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SECTION 1: SENSORIAL PRESENTATIONS - INTRODUCTION

Children are first fascinated with a sensorial study of musical sound when they enter a Casa Dei Bambini. Later, they wish to know the names of the sounds and how to express them with graphic symbols, etc. Their desire to study music flows from their sensorial experience and follows the natural progression of human development which is experience, followed by naming, followed by graphic representation. This progression begins anew with each level of sensorial experience.

The musical experiences described in section 1 begin with an introduction to the proper handling of the material, followed by sensorial experiences of matching, grading and naming the bells. In addition, the convention that musical keyboards have lower sounds to the left and higher sounds to the right is demonstrated as part of the attachment of the language, “low sounds” and “high sounds.” This is expanded to include high, higher, highest, and low, lower, lowest in the same manner as language used with the other sensorial materials.

Children are given the opportunity to act out “high” and “low,” as well as, going “up” and “down” the scale with whole body movement. Other examples of this acting out in Montessori include the movement involved with the addition, subtraction, multiplication and division operations with the golden beads, commands and interpretive reading, and the acting out of the phrases and sentences in the grammar box work.

Children also are given the opportunity to sing with the bells, to play extemporaneously, and to play known melodies on the bells by ear. Pleasure in the production of music is an important component in children’s early musical experience.

The bells may be introduced in the Casa Dei Bambini as soon as a child has gained sufficient control of movement to handle the material carefully and successfully. Ideally, this is when work with the bells begins. However, many children enter the elementary class without experience with the bells. They may go through these exercises quickly, including the reading of musical notation. This gives them the necessary preparation for work with the tone bars.

The bells also provide elementary children with the pleasure of musical production. Like any other material in the class, the elementary child must handle the bells carefully and respectfully.
SECTION 1: SENSORIAL PRESENTATIONS - INTRODUCTION

General Comments on the Materials:
In addition to providing a sensorial means for children to increase the acuity of their auditory perceptions, the bells are a beautiful musical instrument in their own right. In order to respect and preserve them, they need to be handled carefully at all times. When working with the bells, one’s hands should never touch the metal. The bells may be cleaned with a barely damp cloth. Polish will harm the finish on the bells and so should be avoided. Activities with magnets should not involve the bells.

Place the cabinet so the bells cannot be seen or played from the wrong side. The visual impression of the spacing of the bells (1 2 3 4 5 6 7 8) should always be seen from the front. It is the pattern of the major scale and should be visually absorbed just as the regular increase/decrease in the gradation of the Pink Tower is visually absorbed. (see Fig. 1)

![Diagram of bell spacing and keyboard]

If the bells are to be used to provide music for movement on the line exercises, then the bell cabinet should be placed in the room so that the entire line may be seen by the person who is playing the bells.

Place the green keyboards so that the white and black spaces are in the front. There should be no green space between them.

The white bells are the controls and, with one exception, remain at the rear of the two green keyboards which are marked with the black and white spaces. The white bells are placed behind the white spaces, not on them.

Do not affix note names on the bases of the bells where they can be seen because this eliminates the possibility of doing the exercises in the most abstract manner when the children are reading and composing music. A set of white discs with the note names may be placed in front of the bells whenever the children choose to aid their recognition of the names of the pitches produced by the bells.

The bells are stored and, with only a few exceptions, used on the bell cabinet.

A mallet with a firm rubber head will give a better sound than a hard, wooden mallet.

Correct terminology:
• Bell
• Mallet (the object used to strike the bell)
• Damper (the object used to stop the tone of the bell)

Children are to play the bells standing up. In the first presentation below, the adult may have to kneel so that the child’s first introduction to playing a bell will show that the arm holding the mallet should be parallel to the floor.
BELL MATERIALS: (for all exercises contained in this book)

- 8 white bells with 8 matching brown bells
- 5 black bells with 5 matching brown bells
- 2 keyboards on which the bells rest
- bell cabinet
- 3 mallets
- 2 dampers

*regular bell material

This reference is used in the material lists for the presentations which follow. The usual setup on the bell cabinet is as pictured (see Fig. 1), which includes:

- 2 keyboards positioned with the white and black spaces in the front.
- 8 white bells behind the white spaces.
- 8 brown bells on the white spaces

After anyone in the class has been introduced to the black bells, then the regular bell material includes: (see Fig. 2)

- 5 black bells behind the black spaces

The 5 brown bells which match the 5 black bells are kept on a shelf of the bell cabinet.

