July 2022

Box 17, Folder 26 - "The Sensory Material"

Edwin Mortimer Standing

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ⓐ choice

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The Sensorial Material

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To distinguish the fund' qual. of intellect

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1) reaction

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Psychology of Cylinders

Surfaces all same

Cylinders hidden. –

Knobs sticking out – Action necessary.

Same colour – eliminate colour

because … (- excellent)

Knobs all same size

Left with only 1 difference – slantness.

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To become as little Children

advance quicker

Order

Materials Scope of

All the materials we use represent almost a method of making order in classifying the images which the child Spontaneously takes by his observation on his environment'

of Sounds. & Music Apparatus

In short we give to the children the possibility of fixing their attention - in an orderly manner - on the objects which also permit a motor activity. In this way we arrive at giving them such a clearness of impressions. that this very clearness itself gives a new fascination & a new impulse to and a new mode of observation.

We cannot say (as. the sounds for instance) "These are sounds - these noises ..."-

But it is better to give a material, which without need of explanation, permits a spontaneous exercise, repeated, which not only refines the sense. & calls attention in an orderly manner to the variations in the sounds but also fixes a sense knowledge - because we are not dealing with things taken by chance., but of orderly objects which can be kept in the hands for as long as desired. We do not know how long will be necessary, but the child will know if we give him freedom - Our aim is to give material of freedom to use it.

Intellect

Order

Example fr. Colours

Give the Pure colours - fundamental - as pts. of reference - standards - one needs such in this multiform world.

So with the rest of the material.

Centres of Order & reference

Again.

Method of Colour Ex. & others

Steps in Ordered Observation

In making Colour Tablets cannot use sun or flowers because they are not ordered

XVI. 6

We have give (Colour - Ex) a lesson in mental order to the child - Choosing identities.

Thus the 3. simple 3 demi 3 tertiar + 2 = 11

Thus there is order & we indicate to the child that there are just three fundamental compositions three tints. - & so we give no more nor less.

c3

Order & Limits

This order makes a limit. We cd. give more colours to form — eg. 2 diff' kinds of yellow. but we don't. — for
we must teach an order to the child & also make it learn what are the chief colours

These limits necessary in the Mat. must limit also the Teacher

The Teacher must not offer to the eye more than she does to the hand.
i.e. must be movement

Psychology – Aquinas – Order

Teaching the Technique of Observation

E.g. Sense of Touch

We do not need to teach the child what is rough or smooth – it has felt these diff sensations many times by age of 3.½

What then are we going to be teaching him these things? No! What must we do then?

We must see to it that this Explorer – abandoned to chance – in an envt which offers an infinity of stimuli – learns to observe

cf the University Student who has to be taught how to observe in Biology.

We teach a Technique of Observation – When he has learned this it gives him a great interest & stimulus to observe – & continually – in a new manner. Not in that old manner, in spite of the opposition of the adult – but as one who has had a revelation, a certain knowledge, & who uses this conquest with wonder,

His the same envt – but a new means of exploring – Is now a Scientific Explorer with method. "Seeing now without eyes" Stereognostic sense.

p.t.o

Stereagnostic Sense

becomes a mode of the Intellect

The Transition

Principles

XIII 7 e 5

The Sensory Material

Begins at the 10th Volume
This child at three has a great magazine of images

Education begins at Three

I begin 50% at 3, intellectual education, directed thro the senses with special material

Common Criticism ~~Penny Ave~~ Locke to Montessori

Sq I wish to return to Sensism - The Doctrine that all operations of the intellect are but transformed sensations. A materialistic theory basing all mental operations on the senses. - almost as if I one gave first the sensations + then the ideas to aid + construct the mind of the child.

[Locke + Condillac - Global Education]

Modern Theory child sees the object entire. So you must not first give the form, then colour, to find the object entire. So the child would say. "But I have seen plenty of balloons + I know them well - a ball? I know well what it is"

It is true the child has seen the objects, and then has recognized the redness of them, also when small - quite small. Certainly, naturally the child sees the whole object, with form + colour: it does not need our help for this. Perhaps we have cancelled the impressions of these in the subconscious. -

v now we want to present the object entire.

But on the other hand if we give to the child as a new thing (novum) a quality for example a colour, a sound, it would v. well say to us. "I know the colours well ~~with a colour or a sound~~. I have a blue dress, the table cloth is white.

If you wish to show it the sensations of heat & cold, it would remark "Sometimes I have burnt myself: I know what heat is: I know, too, that the air is hot & cold, in summer winter, day or night. Why do you come & teach me these things.?

