sufficiently acquainted with each separately; combining the gifts gives them an opportunity of comparing the cube and brick more closely, and so learn their properties and peculiarities better, than by the use of each separately.

One will build a church, another a stove, a shop or house, and so a group of children will have a unity of purpose which is harmonizing in its effects.

THE FIFTH GIFT.

CUBE, TWICE DIVIDED IN EACH DIRECTION.

ALL gifts used as occupation material in the Kindergarten develop, as previously stated, one from another. The Fifth Gift, like that of the Third and Fourth Gifts, consists of a cube again, although larger than the previous ones. The cube of the Third Gift was divided *once* in all directions. The natural progress from 1 is to 2; hence the cube of the Fifth Gift is divided *twice* in all directions; consequently, in *three equal parts*, each consisting of *nine* smaller cubes of *equal size*. But as this division would only have multiplied, not diversified, the occupation material, it was necessary to introduce a new element, by subdividing some of the cubes in a slanting direction.

We have heretofore introduced only vertical and horizontal lines. These opposites, however, require their mediate element, and this mediation was already indicated in the forms of life and of beauty of the Third and Fourth Gifts, when side and edge, or edge and side, were brought to touch each other. The slanting direction appearing there transitionally—occasionally—here, becomes permanent by introducing the slanting line, separated by the division of the body, as a bodily reality.

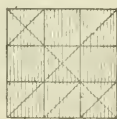


Fig. 1.

Three of the part cubes of the Fifth Gift are divided into half cubes, three others into quarter cubes, so that there are left twenty-one whole cubes of the twenty-seven, produced by the division of the cube mentioned before, and the whole Gift consists of thirty-nine single pieces.

It is most convenient to pack them in the box, so as to have all half and quarter cubes and three whole cubes in the bottom row, as in Fig. 1, which only admits of separating the whole cube in the various ways required here-

after, as it will also assist in placing the cube upon the table, which is done in the same manner as described with the previous Gifts.

The first practice with this Gift is like that with others introduced thus far. Led by the question of the teacher, the pupils state that this cube is larger than their other cubes; and the manner in which it is divided will next attract their attention. They state how many times the cube is divided in each direction, how many parts we have if we separate it according to these various divisions, and carrying out what we say gives them the necessary assistance for answering these questions correctly. In Fig. 2 the three parts of the cube have been separated and laid side by side.



Fig. 2.

These three squares we can again divide in three parts, and these latter again in three, so that then we shall have twenty-seven parts, which teaches the pupil that $3 \times 3 = 9$, $3 \times 9 = 27$.

To some, the repetition of the apparently simple exercises may appear superfluous; but repetition alone, in this simple manner, will assist children to remember, and it is always interesting, as they have not to deal with abstractions, but have real things to look at for the formation of their conclusions.

But, again I say, do not continue these occupations any longer than you can command the attention of your pupils by them. As soon as signs of fatigue or lack of interest become manifest, drop the subject at once, and leave the Gift to the pupils for their own amusement. If you act according to this advice, your pupils never will overexert themselves, and will always come with enlivened interest to the same occupation whenever it is again taken up.

After the children have become acquainted with the manner of division of their new large cube, and have exercised with it in the above-mentioned way, their attention is drawn to the

shape of the divided half and quarter cubes.

They are divided by means of *slanting lines*, which should be made particularly prominent, and the pupils are then asked to point out, on the whole cubes, in what manner they were divided in order to form half and quarter cubes. The pupils also point out horizontal, vertical and slanting lines which they observe in things in the room or other near objects.

Take the two halves of your cube apart and say, "How many corners and angles can you count on the upper and lower sides of these two half cubes?" "Three." Three corners and three angles, which latter, you recollect, are the insides of corners. We call therefore, the upper and lower side of the half cube a triangle, which simply means a side or plane with *three* angles. The child has now enriched its knowledge of lines by the introduction of the oblique or slanting line, in addition to the horizontal and vertical lines, and of sides or planes by the introduction of the triangle, in addition to the square and oblong previously introduced. With the introduction of the triangle, a great treasure for the development of forms is added, on account of its frequent occurrence as elementary forms in all the many formations of regular objects.

The child is expected to know this Gift now sufficiently to employ it for the production of the various forms of life and beauty to be introduced.

FORMS OF LIFE.

The main condition here, as always, is that for each representation the whole of the occupation material be employed; not that only one object should always be built, but in such manner that remaining pieces be always used to represent accessory parts, although apart from, yet in a certain relation to the main

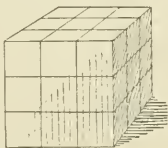


Fig. 3.

Cube.

figure. The child should, again and again, be reminded that nothing belonging to a whole is, or could be, allowed to be superfluous, but that each individual part is destined to fill its

position actively and effectively in relation to some greater whole.

Nor should it be forgotten that nothing should be destroyed, but everything produced by rebuilding. It is advisable always to start with the figure of the cube.

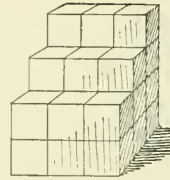


Fig. 4.

Flower-stand.

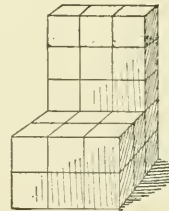


Fig. 5.

Large Chair.

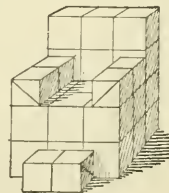


Fig. 6.

Easy Chair, with Foot Bench.

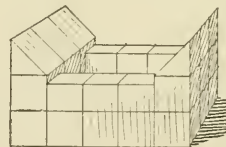


Fig. 7.

A Bed. Lowest row, fifteen whole cubes; second row, six whole and six half cubes composed of twelve quarter cubes; third row, six half cubes.

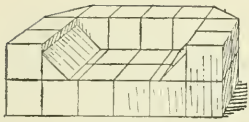


Fig. 8.

Sofa. First row, sixteen whole and two half cubes.

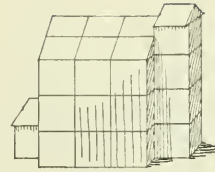


Fig. 13.

Church. Building itself, eighteen whole cubes; roof, twelve quarter cubes; steeple, three whole cubes, and three half cubes; vestry three half cubes.

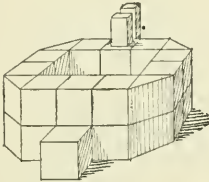


Fig. 9.

A Well.

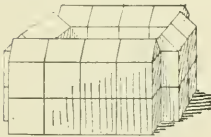


Fig. 10.

House, with Yard. First row, twelve whole cubes; second row, nine whole and six half cubes; roof, twelve quarter cubes.

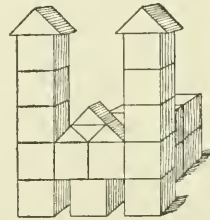


Fig. 14.

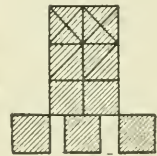


Fig. 15.

Body of Church. Eight whole, four half and eight quarter cubes; steeples, twice five whole and two half cubes; between steeples, three whole and four quarter cubes. Fig. 15, ground plan.

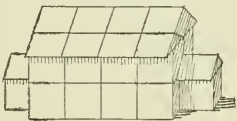


Fig. 11.

A Peasant's House. First row, ten whole cubes; second row, eight whole and two half cubes; roof, three whole, four half and twelve quarter cubes.

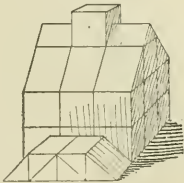


Fig. 12.

Schoolhouse. First row, nine whole and six quarter cubes; second row, nine whole cubes; third row, three whole and six half cubes; fourth row, six quarter cubes.

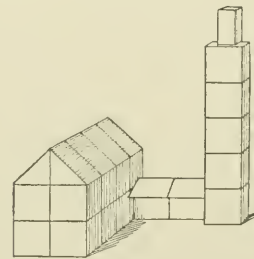


Fig. 16.