MATERIAL FOR WRITING AND READING MUSIC:

- numbered staff board
- 2 lined staff boards
- musical symbols and notes:
  - G-clef
  - eight black discs with numbers on one side and note names on the other side
  - 40 white discs with note names
  - plain black discs
  - ledger lines (teacher made strips of black construction paper)

- C-major scale card material:
  - major scale pattern cards with control strip
  - parts of the staff nomenclature cards
  - C-major scale matching cards with control strip
  - C-major scale nomenclature cards
  - C-major scale grading cards with control strip
  - C-major scale description cards
Section 1. Sensorial Presentations

HOW TO CARRY AND STRIKE A BELL

MATERIAL: Regular bell set up

PURPOSE/AIM: To help child focus on one sound. To show the best way to obtain a clear tone.

PRESENTATION 1: For an individual child

Invite a child and go to the bell table.

"These are the bells. There is a very special way of handling this material. I will show you how to carry a bell and how to play it."

Select a brown bell, preferably the third or fourth. Pick it up and carry it precisely with one hand under the base and the fingers of the other hand holding the stem. (see Fig. 3) Carry it to a table. Set it down carefully so that there is no noise when the bell meets the table.

With the child, go back to the bell cabinet. Pick up a mallet.

"This is a mallet."

Carry the mallet with the head cradled in the palm of one hand while the fingers of the other hand hold the opposite end of the mallet (see Fig. 4). Walk over to the isolated bell on the table.

The mallet is held in a suspended position by the same fingers used to hold a pencil (thumb and first two fingers). The mallet should be able to swing freely, like the clapper or tongue of a bell. (see Fig. 5)

"Watch." Point to the rim of the bell. (See Fig. 6) Strike the rim. Keep listening until the sound can no longer be heard.

"Listen." Strike and listen.

"Listen until you cannot hear it anymore." Strike and listen.

Invite the child to strike the bell with the mallet.

If the child has any problem with the procedure say, "It's my turn again." Then in your demonstration emphasize the part which gave the child difficulty.

When the child is reasonably successful, leave the child and observe from a distance.

When finished, the child returns the bell and mallet to the bell cabinet one at a time. Assist the child if necessary.

NOTES:

The child may now take any of the brown bells for their exploration. Eventually the child should have struck all of the brown bells.

In the elementary class it is important to do this at least once. Children may use the material only if they handle it properly.
PRESENTATION 2:
Select a brown bell
Carry it to a table
Go back to the bell cabinet for the mallet and damper

“This is a damper. We are going to use it to stop the sound of the bell. Watch.”

Strike the bell with the mallet.
Listen to the sound.

Stop the sound with the damper by pressing the felt end of the damper to the lower edge of the rim of the bell.
Invite the child to have a turn.

“It will sometimes happen in a class that a little child will take a bell at random and carry it off to his place, where he will listen to its sound with great pleasure. When you have the bells at your disposal, you will find that there is great pleasure derived from listening to a single tone until it dies away; the mode in which it diminishes in volume from loud to soft is full of beauty. One has very little opportunity of appreciating diminution in volume in a piano on which a tune is being played because the notes follow one another in more or less rapid succession, and one would need a very good instrument in order to be able to hear this diminishing sound. So when you see a child carrying off one of these bells leave him free to do so. An exercise which may be considered as amongst the first is the simple striking of the bells in order to learn how to do so correctly. There are many ways of doing this. By striking them in different ways, one can get more or less tone. If you hold the hammer lightly and loosely like the tongue of a bell, and hit the bell softly, you will get a much clearer tone than by striking too hard…”

Anna Maccheroni, unpublished lectures, 1920, London

FURTHER ACTIVITIES:
Singing Softly - Singing Dictation
Play a bell. Stop the tone with the damper. Sing the pitch on “ah” or “la”. Children sing it.