What interest would there be to a child of three, constrained in a school to immobility, to learn these things, which are the only things it has been able to learn by itself? — objects, images, sounds. Perhaps the adult has impeded it constructing its inner life in a perfect manner, but up to now the child has by itself arrived at recognizing objects & their qualities by itself.

Indeed not only has it seen these things, but has other higher mental potentialities — natural & spontaneous — for example to be able to observe "This colour is red" — & knows well how to generalize

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"Eg " I know that Cherries are red, that this cap is red ... "

And we if we are to enlarge why should we give him these ideas?

Now what I call the Sensorial Part of the material is not so intended. I am not trying to teach anything like this to the child. as is suggested in " from Locke to Montessori" that I am resurrecting an ancient idea long buried.

I believe - really believe, this experience. that the child should be helped by the most lofty ideas. We must wonder at the child who understands more than we suppose - have faith that it will understand the most high things. And for this reason we give it the material. which is

a spur to aid to help it orient itself amongst the images - in a so that it can distinguish with precision & generalize with exactness & certainty.

At this age (3 circa 3a) we can assist it in such a way that is will help it to make exact ideas on the differences in the qualities of objects, and thus not waste time, nor succeed imperfectly for lack of a adequate material.

Thus we give it a sort of qualitative classification of things in the material, a classification carefully chosen & determined with scientific exactness, with minute differences — almost as tho' we were dealing w. Scientific instruments for practical psychology measured, studied, limited — in such a way that there is presented only what is necessary + sufficient to bring about this orientation.

So we find material in our schools as in a herd (armentario) of psychology.

Criticism

May have objected. "Why when we wish to teach such small children all this rigorous scientific accuracy? But if we did not give them this we should give them nothing! & if we do give them this superior contribution they will do best for themselves.

Scientific Aids

Principle. We must aid the new generation with our highest conquests, not keeping to what we already are used to —

If we take our Scientific Knowledge away — in helping the child — better give him nothing — for he then has no need of us.

This fact of giving to the children things prepared with absolute rigour & in an age when they wd. seem too small to use them, is one of the general principles of our Method.

+ we follow it successively in later periods.

Our study is to make concrete for the child the most elevated things we possess, to make them accessible. Because we are convinced that this is all we can do for him - give the experience which we have seen. Beyond this it has its self natural powers of observation - but these natural powers become more refined with our help. Thus when we have given the new generation the best we can find in such a way that it can orient itself, we must leave the child free in its spontaneous activity - using this greater than he (?) but within his reach, (thus we have altered him) his studies become more easy, organized + profound - Thus he will make a progress he could not have made without our assistance

(XIII 9–10 Important)

The Method — Order

apropos of Bead Numbers

"Suppose the Beads were all loose in a bag!"

That is just it. a comparison for the whole method

The Contents of the mind are not loose, higgledy piggledy — They are ordered

and ordered along different lines or points of view

It is the intelligence which verifies, organizes, energizes the inert mass, pressing it into different forms by the force of its spirit — informing it by its intangible invisible energy.

Keys of the Universe

K

A Comparison re. "Object Lesson"

Used to take an object & describe its qualities — length, breadth, colour, surface — eventually coming to abstract qualities. Whereas we start by giving a material which gives the abstract qualities in as clear a form as possible. —

and —

leaving the child's mind to discover these qualities in the environment —

Sam does is smooth
The plate is a circle
Sam's suit is brown. etc.

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L

Order

A London C.C. Schoolmaster told me that "after a while the children become so orderly that they say" they must have their own peg for hat.

Wheelons.

Pixie Ply-wood Letters Exeter. 1/3. 100.

1923 May 3?

Fundamental Principles

1) Spontaneous work of Construction in the Soul of the Child

we must respond to this passion - particularly by Preparation of Envt

The Two Aspects

A Exercise of Practical life correspond to physical exercises, games gymnastics

B. This is the Whole Psychic Life - When the child is doing work wh. constructs the mind.

Constructing memory.
observation
association of ideas

Here too, in aspect B. we must respond as in the case of the motor activities (Ex of Pract life)

Here too. Then. we must consider the spontaneous Construction of the inner life.

Necessary Conditions for this Spont. Construction

1) Construction always using External Objects

always some external matter developt.-

(2). Child always follows a Cycle of Work, a Rhythm in connection with this external movement.

(3) Freedom a) Choice
b) Time to use.

Has his own particular way of exercising.

The Didactic Material Sensory

A Comparison

As we have prepared an environment - chairs, tables etc - suitable to receive the child's body - with its motor functions - So we must consider the making of objects suitable to its psychic functions.

These objects - thro' experiment - must be precisely determined so as to correspond, with the same precision as the furniture, to the child's mental faculties.

