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Box 07, Folder 29 - "Fractions at Five" (E.M.S.)

Edwin Mortimer Standing

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FRACTIONS AT FIVE

A few minutes later, as I wandered about the garden, I came across another interesting spectacle - a little girl of five or thereabouts (see illustration) busily at work at vulgar fractions. The basis of the materials with which she is working ^{was} ~~is~~ a series of ten metal circles - all the same size (unity) - and divided respectively into halves, thirds, quarters and so on up to tenths. The little girl who knows her numbers up ~~to ten~~ (and ~~probably much more~~) is placing little tickets or labels on each fraction. At the moment the picture was taken she is placing ~~axxxxxxxxxx~~ the last of the ten labels with $1/3$ on them on the last segment in the "~~xxxxxxxx~~" circle which is divided into thirds. On the ~~last~~ ^{small 1/10 series} circle, which is divided into tenths you can see she has already put out all the ten little $1/10$ labels.

This is of course only the beginning of fractions; but it is a beginning and it will make things much easier later on (not much later ~~on~~ by the way) when she begins to add and subtract fractions. She may not as yet know the name denominator but she knows what ~~it is~~ ^{it is}, and has a world of experience ready waiting ^{new to her} for the names to be attached to. On it a few weeks ago I was helping a boy of ten from his junior boarding school who was all in a muddle about fractions - so much that he could not distinguish a numerator from a denominator though they had been doing fractions in his class for three weeks! And by no means a stupid boy, by the way. It was implied that the teacher had plunged into the subject without any concrete preliminaries.

2nd
Here
5/10
her

I must add at this point that the
~~same~~ wooden leaf along the same design
with these leaf forms ^{brass} in the own
~~Hubert~~ Bahus Room. For there these same
leaf forms ^{they} had been prepared to them as also for
cut out wooden insets for to saw maple
or to German wooden insets. The ~~the~~ ^{the}
the had covered in latex, and the
wooden leaf forms, more than up, &
relying them each in its rest socket.
Here we have a good example of the P. G
to throat - namely that each inset
is related (as far as possible) to a German
one ^{to} which to new one is marked "brand" on.

A FURTHER ARGUMENT FROM THE HISTORY OF THE MONTESSORI METHOD

As indicated above the Montessori Method (as it later came to be called) was applied first to children of the ages 4 1/2 to 5 years of age. But the Montessori principles - being based on the observation of living beings - ~~have~~ ^{contain} in themselves a powerful and vitalising energy; And just as they say "you cannot keep a good man down" ^{it} it is equally true ~~to say~~ that you cannot prevent a ~~true~~ and vital principle from acting as a ~~vitalising~~ ^{transforming} ~~leave~~ ^{Direct} ~~leave~~ ^{begin} ~~leave~~ ^{here}.

Thus it came about that, as the years and the decades passed, the Montessori principles came to be applied to the education of children of later ages. ^{applied} This was by no means an automatic procedure, but involved an immense amount of labour and research. ^{by means of collaboration} This took the form of the creation of an immense variety of materials for the teaching of ~~such~~ ^{the} more advanced stages in arithmetic, Geometry, Algebra, Geography, History, Religion and so on.

We used the word "teaching" in the last sentence but it must be remembered that we are not speaking of "teaching" in the ordinarily accepted sense of the word. For when children learn any subject according to Montessori principles there is a minimum of direct teaching by the "Teacher" and a maximum of ^{own individual} spontaneous learning by the children through their ^{spontaneous individual} activity with ~~the~~ specially constructed materials. ^{to a degree} The work of the Montessori Directress consists largely in the initiation of the children - individually or in small groups - into the correct ^{These details must be carefully} use of ~~the~~ each particular material, which ~~is~~ ^{is} always so constructed as to solicit in the child a prolonged spontaneous activity, and it is through this activity with the materials that his ^{of the subject} knowledge deepens, and ^{is made} becomes a part of himself, ^{but in as} a living part of his mental system.

x
see footnote
her

FOOTNOTE (This footnote should come in at the bottom of the previous page)

(I) This Montessori heaven also worked backwards right down to the neonate or newly born child - and even beyond. ~~For there is in fact~~ ^{For there now exists in Rome} an institution, founded by the aim of Montessori, in Rome, which is to help ~~assist~~ expectant mothers, not only through child birth but in the treatment of their children ~~not only in their physical but also their mental~~ ^{in their physical and} development up to the age of ~~2~~ ^{2 1/2} years

In this way came - as a result of ^{what amounts to} a new kind of educational science - the PREPARED PATHS TO CULTURE ^{were created} which form so important a part of the Prepared Environment. ^{These paths are there} ready waiting for ^{finds his path himself} each individual child to travel along ^{them} at his own time and at his own pace. Each path is concerned with a particular school subject; and on each path the child ~~will~~ ^{will} find ^{now through} waiting for him a carefully graded series of occupations, leading to ^{more} advanced aspects of the particular discipline in question. (See the diagram).

Let us take an example - form the Prepared Path of Geography. One of the early exercises along this path ^{is as follows} (not ~~the~~ earliest for even the babies have the ir own ~~own~~ Geography materials of a more sensorial-motor kind) ^{is as follows}. Montessori prepared a map of Europe & goes on here from the other MS) as far as Each country had a little hole for the pin to stick inot ...