Factory, with Chimney and Boiler-house. Factory, sixteen whole cubes; roof, six half and four quarter cubes; chimney, five whole and two quarter cubes; boiler-house, four quarter cubes; roof, two quarter cubes.

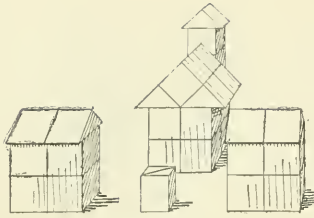


Fig. 17.

Chapel, with Hermitage.

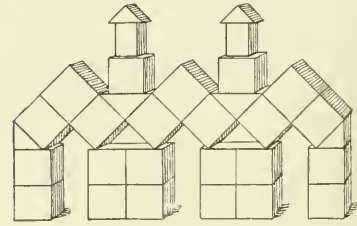


Fig. 21.

City Gate, with Three Entrances.

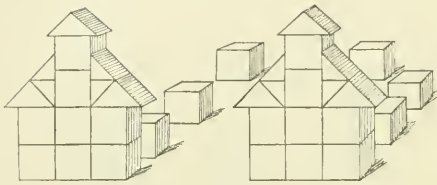


Fig. 18.

Two Garden Houses, with Rows of Trees.

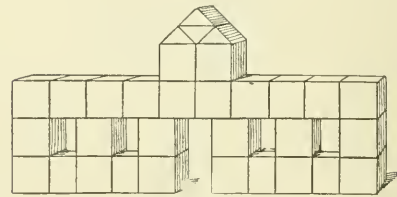


Fig. 22.

Arsenal.

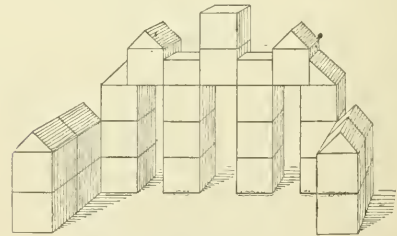


Fig. 23.

City Gate, with Two Guard-houses.

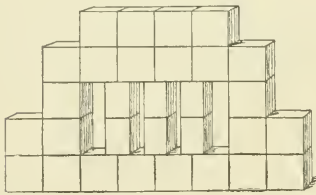


Fig. 19.

A Castle.

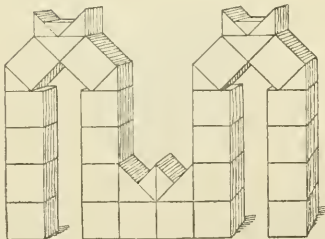


Fig. 20.

Cloister in Ruins.

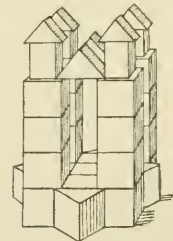


Fig. 24.

A Monument. First row, nine whole and four half cubes; second to fourth row, each, four whole cubes; on either side, two quarter cubes, united to a square column, and to unite the four columns, two half cubes.

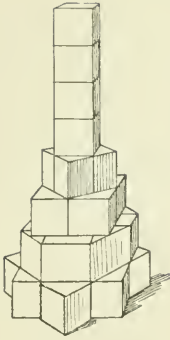


Fig. 25.

A Monument. First row, nine whole and four quarter cubes; second row, five whole and four half cubes; third row, four whole cubes; fourth row, two half and four quarter cubes.

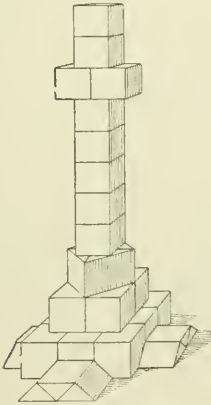


Fig. 26.

A Large Cross. First row, nine whole and four times three quarter cubes; second row, four whole cubes; third row, four half cubes.

Tables, chairs, sofas and beds, are the first objects the child builds. They are the objects with which he is most familiar. Then the child builds a house, in which he lives, speaking of kitchen, sleeping-room, parlor, and eating-room, when representing it. Soon the realm of his ideas widens. It roves into garden, street, etc., It builds the church, the schoolhouse, where the older brothers and sisters are instructed; the factory, and arsenal, from which, at noon and after the day's work is over, so many laborers walk out to their homes to eat their dinner and supper, to rest from their

work, and to play with their little children. The ideas which the children receive of all these objects by this occupation, grow more correct by studying them in their details, where they meet with them in reality. In all this they are, as a matter of course, to be assisted by the instructive conversation of the teacher. It is not to be forgotten that the teacher may influence the minds of the children very favorably, by relating short stories about things and persons in connection with the object represented. Not their minds alone are to be disciplined; their hearts are to be developed, and each beautiful and noble feeling encouraged and strengthened.

Be it remembered again that it is not necessary that the teacher should always follow the course of development shown in the figures on our pages. Every course is acceptable, if only destruction is prevented and rebuilding adhered to. Some of the figures may not be familiar to some of the children. The one has never seen a castle or a city gate, a well or a monument. Short descriptive stories about such objects will introduce the child into a new sphere of ideas, and stimulate the desire to see and hear more and more, thus adding daily and hourly, to the stock of knowledge of which he is already possessed. Thus, these plays will not only cultivate the manual dexterity of the child, develop his eye, excite his fantasy, strengthen his power of invention, but the accompanying oral illustrations will also instruct him, and create in him a love for the good, the noble, the beautiful.

The Fifth Gift is used with children from five to six years old, who are expected to be in their third year in the Kindergarten.

A box, with its contents stands on the table before each child. They empty the box as heretofore described, so that the bottom row of the cube, containing the half and quarter cubes, is made the top row.

“What have you now?”

“A cube.”

“We will build a church. Take off all quarter and half cubes, and place them on the table before you in good order. Move the three whole cubes of the upper row together, so that they are all to the left of the other cubes. Take three more whole cubes from the right side, and put them beside the three cubes which were left of the upper row. Take the three re-

maining cubes, which were on the right side, and add them to the quarter and half cubes. What have you now?"

"A house without roof, three cubes high, three cubes long and two cubes broad."

"We will now make the roof. Place on each of the six upper cubes a quarter cube with its largest side. Fill up the space between each two quarter cubes with another quarter cube, and place another quarter cube on top of it. What have you now?"

"A house with roof."

"How many cubes are yet remaining?"

"Three whole and six half cubes."

"Take the whole cubes, and place them one on top of the other, before the house. Add another cube, made of two half cubes, and cover the top with half a cube for a roof. What have you now?"

"A steeple."

"We will employ the remaining three half cubes to build the entrance. Take two of the half cubes, form a whole cube of them, and place it on the other side of the house, opposite the steeple, and lay upon it the last half cube as a roof. What have we built now?"

"A church with steeple and entrance." (Fig. 13).

FORMS OF KNOWLEDGE.

The representation of the forms of knowledge, to which the Fifth Gift offers opportunity, is of great advantage for the development of the child. To superficial observers, it is true, it may appear as if Fræbel not only ascribed too much importance to the mathematical element to the disadvantage of others, but that mathematics necessarily require a greater maturity of understanding than could be found with children of the Kindergarten age. But who thinks of introducing mathematics as a science? Many a child, five or six years of age, has heard that the moon revolves around the earth, that a locomotive is propelled by steam, and that lightning is the effect of electricity. These astronomical, dynamic and physical facts have been presented to him as mathematical facts are presented to his observation in Fræbel's Gifts. Most assuredly it would be folly, if one would introduce in the Kindergarten, mathematical problems in the usual abstract manner. In the Kindergarten, the child beholds the bodily representation of an expressed truth, recognizes the same, receives

it without difficulty, without overtaxing its developing mind in any manner whatsoever. Whatever would be difficult for the child to derive from the mere word, nay, which might under certain circumstances be hurtful to the young mind, is taught naturally and in an easy manner by the forms of knowledge, which thus become the best means of exercising the child's power of observation, reasoning, and judging. Beware of all problems and abstractions. The child builds, forms, sees, observes, compares, and then expresses the truth it has ascertained. By repetition, these truths, acquired by the observation of facts, become the child's mental property, and this is not to be done hurriedly, but during the last two years in the Kindergarten and afterwards in the Primary Department.