So we must then consider the material which serves to receive and assist his mind

Didactic App. more Difficult than the Furniture

One attempt will not suffice.

Long series of experiments necessary.

First idea of this Material is already a hundred years old. - by the 2 French Doctors many years ago. Seguin + Itard.

Their work for deficients was the rough sketch before the real statue.

A rough fundamental beginning - head, shoulders etc. But "when the model is present begins the refining process - getting nearer nearer to perfection.

Thus the Pre-History of the Material!

Psychology of the Did. Material

Not the Object Important the Concentration

This the Activity which is of value.

If Cubes of Gold or Ivory their brilliance might attract the mind & its concentration would be lost in the sensual object & not in the action. –

Similarly with Cubes with letters or pictures on them.

This not to Reason Why.

Similarly the mind would lose its exercise with the material if it began to reason ~~with~~ about it. – why the cylinder did not fit in.

For the real work is the repeating this putting it in and out – It needs something like a test but without reasoning

[Knowledge on Different Levels]

Toys and Apparatus Compared

The Toy gives an ~~idea~~ an object which contains an idea ~~not~~ in itself

eg Doll; car; house ...

Purpose of it is possession.

But the child's need is not to possess but it needs means to develope

The Task

Each part of the Mat. Perfects a Faculty but gives a dynamic to carry him on to the next.

Psychology of Cylinders.

Certain elemental facts which explain the attraction:—

1). Displacement of object ~~out of track~~.
Change of position

2). Fitting a cylindrical obj. into a socket.
Scientific adaptation.
Practice (52 times)

3) Introduces the Gradation Motive
a new factor:—
Learning to discriminate the various dimensions.
An Intelligent Progress.

4) Acquires refinement by repetition and when doing so.

The Sensorial Material

Not only a Gradation - but
A gradation in relation to an established
+ determined quantity -
[Long Stair - unit -]

Aim of Sensory Mat.l

1) ~~Not~~ The Sens. Mat. could be called a
Classification of Qualities in the External World.
and facilitates the possibility of distinguishing
things.

This Exact Division of things is not a Purpose In Itself
It is a KEY
wh. enables him to distinguish
things in his Envt in an orderly manner. to the
child of 3½ - 4.
So the Sens.y Material is
a) a Gymnastic for Inner Energies
b) A Help to Rapid Intellectual Develpt.

To Distinguish the Fundamental Qual. of Intellect.
It is difficult to reason on things
which one has to clearly distinguished
one from the other. [The Quakers Orderly minds]

[Catholicism etc liked]

Sound basis for Intellect.

Sensory Exercises + Reason

E.g Cylinders

You might think it important that the child has a reasoning problem

E.g. Why does not the cylinder fit in?

If this were so - after he had done it 30 or 40 times would cease to have interest.

But repeats it 50 times to day - tomorrow - a month.

It shows it is not intellectual curiosity which gives him the impulse to do it.

Reason Tires Not Sensory Exercise

We see the child after 20 days - go straight as a dart to get the exercise - so the interest must be caused by something else. - not knowledge + reasoning about it: Feels Rested

Whereas the effort of understanding is a process which tires this kind of exercise seems to give an added force — to rest the child not fatigue him

Expels the Mysterious Poison.

The child becomes calmer; his character changes; he ceases to irritate others.

His character changes as though this ex. had strengthened his inner life. (as muscular ex. gives strength).

This little child, which had so many defects, is already slightly altered for better — for he has suffered by some mistaken effort or fatigue; by his agitation + lack of discipline, his desire to snap from others. This repeated exercise blames him

rested – as if some mysterious person had been expelled from his system. – not because he has understood something.

This is why he must exercise himself with the material.

Material & Limits

Geometry Sensorial

This series of Geom. figures shows the limits of the small child's interest. (4½ yrs)
32 figures.

One could add more: but this is the no. to attract & hold attention.

Long Stair Rd.-Rods

Must be a good size - to feel & carry & move about - impress.

Not too heavy.

Too little - would lose & mix up.

Pink Tower

if bigger too heavy

of Cylinders.

Colours

Not too many gradations

Isolation of Senses

Blindfolding Separates the Sense of Sight or Touch.

So we isolate the different capacities he has and which ordinary in life remain confused.

Thus we lead him to perceive Science and give him opportunity to hear what he could not in an environment full of noise

Isolation of Stimulus

It is as though we had isolated from the event all properties save one:—

calm.

tone.

touch etc

~~23~~
11

To go forward we often go Back

Example in Grammar - - go back
to Ballen-Frames and Prisms
+ Tower etc

Principle of Material

The ~~children~~ Has a fascinating & interesting thing to be chosen & pleases them above all to move themselves exactly at the same time acquiring something.