“The tone of the bell, which is soft and gentle, is an admirable accompaniment to the sound of the child’s voice. The children begin to sing a prolonged note on the vowel sound ‘O’. It is a simple exercise but the children enjoy it very much, and they hum or sing very softly. It is sufficient for the teacher merely to begin and immediately three or four children will form a group and do it with her. To sing softly is really an individual lesson, but it is usually such a success that it ends by being a collective lesson. For instance, if one obtains absolute silence, and then strikes the bells gently, accompanying them in a soft voice, the children are fascinated; and in a large class, there will always be found children who are ready for the exercise and who do it and display their ability. These children show the way to the others, who begin by listening. If this exercise is carried out a little every day, one very soon has the whole class in a condition to follow this singing exactly.”

Anna Maccheroni, unpublished lectures, 1921, London

NOTES:

Never force a child to sing alone. Never tell a child not to sing because of singing off key. Sometimes it is a matter that they are just not conscious yet or they do not as yet have control of the appropriate throat muscles. Telling a child not to sing, especially in a school performance, could cause permanent damage to self esteem and/or self confidence. It is important to avoid negative opinions or statements that could result in self fulfilling prophecies. How a school deals with this issue is a good indication of the philosophy of the school - does it exist for its own reputation or for the sake of children.

Once a child is able to carry and strike a bell properly, he or she may play all eight brown bells on the bell cabinet. This should lead to an exploration of the medium which could lead to:

- Extemporaneous playing - much of the world plays music in this manner. In this type of playing a given theme is developed spontaneously. With the exception of jazz, a performer of Western Music generally plays exactly what someone else has written. An example of extemporeous music is Ravi Shankar playing a Raga on his Sitar.
- Playing known melodies on the bells by ear. It is important to develop a repertoire of songs which have simple melodies so the children will have some easy melodies to play on the bells.
- Child’s own melodic composition.
MATCHING

MATERIAL: Regular bell setup

PREREQUISITE: How to strike and carry

PURPOSE/AIM:
- To match the pitches of the bells
- To develop memory of the pitches
- To develop the ability to hold a sound in one’s head
  (to hear music in one’s head)

PRESENTATION: For an individual child or small group

Check the bells by playing up the brown bells and down the white
bells. (All presentations from now on begin this way.)

Take 3 contrasting bells, widely spaced (but not the lowest bell
and the highest bell) and place in reverse order in front of the bells
at the right end of the bell setup. For example, take the first, or
lowest, brown bell and place it in front of the highest brown bell
on the bell cabinet. Take the forth brown bell and place it just to
the left of the first bell which was moved. Take the sixth bell and
place it to the left of the second bell that was moved. The bases
of all three of these bells should be touching. (see Fig. 7)

Strike the lowest white bell first, then the first brown bell (the bell
on the left in the row of three bells). It should not be a match.
Shake your head to indicate that it is not a match, but do not talk.
Move that brown bell slightly to the left. (see Fig. 8) Strike the
white bell again, then the next brown bell. It still should not be
a match. Shake your head to indicate no again. Move that brown
bell slightly to the left. Strike the white bell again, then the next
brown bell. It should be a match. Shake your head to indicate
yes. Pick it up with both hands and place it in front of the white
space. (see Fig. 9)

Repeat this process for the fourth bell and then for the sixth bell.

When all three pairs of bells have been matched and are sitting in
front of their white spaces, check each match by striking the white
bell and the brown bell matched to it. If they match, move the
brown bell onto its white space. Then check by playing up the brown
bells and down the white bells.

Take out three bells and invite the child to match them.

The child can increase the number of bells used. If, after a lot of
practice with the bells, the child doesn't increase the number of
bells used, you can suggest it.

NOTE: Since the focus of this presentation should be on the sound
of the bells, it is important that the sound of the human voice not
intrude because it would divert the child’s focus from the sound of
the bells.