The first seven forms of knowledge (Figs. 27-33) show the regular divisions of the cube in three, nine and twenty-seven parts. In either case, a whole cube was employed, and yet the forms produced by division are different. This shows that the contents may be equal, when forms are different. (Figs. 28, 29, 30, 31 and 32).

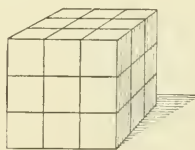


Fig. 27.

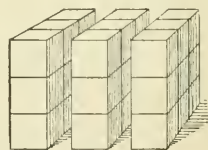


Fig. 28.



Fig. 29.



Fig. 30.

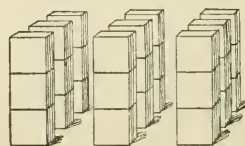


Fig. 31.

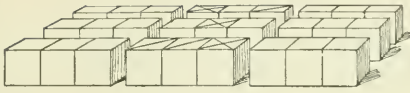


Fig. 32.



Fig. 33.

This difference becomes still more obvious if the three parts of Fig. 28 are united to a standing oblong, or those of Fig. 29 to a lying oblong, or if a single long beam is formed of Fig. 30.

“Take a cube children, place it before you, and also a cube divided in two halves, and place the two halves with their triangular planes or sides, one upon another.”

These two halves united are just as large as the whole cube.

But the two halves may be united, also, in other ways. They may touch each other with their quadratic and right angular planes.

Represent these different ways of uniting the two halves of the cube simultaneously. Notwithstanding the difference in the forms, the contents of mass of matter remained the same.

In a still more multiform manner, this fact may be illustrated with the cubes divided in four parts. Similar exercises follow now with the whole Gift, and the children are led to find out all possible divisions in two, three, four, five, nine and twelve equal parts. (Figs. 34-44).

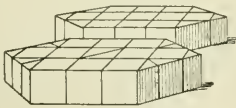


Fig. 34.

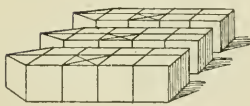


Fig. 35.



Fig. 36.

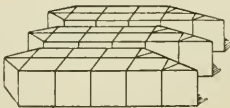


Fig. 37.

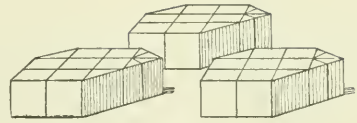


Fig. 38.

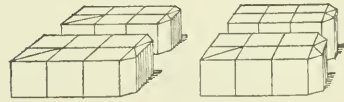


Fig. 39.

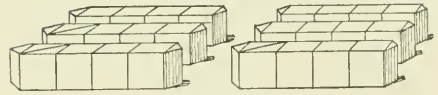


Fig. 40.

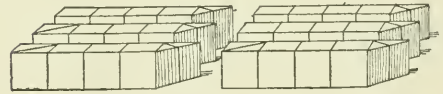


Fig. 41.

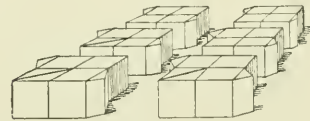


Fig. 42.

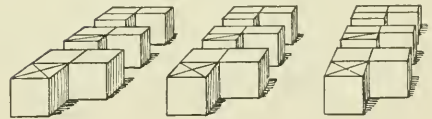


Fig. 43.

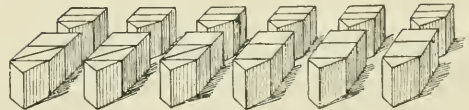


Fig. 44.

After each such division the equal parts are to be placed one upon another, for dividing and separating are always to be followed by a process of combining and reuniting. The child thus receives every time, a transformation of the whole cube, representing the same amount of matter in various forms. (Figs. 45-48).

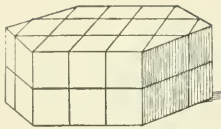


Fig. 45.

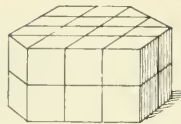


Fig. 46.



Fig. 51.

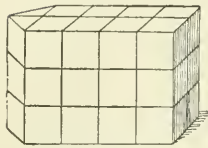


Fig. 47.

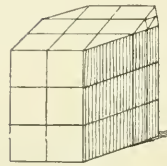


Fig. 48.

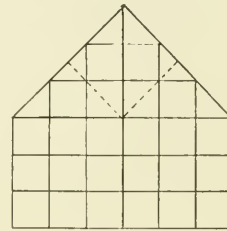


Fig. 52.

The child should also be allowed to compare with each other the various thirds, quarters, or sixths, into which whole cubes can be divided, as shown in Figs. 35, 36, 37, 38, or 40, 41 and 42.

It is understood that all these exercises should be accompanied by the living word of the teacher; for thereby, only, will the child become perfectly conscious of the ideas received from perception, and the opportunity is offered to perfect and multiply them. The teacher should, however, be careful not to speak too much, for it is only necessary to keep the attention of the pupil to the object represented, and to render impressions more vivid.

The divisions introduced heretofore, are followed by representations of regular mathematical figures, (planes), as shown in Figs. 49-52. The manner in which one is formed from the preceding one is easily seen from the figures themselves.



Fig. 49.

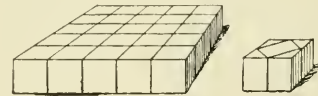


Fig. 53.

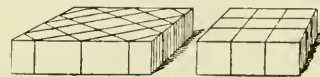


Fig. 54.

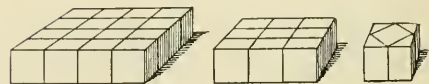


Fig. 55.



Fig. 50.

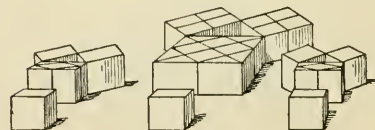


Fig. 56.

As mentioned before, part of the occupation described in the preceding pages, is to be introduced in the Primary Department only, where it is combined with other interesting but more complicated exercises. Simply to indicate how advantageously this Gift may be used for instruction in geometry in later years, we have added Fig. 56, the representation of which shows the child the visible proof of the well-known Pythagorean axiom, by which the theoretical, abstract solution of the same, certainly, can alone be facilitated.

For the continuation of the exercises in arithmetic, begun with the previous Gifts, the cubes of the present one are of great use. Exercises in addition and subtraction are continued more extensively, and by the use of these means, the child will be enabled to learn, what is usually called the multiplication table, in a much shorter time and in a much more rational way than it could ever be accomplished by mere memorizing, without visible objects.

FORMS OF BEAUTY.

If we consider that the Fifth Gift is put into the hands of pupils when they have reached the fifth year, with whom, consequently, if they have been treated rationally, the external organs, the limbs, as well as the senses, and the bodily mediators of all mental activity, the nerves, and their central organ, the brain, have reached a higher degree of development, and their physical powers have kept pace with such development, we may well expect a somewhat more extensive activity of the pupils so prepared, and be justified in presenting to them work requiring more skill and ingenuity than that of the previous Gifts.

And, in fact, the progress with these forms is apparently much greater than with the forms of life; because here the importance of each of the thirty-nine parts of the cube can be made more prominent. He who is not a stranger in mathematics knows that the number of combinations and permutations of thirty-nine different bodies does not count by hundreds, nor can be expressed by thousands, but that millions hardly suffice to exhaust all possible combinations.

Limitations are, therefore, necessary here; and these limitations are presented to us in the laws of beauty, according to which the whole structure is not only to be formed harmoniously in itself, but each main part of it must also answer the claims of symmetry. In order to comply with these conditions, it is sometimes necessary, during the process of building a Form of Beauty, to perform certain movements with various parts simultaneously. In such cases it appears advisable to divide the activity in its single parts, and allow the child's eye to rest on these transition figures, that it may become perfectly conscious of all changes and phases during the process of development of the form in question. This will render more

intelligible to the young mind, that real beauty can only be produced when one opposite balances another, if the proportions of all parts are equally regulated by uniting them with one common center.