– to learn something thus to exact & continued & repeated motors activity.

No Dogma of Presentation

In some things – eg Movable alphabet – we do not give a rule – Enough if not the child gets going – rather from our suggestion or his own or copying other children

Pink Tower

Presentation

Put the cube directly into the middle of the next square without adjusting it afterwards

For –

what is important is that the child should make precisely co-ordinated movements. – So direct into the centre

First cube easy & gets progressively different.

Test for Neuropaths (Paralysis)

Just such a co-ordinated Movement. All person begins to tremble coming near the place. This is then a real difficulty for the child to overcome.

So the child who can regularly place the next block directly in the centre has acquired something else besides accustoming his eyes to the different Dimensions

You will find some days you can do it better than others

Broad Stair

Presentation showing how one is placed next to the other in gradation

Can verify the Exactness of the Material with the little one, placing it so as to make one dimension flush with another.

Long Stair

Always by Sight first – then on carpet.

Long Stair the basis of Arith^c

March 32.

14
26

Cylinders Cubes Long & Broad Stairs

Cylinders

Right size. If much larger could not keep on for a long time.

Must Insist on their sockets with pressure: if not distract attention.

Vary in 1. 2. 3 Dimensions.

This difference is something within the Object which the child must discover.

Presentation

Two things a) Change positions b) Put back

So take out objects mix up put back

Our part has ended — as such — when child takes on. Could probably note in before we have finished No matter. Our purpose is not to put the cylinders in their place: but taught to child intelligence

The more the presentation is natural the better. Must not make exhaordinary gestures

At First - by Eye as Much as Possible

The Stereognostic Ex. at a much later stage

Teach holding by nob. to prevent too much touching. For too much touching would prevent visual exercise. And our purpose is to perfect this visual recognition not to put them in.

So the more we prevent him touching the better

So a) one with 3 fingers

b) one by looking.

Classification of Colours

XVI 3

Presentation

Physical. Classfn

1) To Give the Pure Colours

Order — Give them as Standards of Comparison
need such as points of reference in this multiform world

a) The Three Fundamental. Cs
Red. Yellow. Blue.

b) From these. get by mixing two
Yellow. Orange. Green Violet.

c) Combining these :-
Grey. rose. brown

d) Fusion of all colours - white
Zero of colours - black

Psychological Classfcn. Method

How to observe in the best manner possible?

a) Recognition of Equalities
To recog. equal colours must differ fr. others different.
So mixing & recognising equalities amongst contrasts

This is the first step in this Ordered Observation

b) Recognition of Equalities
- but not amongst a few or contrasting

c) Recognition of Small Differs in The Same things - here colours
fr the lightest to the most 'saturate'

Colour

No stimulus is more attractive to children. Colour. Has marvellous thing in nature which has so great an appeal in life. (Insects + flowers etc) Colour has a vital action in a striking manner Children always choose the most gaudy coloured objects.

Limits of the Sense of Sight

We can know only an octave of colour. Physics tells us of many more such vibrations - ultra violet rays.

Conclusion

We cannot extend our range of vision.
But we can refine our sense within its limits so that we can see more profoundly. Its distinctions + shades —
Thus can we educate this sense.

So we can in practice
a). Learn to distinguish more + more perfectly
b) Construct more + more harmonious combinations

How to Give to Colours

Depends on. a) Value of the Colours in themselves — physically - absolutely
b) Psychological aspect

XV

The Material Scientifically Made

In Psychological Lab.s. scientific instruments are used to test the grade of development - & test the deviation from the normal.-

The same exactitude - if not the same instruments - wh. serve & measure these stages of development could be used as means of development when the child is in these periods in which come & go these successive stages or levels of mental development.

Why should we neglect scientific accuracy when we have a much more important mission than to observe things already established - when - in fact we can make use of it in that period when things have yet to be formed & use ~~them~~ it in such a way as to assist it & perfect it.

Material · Making

There must be a relation between the quantity of material and the possibility of development of the child.

E.g. In chromatic scale – no good putting in more than seven grades. One goes beyond the general possibility of the susceptibility of the child

See Also Size of Material

Long Stair. etc. Moves with the whole body! –

Material Practical

Prisms Longstaff P. Tower

Description & comparisons

XV · 7-8-9

Analysis of Tactile Sense

Touch represents a no of things united.

Can analyse our own S. of Touch as we analyse Movements - and thus brings a new interest.

Tactile sense in the Skin.