THE MINATURE GATE CRASHERS

She then introduced this ^{and other} and ~~similar~~ materials to the older children, ages six to eight years, ^{being them} more suited to their more advanced capacities.

alteration
at X

Begin Direct
see

all

happened

Then a curious and quite unexpected thing happened - not once but many times, and in many different schools. The small children - the fives and underfives - from the adjoining Babies Room came in and watched what was going on. (They would be allowed to do this - so long as they did not in any way interfere with the work) Then, later on, when the occasion offered they came in again and quietly took away the new material and worked with it themselves. They were able to do this because they had watched ^{on the chairs} very carefully how the older ones ^{had been} were using the various materials.

(7)

In one of the schools I visited : it was Montessori's own school at Laren, near Amsterdam (Montessori came to live in Holland after she had been driven out of Spain by the Communists at the time of the civilwar in) There I watch a young fellow

See M. 10/1 + 1

of 4½ years putting in the flags of Europe into the map which had been prepared by older children. He ^{performed his} did it easily and accurately, saying the names of each country correctly as he put in the flags. It seemed to him as easy as winking!

"That's England" he announced to me at one point "where you come from - "That's Holland where I live" (see illustration)

~~The same thing happened - so I was~~ told - with other materials - for Arithmetic, Reading, Nature-Study and so on. The little Gate-crashers like Julius Caesar "came" saw "and" conquered" in the sense that they showed themselves capable of doing the exercises.

✓
✓

✓
✓

Thus it came about - all over the Montessori World - in Europe and Asia and in America - that the teaching materials were "graded down" - and the materials originally intended for children at a particular age were adopted and used - and used with great satisfaction by children of a younger age group.

In 19. I visited a school in
Laren near Amsterdam. It was run
by W. M. himself, who had been
driven out of Spain by the Communists +
the Civil War. In that school too
I watched

take in into many I visited some
more advanced classes. This too
something had happened I saw
and some at Malm for 19.

In one of the Montessori schools I visited I had ocular demonstrations ~~of the~~ which were a living corroboration of what I have just been saying. It was at Montessori's own school at Laren, about twenty miles outside Amsterdam. Here I might parenthetically remark that Montessori came to live in Holland in _____, after she had been driven out of Spain - where she was then living - by the Communists and the Civil war. She was invited to leave the country - at an hours notice - by the captain of a British battle ship - an invitation which she accepted *thankfully*

But To return to the "Gate-crashers". One of the early ^{earlier} exercises which had been prepared for the PREPARED PATH TO GEOGRAPHY, was as follows. (It was not the earliest because, even in the Babies room, there are Geography materials - land and water forms for instance - of a more sensory-motor nature) *so simple*

It was a few days since I
.....
noticed I watched a boy of about 4½ doing this ~~same~~ exercise *which had been prepared for the older children, and doing with great gusto and "as easy as winking". He would pick up one of the flags and put it in its rightful country; or - if he was not sure where it should go - he referred to the key map as you see him doing in the illustration, which I took without his even knowing it. "That's England" he said to me "where you come from" -- "that's Holland where I live" (at one step)*

Later on, in the garden, I saw a similar example of work being done by the small children, which was originally made for the older ones. This was an ~~example~~ ^{exercise} taken from the Prepared Path For Nature Study; it consisted of a study of leaf forms. The game if you like to call it a game (though in fact it was a genuine study) was like this.

Begin Sub E. Lee

77

... it was as follows. To typist .Please put a sign at follows to show that there is a footnote at the bottoke of the page . This ^{will be} is the footnote ^{when you come to it} This was not the earliest step on the Prepared Path to Geography for even in the Babies Room there are Geography mateirials - Land and Water Forms for instance -^{but these are of} of a more sensory-motor nature "

(To Typist) That is the end of the footnote ; now back to the text which goes on after the words ... " as fodlows "

The Directress had drawn a map of Europe divided into its various countries , but instead of putting the na es on them she had affixed to each country a miature reproduction of its national flad . This was to act as a ^{key} key map .

In addition she had also prepared ~~xxxxxxxxxxxxxxx~~map another map - just the same size , also divided into countries , but these latter were left blank. She had also provoded a pincushion into which were stuck a number of pins , each bearing the flag of one of the countries of Europe . The exercise consisted in affixing the flns , with the flads on them , to the corresponding countries on the blank map- helped in the first stages by means of repeated reference to the control map .Each country, by the way , had a little hole in in it into which the pin of the flag could enter : it could do this easily becasue the map itself was mounted on plywood or cork (I forget which)

This material , as mentioned above , had been originally made for the six and seven year olds but the little fellow I watched doing it could not have been more than 4½ or 5. "e was doing the exercise with great gusto and " as easy as winking " Already he knew where most of the flags should go but e very no w and then , when he was doubtful , he would consutl the key map - as he is doing in the snap I tool of him (

("e was not e en aware that I had taken it so absorbed was
he in his work . "That 's England " he ~~xxxxxx~~ said to me
at one stage " where you come from " (I had previously been
formally introduced to the class) .. " and that's Hollan d
where I live " he added . pointing to his country on the map .

It was a fine warm morning and many of the children had carried their little tables and chairs outside and were working in the garden or the verandah. I wandered round until my attention was taken by something I had never seen before. It was a material for the study of leaf forms and very ingenious it was. This too had been originally prepared for older children but the ones that I saw using it were not much more than five years or perhaps six.

The game - if you like to call it a game, though it was a genuine study - was like this. On a long table in the garden were diagrammatic representations of the chief different leaf forms, each being painted on a separate card. A child would come up to the table choose a card, pick it up and go off with it into the garden where he would search for a real live leaf of the same shape. Thereupon he would pick a leaf off the tree or bush and bring it back and put both the original leaf (on the card) and the newly found copy next to each other.

In this way what under the old dry-as-dust system have been a bookish classification with no particular interest was now transformed into a series of thrilling voyages of discovery.