Another limitation we find in the fact, that each fundamental form from which we start is divided in two main parts—the internal and the external—and that if we begin the changes or mutations with one of these opposites, they are to be continued with it until a certain aim be reached. By this process certain small steps are created, which enable the child—and, still more, the teacher—to control the method according to which the perfect form is reached.

“Each definite beginning conditions a certain process of its own, and however much liberty in regard to changes may be allowed, they are always to be introduced within certain limits only.”

Thus, the fundamental form conditions all the changes of the whole following series. All fundamental forms are distinct from each other by their different centers, which may be a square, (Fig. 65), a triangle, (Fig. 91), a hexagon, octagon, or circle.

Before the real formation of figures commences, the child should become acquainted with the combinations in which the new forms of the divided cubes can be brought with each other. It takes two half cubes, forms of them a whole, and, being guided by the law of opposites, arrives at the forms represented in Figs. 57-64, and perhaps at others of less significance.

The following series of Figs. 65-106 are all developed one from another, as the careful observer will easily detect. As it would lead too far to show the gradual growing of one from another, and all from a common fundamental form, we will show only the course of development of Figs. 65-70.

The fundamental form (Fig. 65) is a standing square, formed of nine cubes, and surrounded by four equilateral triangles.

The course of development starts from the center part. The four cubes *a* move externally, (Fig. 66), the four cubes *b* do the same, (Fig. 67), cubes *a* move farther to the corner of the triangles, (Fig. 68), cubes *b* move to the places where cubes *a* were previously, (Fig. 69). If all eight cubes continue their way in the same manner, we next obtain a



Fig. 57. Fig. 58. Fig. 59. Fig. 60. Fig. 61. Fig. 62. Fig. 63. Fig. 64.

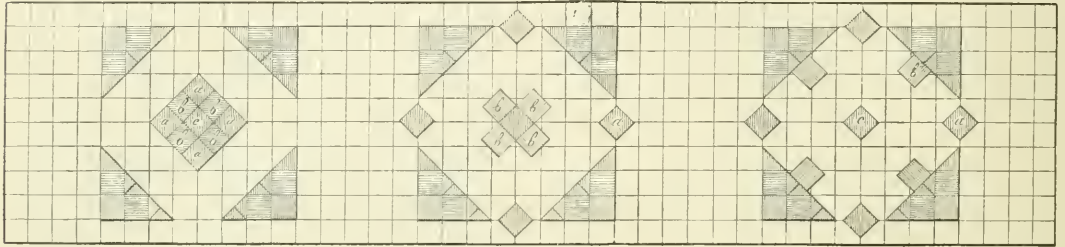


Fig. 65. Fig. 66. Fig. 67.

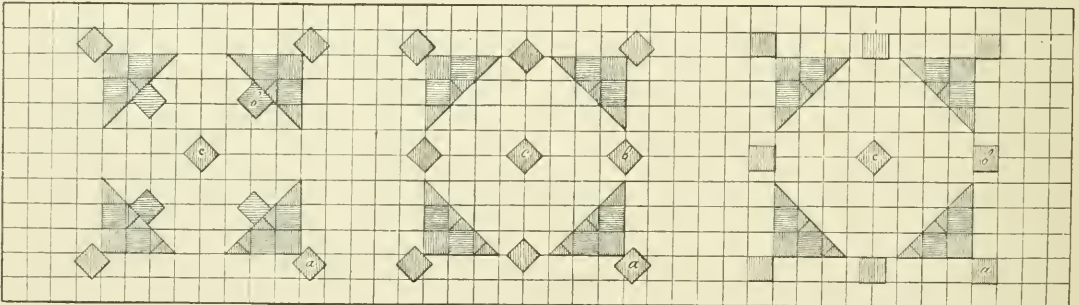


Fig. 68. Fig. 69. Fig. 70.

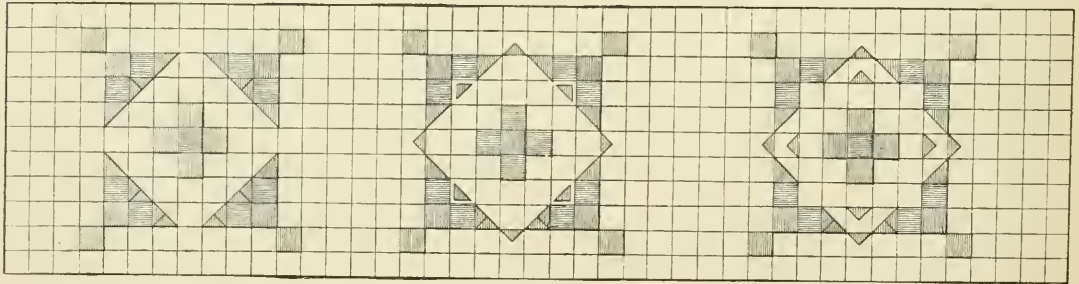


Fig. 71. Fig. 72. Fig. 73.

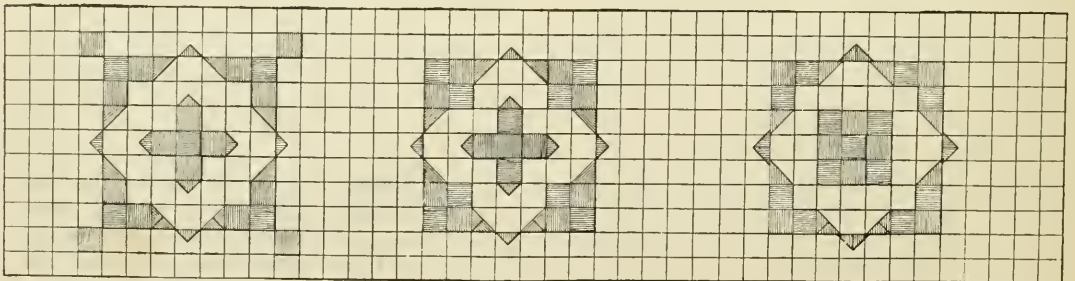


Fig. 74. Fig. 75. Fig. 76.

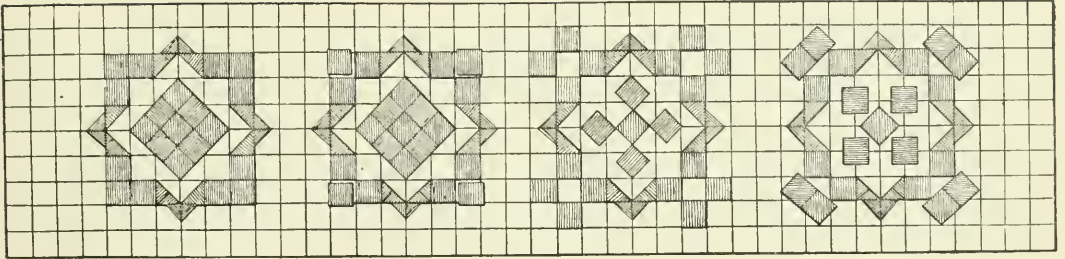


Fig. 77.

Fig. 78.

Fig. 79.

Fig. 80.

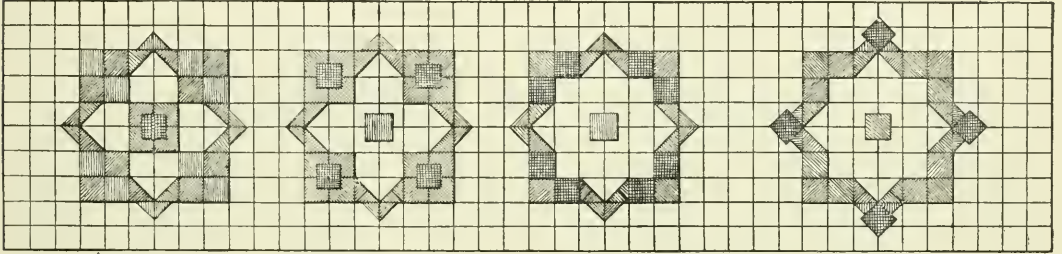


Fig. 81.

Fig. 82.

Fig. 83.