It is important to set up the exercise so a match is not found on the
first try because that would make it difficult for the child to see the
point of the exercise.
GAMES FOR MATCHING:
In the first set of four games, the brown bells are placed at random on a far table along with a mallet and damper (see Fig. 11). There is also a mallet and damper on the bell cabinet. Pull a white bell slightly forward in the bell setup on the bell cabinet (see Fig. 12). Play the white bell. Leave the mallet and damper at the bell cabinet and then walk across the room to the brown bells and find the match. Leave the mallet and damper on the table and use two hands to carry the bell back to the bell cabinet. Test to see if the correct bell was selected. If it is not, carry it back to the table and try again. When a correct match is found, select a different white bell and continue as before until all the white and brown bells are matched. The four variations are designed to increase the difficulty:

1. Play the white bell, then walk directly to the brown bells and match right away.
2. Play the white bell, walk around the room and then walk to the brown bells.
3. Play the white bell, have a short conversation, then walk to the brown bells.
4. Play the white bell, then quickly play all the other white bells, then walk to the brown bells.

In the second set of four games the procedure is the same as above except that the brown bells are scattered around the room.

Another game is for six to sixteen children. Half of them take a brown bell from the bell table, the other half take the corresponding white bells. (This is the only time that white bells are taken from their place on the bell cabinet.) The children make two lines which face each other. The children in one line hold brown bells, the children in the other line hold white bells. The adult plays the first white bell in the line and then the first brown bell in the line. Everyone shakes their heads to indicate that it is or is not a match. If it is a match, the two children stand together facing the other children. The children who have found a match now become the official "judges" for the matching. If it is not a match, the adult plays the first white bell again and then the second brown bell in the line. Continue in this manner until a match is found. When the first match is found, the adult goes back to the beginning of the two lines and begins with the next white bell. Proceed as before until all of the matches are found. With an odd number of children, one of them could serve as the person who strikes the bells.

FURTHER STEPS:
After the child can successfully match the bells, the names of the bells can be presented using a three period lesson. See Name Lessons With The Bells (page 16). After the sharps and flats have been introduced, all of the above may be done with all thirteen pairs of bells. When doing the exercises with all thirteen pairs, the children will eventually hear all of the possible intervals in Western music. See the next book in this series for a presentation of sharps and flats.
ESTABLISHING UP AND DOWN
There is nothing about the visual appearance of the bell material that automatically indicates which way to play in order to progress up and down the scale. This very quick little demonstration may be shown to any child who can successfully strike and carry a bell. After checking the bells simply play the ascending scale (on the brown bells which match the white bells) and say,

“This is going up the scale. The sounds get higher.”
Play the descending scale and then say,

“This is going down the scale. The sounds get lower.”
The child may be invited to play the ascending and descending scale. A three period lesson may be used as necessary.

MOVEMENT GAMES:
This activity lends itself to movement on the part of the children. They may mark places in the air with their hands to show the movement of the music. They may also show the direction the music moves with whole body movement in the following manner. The participants hold onto the back of a chair and begin in a squatting position. As the music ascends, the children raise themselves. As the music descends, the children lower themselves. For an added challenge, they may turn around so they cannot see the direction the person is playing on the bells; however, it is all right if they peek. Eventually they will need only the auditory clue.

These are activities which the children may choose to do without an adult playing the bells for them.

SINGING WITH THE SCALE:
Children may also sing with the scale. As the scale is played (ascending and then descending) the children may do the following:
1. sing “ah” or “la” on each note of the scale as in the manner of the lesson on singing softly. See How To Strike and Carry a Bell: Further Activities (page 7)
2. sing vowel or consonant sounds on each note of the scale
3. sing the name of a child on each note of the scale
4. sing a verse of poetry on each note of the scale

For an echo effect, the children may sing loudly on the first note of the scale and then repeat it softly. Do the same for each note of the scale in turn. An even more difficult way to do this is to sing in a loud, medium and soft manner on each note of the scale. Antiphonal singing alternates the notes of the ascending and descending scales with two groups of children. There are several possible ways to do antiphonal singing:
1. one group sings the first note of the scale, the other group sings the next note of the scale, etc.
2. one group sings the first two notes of the scale, the other group sings the next two notes of the scale, etc.
3. one group sings the first four notes of the scale, the other group sings the next four notes of the scale, etc.