Distinguish fr. S. of Pressure. (Basic Sense

Teach to Touch Lightly

[Distinguishing - here as always. The Intellect of the Church.
Separates + makes things clear

XVII

Tactile Sense

Blind man's Buff a unusual game
a "sense of orientation"

The fact of Touching Everything

The habit of an Explorer - unconscious
but a necessary instinct..

In the Home The Explorer

Explains the Going in the Dark
Braces them the older sister who
is afraid of spirits!

Analysis of:- Touch
Basic
Stereognostic.

Also touch by means of frame of hand

The Practical Lesson. XVII 5-7

Technique of Touching

Also Thermic Sense

Touch

Here - as elsewhere - we help him with
to make use to acquire more rapidly & more
orderly manner what he tends naturally
to acquire

The Hand - that organ which brings man
into material touch (contact) with
world."

Touch contrasted with Pressure

Touch itself is difficult to acquire because
we confuse it with pressure. To touch is
to put the finger in very lightest contact with
surface.

And it is this exercise wh. brings this
lightness of touch.

The Montessori Hand

The Preparation - as a Ritual

The usual Preparation a) lightness of t. b) Prepn of Hand

This little Complication before augments & enhances
If one just said "This is rough. This smooth"
wd. not be so exact.

The Importance of Ritual & Ceremony

Then with Eyes ~~Open~~ Shut.

The Explorer

Given this "initiation". If we add to all this the fact that the child is at an age when he tends to explore his environment with touch we can imagine what this key means to him.

The Montessori Hand.

If the child enters freely into this he will touch everything about him; & his hand will become so graceful & light that is hand seen as it" were nothing on the moving of his hand

Sensory Material

Must not forget that though it deals with "sensations" is not primarily a Sense education — it is more a gymnastic for the intellect.

It is to bring order to the medley of confused & innumerable impressions

You can see this order coming
"The sky is blue"
"The plate is a circle"
The table is a rectangle

It is like Crystallisation which goes on forming in order once the process is started

It is the Orientation of the Mind & Whole Child
It is the recognition of directions & limits & order together — instead of vague, endless, tumbling waves!

Isolation of Qualities

[not real isolation – psychological]

We separate dimensions from colour, form from weight, temp from size etc &c

We give to child different objects to cause it to concentrate on each of these qualities

And –

In each quality we continue further in these qualities –

fine shades of discrimination.

and

We go on in this analysis as far as needs of the child require

The Difficulty of Isolating a Quality

for a quality is an abstract idea and objects are concrete realities

We have then to give abstract ideas through concrete objects without teaching or giving any kind of explanation

St. Thomas + Aristotle

by bringing the child's mind in contact with the objects & provoking a reaction – which is

a) muscular

b) psychical. – Intellectus Agens

Psychology of the Cylinders

Three Dimensions + Three Sets.

Surface + Colour all the same

Cylinders all Hidden

Only the little knobs sticking out - Thus only through the performance of an action that we can see inside.

Cylinders same colour - we might have made them yellow + blue etc. - but we eliminate colour. for Colour has nothing to do with the abstractions we wish to make

Form has nothing to do with it - so they are all the same form - equally cylindrical

same height

Knobs are all the same size

So we are left with only one difference a difference in Similitudes -

We have isolated this aspect - thickness which is present as a real fact - real an explanation or an idea

Another Set. Differ in Weight

Third Set in Three Dimensions

Set A. Thin + thick people

B. Tall + short

C. Is Differ between Adults + Children

Only in C. Can we really say - This is Large + This is small-

Series of Things

It is the relationship between the different members of a series. Thus progression wh. brings into prominence the differ. we wish to see

Some general. to Principle of Isolation

To bring into clear evidence one quality we must eliminate all the others. For this we form a series of objects in which one quality varies & the others are unvaried.

The others are (psychologically) eliminated by making them identical — eg all smooth, same colour, same form, same sized tenab.

We give the idea we want thro' through a differential series & show by action the relation of the various objects to one another

Exactitude - its Reason

Not many differ - but differ in a determined way by ½ cm

Do not & cannot explain all this to the child. eg 3 yrs. To you — yes - not to him.

Cannot give him explanations but can & do give him the fact

Explanation may be incomprehensible but the fact is clear

[Superficial and Formal Knowledge]

It is certain you can take him higher with facts than with explanations

Comparison If I present myself to you - I do not need an illustration

Teaching of Dimensions

Attn to Cylinders

The idea of Dimension is given by a graded series. Gradation means a certain relation — i.e. variation — the same variation between any two of the series

Objects Larger & More Imposing
Three Series — Three Dimensions

Long Stair

Their section identical — differ in length only
Are 10. This longest, this shortest. — all thus differ by gradation —
This differ is more difficult in Red rods — as are no markings to help as in Number Rods

Prisms

All the same height. — vary in section by the square.