Fig. 84.

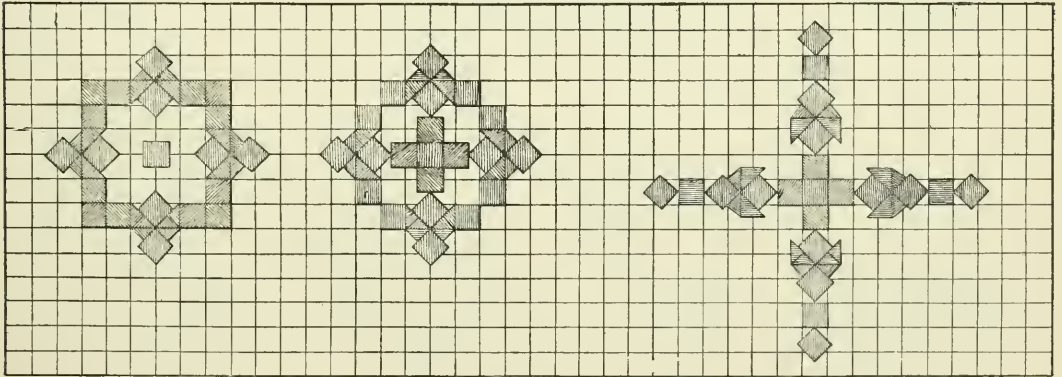


Fig. 85.

Fig. 86.

Fig. 87.

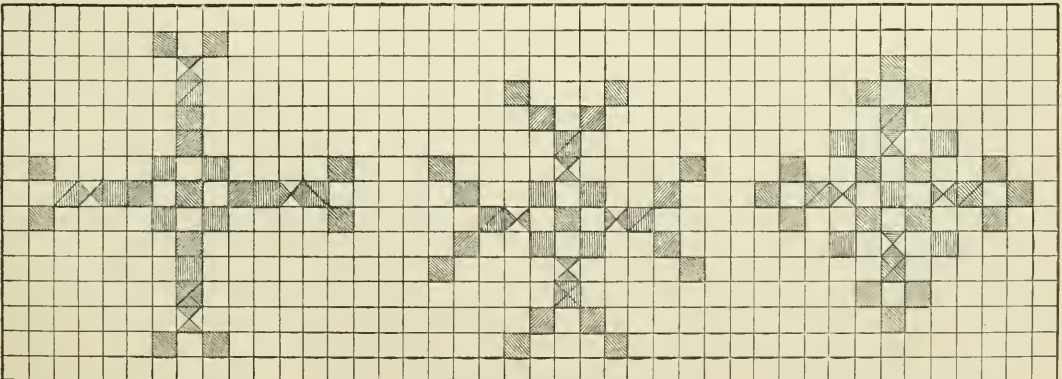


Fig. 88.

Fig. 89.

Fig. 90.

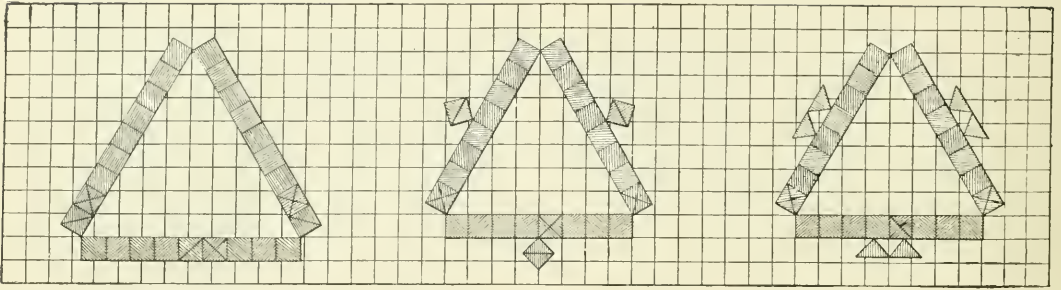


Fig. 91.

Fig. 92.

Fig. 93.

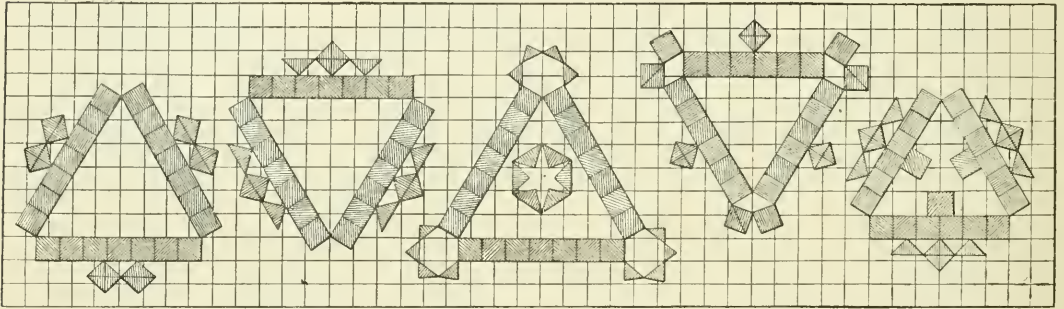


Fig. 94.

Fig. 95.

Fig. 96.

Fig. 97.

Fig. 98.

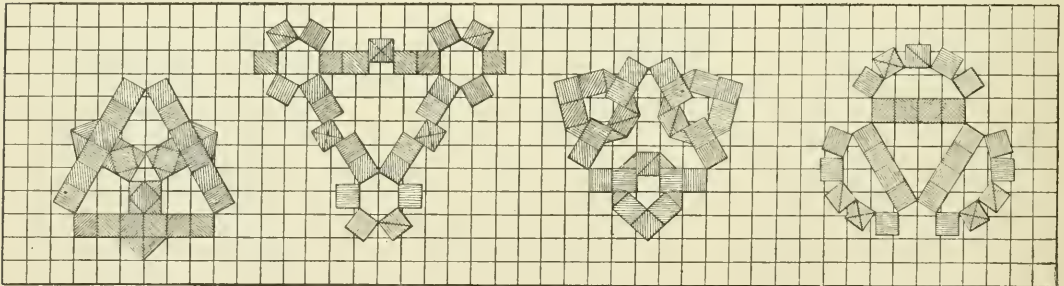


Fig. 99.

Fig. 100.

Fig. 101.

Fig. 102.

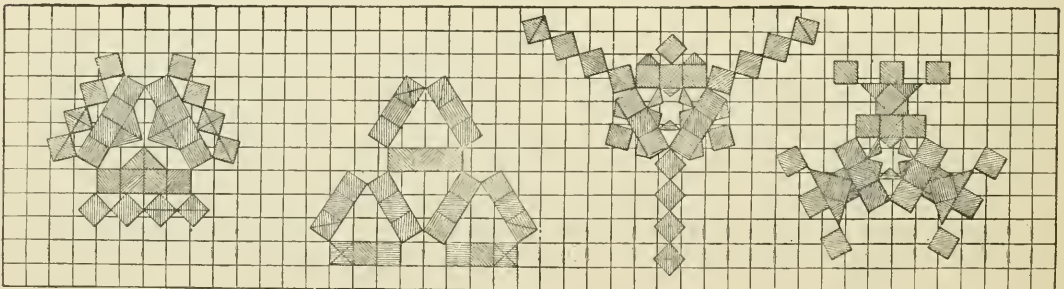


Fig. 103.

Fig. 104.

Fig. 105.

Fig. 106.

form in which a and b remain with their corners on the half of the catheti; then follows a figure like 69 different only in so far as a and b have exchanged positions; then, in like manner follow Figs. 68, 67, 66 and 65.

We therefore, discontinue the course. The internal cubes so far occupied positions that b and c turned corners, a and c sides toward each other. In Fig. 70 b shows the side and a the corner. In Fig. 71, we reach a new fundamental form. Here, not the cubes of the internal, but those of the external triangles furnish the material for changing the form.