"The child needs to be charmed in every way, by the glance as well as by the pose. The teacher who, bending toward them, gathering them about her and LEAVING THEM FREE TO STAY OR GO, touches the chords (on the piano ed.), in a simple rhythm, puts herself in communication with them, in relation to their very souls. So much the better if this touch can be accompanied by her voice, and the children left free to follow her, NO ONE BEING OBLIGED TO SING."

Maria Montessori, The Montessori Method, p.207
HIGH AND LOW EXERCISE

This vocabulary lesson may be given to any child or small group of children who understand going up and down the scale.

After checking the bells and ascertaining that there is knowledge of ascending and descending scales, choose a low bell and a high bell. Usually the first and seventh bells - c and b - are used in the first presentation as this is the widest possible contrast in the bells material. The first and eighth bells - c and c' - do not provide a good contrast because the eighth bell is the first "overtone" that sounds when the lower c is played.

Move the two bells onto the bell table in front of their white spaces. (see Fig. 13) Strike the low bell, listen, stop the tone of the bell with the damper and then say (or sing on the pitch)

"This is a low bell!"

Introduce the high bell in the same manner. Use a three period lesson as necessary.

Later, invite the children to close their eyes or turn around so they cannot see which bell is being played. Again, it really doesn't matter if they peek.

Further work could include introducing the positive, comparative and superlative degree (high, higher, highest, low, lower, lowest) in the same manner as is done with other sensorial material.

MOVEMENT GAME:

This activity also lends itself to movement on the part of the children. They can pretend to pick fruit. Choose a fruit that grows high on a tree, such as apples, for the high sound, and a fruit that grows low to the ground, such as strawberries, for the low sound. When the children hear a high sound, they pretend to pick apples. When they hear a low sound, they pretend to pick strawberries. Later a fruit that grows about waist high may be added for a middle sound.

OTHER ACTIVITIES:

The children may also speak in high voices and low voices. They may listen to hear who has the highest or lowest voice in the group.

The idea of highest or lowest may also be used with songs that the children sing. They may listen for the highest or lowest note in a song and raise their hand when they hear it. They could sing everything except the highest or lowest note in a song.

Fig. 13 Bells Selected For The High And Low Exercise.
GRADING

MATERIAL: Regular bell setup

PREREQUISITE: Matching

PREPARATION: Hearing the check everytime anyone uses the bells
Singing with the scale

PURPOSE/AIM: To grade the bells.

PRESENTATION 1: For an individual child

Check the bells. Mix the brown bells in front of the keyboards (see Fig. 14).

Find the first two bells in the scale by matching. (c and d) Then play c, d, and the first bell in the line in front of the keyboards. If it is the third bell in the scale, put it in its place on the appropriate white space on the keyboard (see Fig. 15). If it is not the correct bell, move it slightly to the left (see Fig. 16). Play c, d, skip the bell which was moved, and play the next bell. Continue in this manner until the third bell in the scale is found. The remaining brown bells are then moved back to the right. (see Fig. 17)

Play the first three bells and the next bell in the line. Use the same procedure as above to find the fourth bell, etc.

PRESENTATION 2:

Find only the first bell in the scale by matching (c) and then proceed as above.

PRESENTATION 3: Grading by Comparison

Mix the brown bells on a table and place them in a line. Put the first bell in front of the second bell. (see Fig. 18) Play them both. Keep the lower one and move it in front of the third bell. (see Fig. 19) Play them both and keep the lower one. Continue in this manner until the end of the line is reached. (see Fig. 20) The last bell selected should be the lowest one of all. Place it on the lowest white space on the bell cabinet. (see Fig. 21) Do not check it with the corresponding white bell.

Repeat the procedure to find the next lowest bell. Continue in this manner until all of the brown bells are on the bell cabinet.

Play up the brown bells to see if they have been correctly graded.
"The next step is for the child to distinguish differences, and at the same time, gradations of stimuli (like the exercises with the color charts, hearing, etc.) in this case the child mixes at random the eight bells, all of the same size, which give the whole tones of the scale. He is to find do, then re, and so on through the octave one note after the other, placing the bells in order in their proper places."

Maria Montessori, The Montessori Elementary Material, page 365