Cubes Vary in three dimensions — by cubes.

Long Stair Contd.

The Presentation - as usual -

Show to use.

1) Rods are mixed - must be spun enough to scatter them - but not confused
2) Take first rod
3) Find rod which follows
4) See the ends of the Rods come exactly together

We may exaggerate this a little in the attention we give to this point - in getting them to come exactly together so that the child may notice them.

This is all. For the Series themselves now continue the Control of Error.

[Comparison with Cylinders is less control. For the Block was an absolute control - Here instead of the Block we have the action of getting all the buses in the same st. line

It would be useless if we placed the rods / — - as we should not discover the minimal differences.

Corroboration of Sound.

Tapping the rods we get also a regular variation of sound - which is interesting. [Possible apparatus]

Many Possibilities

There are many possibilities of finding out & making of these differences & also the relation of one series to another.

We can imagine a mind which as it grows & develops comes at a more & more complicated view of the differences of these objects

Psychological Order.

1) Pink Tower - because differ most from each other. - In theory wd. be so - in practice, is. To make & unmake the Tower -

sees it at once.

Sees these differences - but cannot express them in terms of mathematics - but can grasp them in a precise way all the same

2) Prisms
3) Long Stair.

Our Aim

Not to make him understand in an abstract way; but have given him an exact fact The child who repeats this exercises is not doing it from a joy in numbers; but because he delights in finding the place of the objects.

Theology. Knowing in Diff Ways

Sensual Geometry.
(without number)

Know the fact of a unit without
its numerical significance.

Geometry Cards

The Child of the World of Touch

means so much more to him than it does to us

of Smells to a Dog

For Example

Geometric Insets

Child makes many mistakes trying to do it visually. but if he feels round it & the socket it becomes easier

Stereognostic Sense

These problems are related No. 8 muscular sense – & represent a very fruitful part of his progress

Little by little the movement increases – and the final result is like a conquest. a complete knowledge of the different forms

Inner Connexions

Froebel's phrase

Sensory Materials

(a) Relations Between Cubes. Prisms. Long Stair

(b) Between a + to Metric System

(c) Between to Various Geometric Forms



etc

(a) The Cylinders common to each series

(e) The Long Stair + the Number Rods

(g) Range + Smooth + Sand paper Letters + Ciphers

(f) Between Number Rods + Short Bead Stair

(g) Between Pink Tower + Number Tower

(h) The Pairing, ~~&~~ Contrasting etc of Colours, Shapes, Bells, etc

(f) Units. Tens Hundreds Thousands in Dec. System

(g) The Cubes + Cubes Spread out.

(h) Secular to Religion + Voice Calling.

a) Silence Game to Visiting Church

b) Numbers + Apostles
Training etc

(c) Not ringing Bells. +
Serving mass

(d) Moving quietly

(i) 1000 Bead Chain and 1000 Cube.

Music

The World of Sound —

[of The World of Color, Touch, etc)

Distinguish: 1) Noises 2) Notes

1) The Sound Boxes

Contrasts: Gradations — Etc as usual

Pairing of Noises

2) Bells

Just Sensorial Exercises — not musical

Contrasting Pairs

More pairs

Gradations

"Sensorial Ed^n. has a relationship to musical ; but is also something apart"

— . — . — .

MUSIC

Music does not exist in M. C.'s Envt

So we must make it.

Music must be simple, rhythmic ; complete musical phrases

Music is given to The Double Purpose

1) Senses

2) Motor

attention by M & C

It is useless to say to the child "Pay attention to the music" – i.e. to a child who never hears music; but if the child is moving this attention will come.

At a later stage can listen to Music as such – as at a concert.

Teacher has to be full of fact. So she plays again & again so that what is lacking in the first may surround the child.

When the child begins to hear of feel the music the Teacher can proceed in a more methodical way. The child perfects itself & T. follows him & uses to higher ends.

We do not give music to assist marching. We give the marching to assist in understanding the music

It is through movement that a tiny undeveloped child can come to understand music quite delicately

① It is by movement that the child appreciates the Rhythm (Mozart. Der Tact ist das Seele der Musik) ② It is through movement that the child's interest is drawn to the music and sustained

[Interest again – this union between the child & the toy. – with profound advantage I

Presentation

In the early stages we can play the music & watch what they do in response. – We merely give the fundamental idea of going along the line (which has already been done for other things)

Captured by the Music

It is not that the child adapts itself to the music; but the music is adapted to the child. It runs after him and captivates him. It is as if the child – having been penetrated by the Rhythm – is captured by it. And the rhythm gives him calm & harmonious movements. And when the two – i.e. the rhythmic movements of the child & the music – are in one accord – then is the child filled with great

joy

Calans

London May 7th.