It is not necessary that the teacher, by strictly adhering to the law of development, return to the adopted fundamental form. She may interrupt the course as we have done, and continue according to new conditions. But however useful it may be to leave free scope to the child's own fantasy, we should never lose sight of Fröbel's principle, to lead to *lawful action*, to accustom to following a

definite rule. Nor should we ever forget that the child can only derive benefit from its occupation, if we do not over-tax the measure of its strength and ability. The laws of formation should, therefore, always be as definite and distinct as simple. As soon as the child cannot trace back the way in which you have led him in developing any of the forms of life or beauty; if it can not discover how it arrived at a certain point, or how to proceed from it, the moment has arrived when the occupation not only ceases to be useful, but commences to be hurtful, and we should always studiously avoid that moment.

In order to facilitate the child's control of his activity, it is well to give the cubes, which are, so to say, the representatives of the law of development, instead of the letters a , b , c , names of some children present, or of friends of the pupils. This enlivens the interest in their movements, and the children follow them with much more attention.

EDITOR'S NOTES.

In the previous gifts only the vertical and horizontal lines have been introduced, but these require their intermediate. The slanting line was indicated in the forms of symmetry made with the third and fourth gifts, when edge and sides were brought to touch each other, but what was only indicated there, now becomes permanent by the bodily presence of the cube divided diagonally.

By this division of three cubes into halves and three into quarters, a new solid is presented—the triangular prism—which permits of a greater variety of forms, and gives an opportunity for the exercise of judgment in choosing the form which is best adapted for a certain purpose. This prism and its proper use in building constitute the chief characteristic of the gift.

Owing to its many parts this gift is much in advance of the previous ones, requiring greater dexterity and delicacy of touch, while it affords excellent training to the fingers. When first placed in the hands of the children, its greater quantity of material and variety of form is liable to confuse them; they are apt to become bewildered in the dictated exercise, and at a loss to know how to manage so much material in free play. Therefore the need of

quantity should be felt that the material may not be wasted through misuse.

There are different ways of introducing this gift. Some kindergartners think it is best to present the triangular prism before the gift is offered to the child as a whole, by removing one or two cubes from the boxes of the third gift and substituting half cubes. Then, after the children have examined the form ask questions as to the number, the dimensions and shape of the faces, one of which they find is oblong, two square and two triangular. When they have become familiar with the form, then give the name triangular prism.

Have them place the halves according to dictation and combine them to form whole cubes. After this is done successfully substitute four quarters in place of two halves, and let the children study them in a similar way. They will notice the quarters are one-half as large as the half cubes, also that when two quarters are joined by their square faces they have a new square prism.

Direct one child to put four quarters together to make a cube, another to make a long triangular prism, another to make a square prism two inches high. It is well to let each child experiment for himself in building some form

of life, as a locomotive, (Fig. 107), or a house with a roof, which helps the rain to run off quickly, (Fig. 108).

This small quantity of material will give the children facility in combining the new forms, and in placing them according to dictation without being bewildered and diverted. Having used these four small and two large triangular prisms successfully, the children will be better prepared for the manipulation of the whole gift.

Another plan is to present the gift as a whole, using only one, which stands on the kindergarten's table, for the first few lessons. Compare the gift as to size with the third and

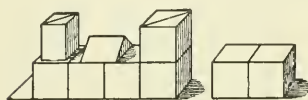


Fig. 107.

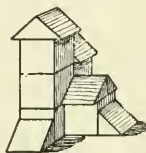


Fig. 108.

fourth, then bring out one of the half cubes, teach the different faces, dictate as to placing in different directions, give the name, etc. Proceed with the quarter cube in the same way, until the children are familiar with the form.

Let them use both half and quarter cubes with a single whole cube, combine the halves into a whole cube, make the quarters into cubes, square and triangular prisms. Then show the children the three ways of dividing the gift into thirds—right and left, front and back, up and down—letting them come forward to divide and combine it, using also other objects in illustration; afterward give one-third only to each child to work with, or give every third child the entire gift and assist him to divide the cube into thirds, giving one of these thirds to the neighbor on each side.

The top layer of each third should consist of one whole cube, one composed of halves and one of quarters. Familiarize the children with the new form by some play which will tend to disclose the relationship existing between the parts, and lead the children to find resemblances between the prism and familiar life forms. The following sequence shows the use of one-third of the gift.

FIRST SEQUENCE.

Mary's visit to her uncle, who is a light-house keeper in one of the small Atlantic towns. One-third of the gift with cubes running right and left, is placed before each child, Fig. 109.

STEPS AND BOATHOUSE.—(Near the landing where Mary took the small steamboat). Remove the two upper right-hand cubes and the top middle cube. Make a roof of the two half cubes by joining their square faces, and place on top of the two whole cubes, with the triangular faces front and back, Fig. 110.

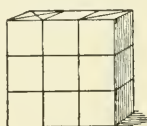


Fig. 109.



Fig. 110.

STEAMBOAT.—Combine the two halves which form the roof of the boathouse, into a cube, placing it at the left of the steps. Place one of the remaining cubes on top of the right-hand cube, and the other at the right. Remove the quartered cube, placing one of the quarters on top of the lower left-hand cube, with its oblong face against the upper left-hand cube, and its square face slanting to the left. Take another quarter and stand it on a triangular face at the left of the lower left-hand cube, touching it by its square face. Form the remaining two quarters into a square prism, and stand it on top of the upper left-hand cube, face front, Fig. 111.

FORT.—(Which is passed on the way). Of the two separated quarters, form a square prism and stand on top of the upper right-hand cube, face front. Lift the upper three cubes and prisms, placing them back of, and touching those they stand on, Fig. 112.

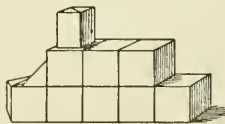


Fig. 111.

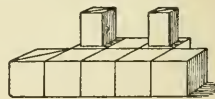


Fig. 112.

BOAT.—(Also passed on the way). Remove the two square prisms, and move the back row one inch back. Take the right-hand front cube and place in the center, connecting the two rows. Separate the left-hand front cube, and place over the front and back middle cubes, with the square faces slanting right and left. Stand one of the quarters on its triangular face, at each end of the four right and left cubes touching them by square faces, Fig. 113.

BOAT LANDING.—(Where Mary is met by her cousins). Remove the four quarters and

combine into two square prisms. Combine the two halves into a whole cube and place at the right of the front row. Remove the center connecting cube and place at the right of the back row. Push the two rows together, and stand the two prisms on top of the right and left front cubes, faces front, these forming the posts to which the steamer is tied, Fig. 114.



Fig. 113.

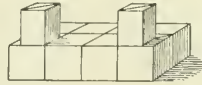


Fig. 114.

LIGHTHOUSE.—(Where she finds her uncle). Remove the square prisms and the divided cube. Lift the four back cubes and place in a standing position on top of the front left-hand cube. Place the right-hand cube on top of the cube to its left. Of the two half cubes make roofs, with the square faces slanting front and back. Lay one of the square prisms against the lower right-hand cube, and the other in front of the tower, touching by oblong faces, Fig. 115.

UNCLE'S HOUSE.—Lift the upper two cubes and roof of the tower and place against the left of the tower. Turn the half cubes with their square faces touching the center cube, the oblong faces slanting right and left. Remove the prism at the right and combine into a half cube, placing it on top of the middle cube, with the triangular face front, Fig. 116.

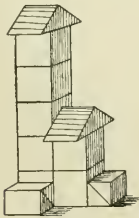


Fig. 115.

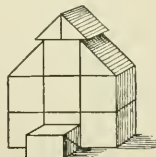


Fig. 116.

BARN, WAGON SHED AND WELL HOUSE.—Remove the steps. Lift the center cube and roof, and place in front of and against the lower left-hand cube, for the shed. Move the right-hand half cube over against the other half cube to form a roof. Move the two right-hand cubes two inches to the front, and one inch to the right. Join the quarter cubes which formed the steps into a half cube and place on top of

these cubes with triangular face front, for the well house, Fig. 117.

CHURCH.—(Which they attended on the Sabbath). Remove the roof of the wagon shed and form into a square prism. Place the well house on top of the shed and move this tower to the left of the barn, roof slanting right and left. Lay the prism in front of the tower, touching by its oblong face, Fig. 118.

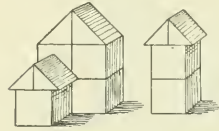


Fig. 117.

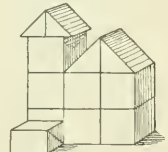


Fig. 118.

MARY'S HOME.—(Where she returns after spending many happy days). Remove the right-hand side of the church, and place it against the left of the tower. Turn the half cubes on their oblong faces for the roof, the square faces slanting front and back, Fig. 119.

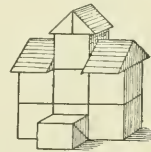


Fig. 119.

When the sequence is ended each child builds up his third of the cube, the three parts are pushed together and are ready to go into the boxes.

SECOND SEQUENCE.

This sequence shows how a third of the gift may be combined to produce one form.

COUNTRY HOME OF A WEALTHY LADY.—(Who loves little children). One third of the gift is placed before each child, the top layer removed and placed two inches in front. Take the two right-hand cubes and stand in front of the left-hand cubes. Combine the two half cubes and place on the back row of cubes for a roof, the oblong faces slanting right and left. Take the remaining whole cube, place one of the quarters on top, triangular face front, and stand at the right of the two front cubes. Combine two quarters into a square prism, with the remaining cube on top, triangular face front, and stand upon the left front cubes, Fig. 120.

BARN.—(Standing back of the house, where the cows and horses are kept, and where the children like to climb the haymow to hunt eggs, and watch Mrs. Puss and her kittens frolic and play). Move the back half two inches back, Fig. 121.

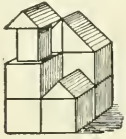


Fig. 120.

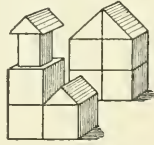


Fig. 121.

TEXT.—(Where the hostess was obliged to shelter a number of "fresh air" children whom she entertained). Take the roof off the barn and place it one inch back. Take the upper two cubes of the barn and place in front of the lower two, Fig. 122.

COTTAGE.—(At a summer resort not far distant, where the daughter is stopping, and to which the children are driven behind Grey and Dapple for a day's pleasure). Remove the quarter cubes from the house, place the remaining three cubes in the center of the four back cubes, front and back, the two cubes to the front. Join the quarter cubes into two long triangular prisms, and place on their oblong faces at the right and left of the center cubes for a roof, the square faces slanting right and left. Place the two half-cubes on the front and back middle cubes for roofs, triangular faces front and back, Fig. 123.

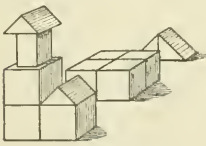


Fig. 122.



Fig. 123.

To combine the thirds :—

SUMMER HOTEL.—(Near the beach). Reverse the cottages so that the backs will face you. Let the child that divided the cube, remove the quarters from his cottage and form two square prisms, on which his neighbor on each side places the back half cube from his cottage, and stands this with triangular face front, on the back middle cube. The right and left cottages are then moved until they touch the middle one, Fig. 124.

These stories may be enlarged upon, and

the sequences shortened or lengthened, according to the capacity of the children. At the close of the exercise the borrowed parts are returned, so that the thirds may be built up as they were at the beginning. Later on, the thirds may be divided by three different ways into nine, and those into twenty-seven parts; thus it will be seen that much mathematical knowledge may be gained through this gift.

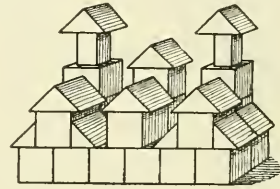


Fig. 124.

If the entire gift is presented without any preliminary step, it should be used so simply that the child will feel delight in his material. Have the blocks arranged so that when taken from the box, the cubes will be uniform as to position and arrangement, the upper face showing the vertical, horizontal and slanting line, also three squares, six right isosceles triangles of one size and twelve smaller ones.

The children should become thoroughly acquainted with the number of whole and divided cubes, that they may be able to make free and full use of the gift, and they will readily learn to lift the upper face with its twenty-one pieces, and place it unbroken on the table.

Allow free scope to the childish imagination, and as with new material, free play directed by the kindergartner affords the best opportunity for self-activity, it is well to let the children build each his own form, the teacher connecting all their various creations by some little improvised story.

The combination of the cubes to form geometrical figures is full of interest, and the evolution of one form from another, important in developing the child. From a rectangular prism have the children develop the rhomboidal prism, from this the trapezoidal, then the pentagonal and hexagonal.

The educating power of this gift is wonderful, and there seems no limit to its constructive power. It gives a large number of the most varied and beautiful forms of symmetry, and a strong impression is made, that real beauty can only be produced when one opposite bal-

ances another, if all the parts are equally regulated by uniting them with one common center. The directions for forming these transition figures should be direct and simple, so that the child can return to the original form, by reversing the movements without taxing him too much.

The material is particularly adapted to architecture, and the forms of life come very near to reality on account of the prisms, which aid materially with their slanting surfaces to represent roofs, chimneys, towers, etc. The method followed in the handling of this material gives a sure guide for bringing order out of all manifoldness of form. The following sequence shows the use of the entire gift.

THIRD SEQUENCE.

Entire gift as placed before each child, Fig. 125.

TRUMPHEAL ARCH.—Move the back row of cubes two inches back and to the left. Remove the upper layer of half cubes, then separate into three columns, covering the right and left column with a half cube for a roof, and the center column with two halves joined by square faces. This forms three towers. Next move the front row of cubes to the right and on a line with what was the middle row, leaving a half-inch space between. Move the right-hand

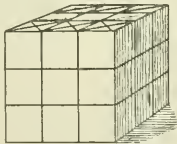


Fig. 125.

column half an inch to the right, and the left-hand column one half-inch to the left, and over these three openings stand the towers, with triangular faces front and back, the tower with the double roof being placed over the center opening. The two remaining halves place right and left of the outside towers, with the oblong faces slanting away from the towers, Fig. 126.

GATES OF A WALLED CITY.—Move the right-hand tower so it stands on the cubes at its left

and the left-hand tower so it stands on the cubes at its right. Remove the right and left columns and of the right column make a base of two cubes with the third cube over the center, and on top of this place the half cube with triangular face front. Do the same with the left-hand column, then push these against the front of the double columns, Fig. 127.

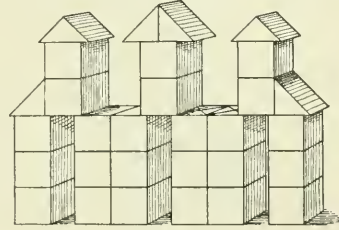


Fig. 126.

CATHEDRAL.—Remove these two front pieces and the towers. Place the six left-hand cubes at the back of the six right-hand cubes, forming a square prism, three cubes high. Against the right and left of this prism, place the two front pieces so that the roofs slant front and back. Take the four halves from the towers and combine them into a roof for the top of the prism, the oblong faces slanting right and

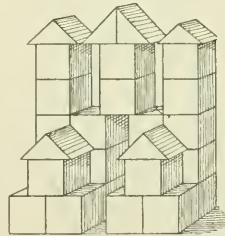


Fig. 127.

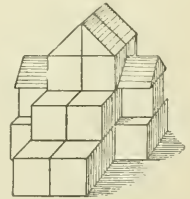


Fig. 128.

left. Place the two towers together and stand them in front of the square prism. Lay the remaining tower directly in front of these, for steps, Fig. 128.

From this form the children may easily return to the whole cube. In using the entire gift, each child might divide the gift into thirds using each third for a different form, making different buildings in a town.

FIFTH GIFT B.

This gift combines cylindrical with cubical forms and is in the line of the further development of the series of building blocks which Fröbel evidently intended to carry out, as it is obvious that after the blocks containing straight forms derived from the cube have been presented, the round forms derived from the sphere and cylinder should follow.

This gift contains twelve whole cubes, three quartered cubes, eight hollowed cubes, and twelve half-cylinders. Like the fifth gift it is separated into three layers, one above the other.