Previous mat. dealt with quantities
Now we deal with Qualities which have to be appreciated by individual.

Colour Tablets

As usual isolation of the stimulus
same weight, height, length, form etc.

Must be Auto-Education

We can teach nothing regarding colour.
We might teach to read, but that wd. be
to read not to colour

It is the eyes which have to see and distinguish.

We can help in guiding the observation of colours. Present in such a way as to make observation easier

Not Colour But Order in Colours

It is evident to child if 3 yrs recognizes colour. What is lacking is an order in the observation of colours.

It is the help to child's eye to see these distinctions.

Calaurs [Cont.d.] (2)

Perfect Example of Auto-Education

This is one of the clearest proofs that it is not possible to teach everything by word

There are certain refined requirements that the individual can only arrive at by his own work

If we present the things in a psychological order it has the same result as if we had given a lesson - but the result is much greater

Psychological Order of Colours

(1.) Identity. First thing is to recognise equal colours for in this fact of identity there is something absolute

Identity implies Dissimilarity.

To be able to recognise identical colours implies there are other colours not identical to be contrasted.

So if we recognise identity we admit difference between these two and others.

So the Child must Recognise Identity amids diversity. It ~~need~~ wanted be all the easier to recognise this identity of colour if we have around this fact others widely different.

So The Beginnings of Order -
come with Identity +
Contrast.

First colour Ex. with 3 Pairs contrasting.

Can Know Colours without their Names
as in China!

So we do Two Things

(a) Exercises which lead to order, recognition, + distinguishing colours

(b) Colours are distinguished with sameness + exactness - Names

(2.) Gradation - more or less similar.

This refinement no teacher can give after practice. We wonder how we could not distinguish before!

May 8th.

'4'

Touch, Pressure, Stereognostic Sense

Extension is a more absolute, objective, distinction
Colour, Touch - more qualities, internally differentiated

Specially Sensitive Points
Tips of fingers, soles of feet, lips -
Depend on more or less - tactile papillae in skin
[of few in middle of back - except]

Tactile Sense
Rough & Smooth
[Must not be conductors of heat - eg marble]
obviate sensation of temp.
[Montessori a Scientist]

Must have Touch without Pressure
Very lightly - a limit
And so is necessary
To Prepare the Hand
Seems absurd - but is v. practical
If you are called to child st. away might produce a certain amt. of commotion & confusion - hands might be cold, or dirty, or damp - & so less sensitive

So we prepare the Interest in finding this limit. Child is perhaps a little timid. I cannot in the first moment make this delicate matter understood. So I take an indirect way, to calm & sooth & interest the child.

1) Warm water, dry, massage slightly.
Then hold the child's hand - very lightly - must learn to hold the hand suspended with real delicacy p.t.o

Must be the individual preparation wh. leads to the perception.

This preparation - is a collection of facts which renders interest more acute - It is a kind of inclination into the act of feeling

Exercise (1) Rough & Smooth a+ +b
(2) The various stuffs - matching them

Sensation of Pressure - Basic Sense
wooden tablets
1) Contrasting
2) More similar
Pt. to Observe
To keep the hands still -

Stereognostic Sense
Here Touch combined with Movement
Made by Strained Muscles.
And we feel the movement

So we can work with the rods etc
The factors are:-
a) Touch
b) Movement
c) Feeling of the movement -
d) A memory of the movement

So I can learn by heart the length of the rods in my muscles

Similarly with Cubes & Prisms and Cylinders

And a Movement Repeated becomes mechanical
of the letters of the alphabet

In our Method we make a special use & consideration of the Stereognostic Sense. musicular sense assisting the sense of touch.

Children & the Tactile Sense

In general the feel of things means a lot to children. Eg. Attraction to statues –
[the (1) statue of the Devil & holy water in San Giovanni Laterano & the little children]
(2) The children at the Station at Ford touching round the letters of the board.
(3). Children touching the fathers scrubby face

The Tactile Sense is the Vanguard

to a) Pressure
b) Stereognosis
(c) Temp.

"Don't Touch Tommy!"

Cylinders XIV. 8

To help in gaining the idea of Dimensions must be by "abstraction" – because you cannot have objects without all 3 Dimensions

See in them these Principles.