The first layer consists of nine whole cubes, Fig. 1; the second layer presents three whole cubes, three quartered cubes, and three cylinders halved lengthwise, Fig. 2; the third and upper layer has eight hollowed cubes and six half-cylinders, Fig. 3.



Fig. 1.

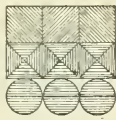


Fig. 2.

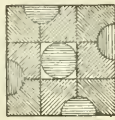


Fig. 3.

In presenting this gift let the children find familiar forms first, and when they have become acquainted with the new elements in the gift, they may find the simple combination of these forms, one with another. They will recognize the cube and the triangular prism of the fifth gift, and the kindergarten should then call attention to the half-cylinder. Ask how many faces they find? How many are curved? how many are straight? They will notice that one face is a square like the face of the cube, that two are the form of a half-circle, Fig. 4, and that the fourth is a curved surface.



Fig. 4.



Fig. 6.



Fig. 7.



Fig. 8.

Ask how many edges the half cylinder has? Out of the six edges how many are straight? How many are curved? How many corners are there?

Let the children combine two half-cylinders and they will recognize their old friend the cylinder, Fig. 5. By comparing the cylinder and cube the children will find they are of the same dimensions.

Have them combine two half-cylinders with the cube and they have the oval, Fig. 6, and with four half-cylinders they obtain the double oval, Fig. 7.

Compare the half-cylinder with the triangular prism and combine the two by square faces, Fig. 8.

Place a half-cylinder and a triangular prism



Fig. 9. Fig. 10. Fig. 11. Fig. 12. Fig. 13.

on opposite sides of the cube, joining it by square faces, so one end will be rounded and the opposite end pointed.

Bring out the peculiarities of the hollowed cube, Fig. 9. Call attention to the faces, which number seven; two of them are square like the face of the cube; two others are oblongs, just one half as large; one is a hollow curved surface, and the top and bottom faces are equal, being a square with a quarter circle removed from one corner, Fig. 10.

Ask how many edges they find on this form; how many are straight, how many are curved? What is the number of corners? Let the children combine two of these hollowed cubes by oblong faces and an arch is obtained, Fig. 11,



Fig. 14.



Fig. 15.



Fig. 16.

these forms being especially adapted to that purpose. A combination of three hollowed cubes, forms three quarters of a circle, Fig. 12, and by uniting four an entire circle is made, showing a hollow center into which the cylinder may be fitted, Fig. 13. By joining the square faces instead of the oblong we have Fig. 14, and by combining with the half-cylinder, we have the undulating curve, as seen in Figs. 15 and 16.

After the children have seen the gift as a whole and have become acquainted with the different forms, it is well to separate it into three layers, that the children may find the number of parts and the arrangement of each.

These exercises may be given gradually, the

kindergartner being careful that the child observes with clearness and decision, advancing him only as he is capable of making intelligent use of his materials.

style of architecture being prominent in the life forms of which the accompanying illustrations only serve as a hint to the possibilities of this

FORMS OF LIFE.

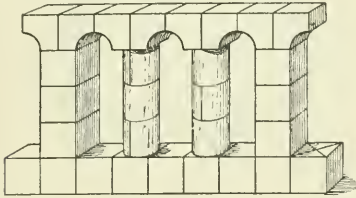


Fig. 17.

Ruins of a Cloister.

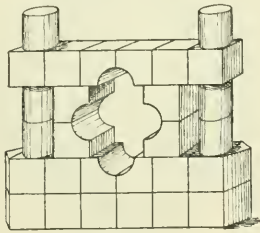


Fig. 18.

A Portion of a Wall.

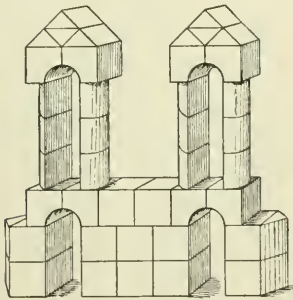


Fig. 19.

Ancient City Gate.

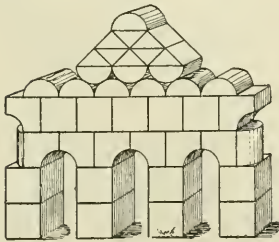


Fig. 20.

Royal Archway.

The curved line of this gift gives a special importance to the exercises. Arches and round columns may now be constructed, the Roman

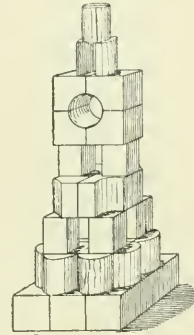


Fig. 21.

Monument.

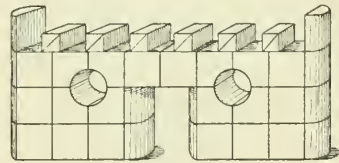


Fig. 22.

Gate of a Fortress.

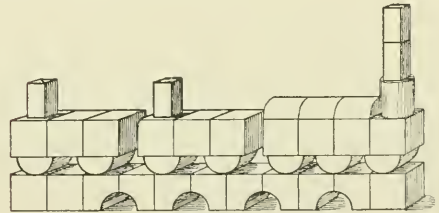


Fig. 23.

Railroad Train on Bridge.

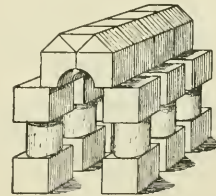


Fig. 24.

Railroad Station.

gift, which may be brought out under the skillful direction of the kindergartner and the full and careful attention of the children.

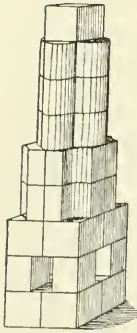


Fig. 25.

Monument.

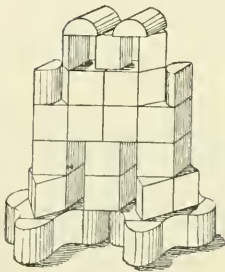


Fig. 26.

Portico.

FORMS OF SYMMETRY.

The forms of symmetry are treated in the same way as those of the previous gifts. Sequences may easily be developed and figures constructed which are varied and pleasing in design, the rounded forms of the gift giving a peculiar characteristic of their own.

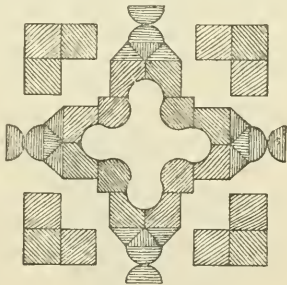


Fig. 27.

We give but a few illustrations, leaving the teacher free to follow her own ideas.

In the forms of knowledge, the child's attention should be directed to those which are the most simple, as Figs. 5, 6, 7, 11, 12 and

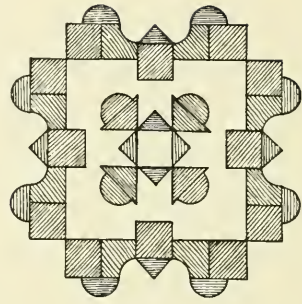


Fig. 28.

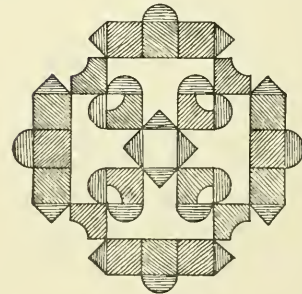


Fig. 29.

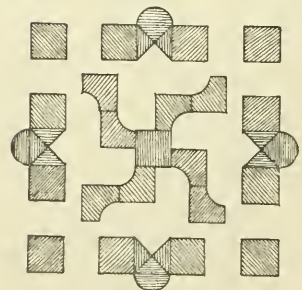


Fig. 30.

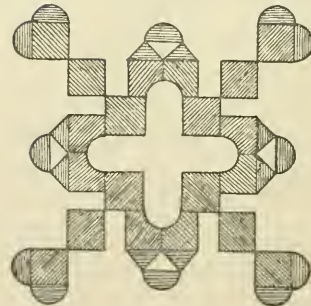


Fig. 31.

13, the children of the kindergarten being too young to grasp the special mathematical truths which may be derived by means of this gift.