1). We give something the child could not find by itself. –
2) Prepared with scientific accuracy –
3). All the objects are the same except they vary in one detail or quality. – the one to be brought out i.e. isolation of the particular stimulus or quality
4) This gradation in these differences is the part that interests & fascinates & keeps the attention.
5) A means of experiment & not of study.
6) Means of Repetition.
7) — of Recurrent movement wh. is necessary
8) Control of Error – which – –
9) Liberates child from the adult interference
10) Causes an Inner Work –
    not only the differences in the objects –
    but problems to solve
    An intimate inner work of wh. we see only the external manifestations
11) Loses touch with External world – as if it had lost the faculty to perceive. (Only comes w. right envt)
12) Effect on Character – calm, serene, joyous. disciplined – bearing him to
13 Interior personality strongly bound in one inner Unity

Stereognostic Sense

a more profound sense, more general.
Sense of movement. Enters v. largely into
all our actions. e.g. eating in the dark
Muscular memory

Re-do the Cubes, cylinders, Long Stair etc
on a different plane

Blind do not see by Touch
but by Stereognostic Sense

This becomes a Work of the Mind —
of reasoning.

XXI

Psychology of Sensorial Material

Geometry The Usual Remark. - - "The children have already had many impressions & what we do is nothing more than to give them an aid to putting them in order & having a clearer perception of them.

Manner of Presenting the Material

As usual - in a form to manipulate - so united one to the other that they can be placed & replaced. - from an Orderly position

Taking them out they appear in pairs

First contrasting pairs -

Also the objects are Solids -

Here again we have Movement united to Vision not just vision alone.

Geometrical Material the most advanced of sensorial material. -

A Movement of Perfection United to the touching the contours of inset & socket.

Montessori S. Material

Is as it were the Key of the Universe

"Open locks whoever knocks"

This material gives in itself various classifications of phenomena in the universe. (size, colour, sounds, ~~etc~~ forms,) & gives the children the unique possibility of studying these through movement, & of observing them more clearly.

Tea in kitchen
if you don't mind
brewing for yourself
M. L.

Geometry Sensonal

Usual Remark... order & better observation.
see Psychology

Geometric Figures in Envt

Are found v. largely & in general are united to the work of man. Everywhere we see them. not natural – but human! – houses, plates, cycles etc.

Criticism?

Why give Geom. to young children?
A Priori would be a sympathy & curiosity between the child & the works of man – works so near to him

Names of Polygons

Seems strange to give the names to these figs. of wh. the child cannot even count the sides!
But this is also a S.P. in which names enter the ear & make an impression

Muscular Sense

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Combine Touch & Movement

The Muscular Sense. is the sense of a movement which has been accomplished

E.g. Putting arm to mouth in dark.

Som Geometry We Unite
a) Touch
b) Muscular sense.

This motor-memory is the strongest memory in the child — and because of this it learns more easily by Touching than by Sight

For he remembers the movement he has made more easily than by seeing.

He even remembers & recognizes more easily by Touching than by seeing!

Thus instinctively if he comes on a difficulty or a complication he returns to this muscular sense

Every movement leaves a trace in the child — a memory — so there is this vast region of Life in this sensorial field (cf the Greek Love of Beauty of Form & Action. Therefore Every movement represents an inner sensation

cf Dancing!

Following Nature - Touch

Child shows us the Need for the Touching
Spontaneously closes eyes to do

Fingers raised a Gummed Outline
and even the slightly raised line made by the ink on the figures.
So these Things which seemed to us absolutely in the usual order the children make concrete and tactile

[Again Adult & Child Cause]

This shows us a Need not Realized.
The fact that the child's hands touch all these objects made for sight recalls our attention & leads us to utilize this great power of sight and faculty

The Blind are given the opportunity to develope it; but we see this tendency in all normal children.

Not Only Neglected But Prevented it
Even confused this Touching with Immorality!
The good child who doesn't touch things

If we voluntarily attract the attention of the small child to this sense it will help him to develope more rapidly

Example of Muscular Memory

Tieing Our Ties

It is more a matter of ~~sight~~ touch & muscular memory than sight

Example

Trying to Tie a Cravat on another person — have to stand beyond him! for it is the muscular impression which is the vital thing

This Brings the Fascination & doing it with eyes closed

Example Games. recognizing a persons face with a spoon & eyes closed.

So The Geom Mat. combines
a) Sight
b) Stereoscopic impression
[cf Sand Paper Alphabets]

The important thing is to remember the Different Mental Habit — Horizon — Capabilities of the small child.

To become as little children to enter this field. — at least in imagination.

So we lead him in a path in which he will go more quickly.

We are uniting to Senses Faculties Already Educated (a) Touch (b) Movement.

So advances much quicker than ~~if~~ Sight alone.