Introduction to Cultural Extensions

In Montessori early childhood education, we use the term ‘cultural extensions’ to refer to information and knowledge which has been gathered and developed by humans as part of the supra-nature or built environment. This is the environment which humans have built onto the environment of nature. It is the domain of human culture; its knowledge and information is communicated through cultural transmission across societies and across generations. In other words, this information has to be learned – from one human to another.

What we call the cultural extensions are typically taught as subjects in conventional education – subjects such as biology (botany and zoology), geography, music, art, history, mathematics and science. These subjects represent information which humans have abstracted out of their experiences and built into the supra-nature. They represent patterns of culture. In the First Plane of Development, the Absorbent Mind observes and generalizes these patterns comprehensively – without question or judgment. They form a great part of the child’s cultural adaptation. Access to these patterns of information and knowledge is necessary for the universal child to become a well-adapted person of a particular time and place.

In the Montessori Casa, we do not teach these subjects. Instead, our goal is to assist this cultural adaptation. We do this in two steps aligned with our precept ‘Experience precedes Language’:

**Step 1:** we create experiences through which the First Plane learner can access the information of these cultural subjects through concrete, sensorial exploration

**Step 2:** we give the child accurate and specific language which names what has been experienced and explored

We meet many of these extensions or ‘subjects’ as *experiences* in the various areas of the Casa: Art in the context of Practical Life as well as through images and story; Geography through images as well as Sensorial Globes, Maps and Land and Water Forms; Botany and Zoology through the plants and animals found in the indoor and outdoor environments. Leaf shapes are materialized in the Sensorial Botany Cabinet; Music, through the communal experiences of singing and story, as well as extended discoveries with the Sensorial Bells. Mathematics has its own area. History is absorbed through story and through the structures of time in everyday life; while Science is ever present in the sequences, discoveries and natural consequences of both practical and sensorial activities. For all of these subjects, we mindfully craft experiences which match the developmental goals of the Human Tendencies and Sensitive Periods, as well as the Absorbent Mind.

There are two guiding principles to keep in mind when providing these experiences:

**First Principle:** we start with ‘the whole’ and then examine “the parts”.

**Second Principle:** when introducing something new, we build on what the child already knows.
For example: in Geography, we begin ‘the whole’ by presenting the globes; and then examine ‘the parts’, by introducing puzzle maps for the continents, then for each continent, then for the child’s home country. We build on what the child already knows by moving from experiences of ‘rough’ and ‘smooth’ in Sensorial, to Land and Water as materialized on the Sandpaper Globe. Likewise, in Botany we begin with the parts of the plant then parts of the leaf, parts of the root, parts of the flower, etc.

Then – enter language, the lens through which we focus all of this interesting exploration and discovery. We use all of the activities of the Language Area to extend and support these concrete, sensorial experiences and transform them into fixed abstractions in the child’s mind – abstractions which can be accurately named, conversationally described, and securely integrated into an emergent, orderly intellect.

Everything we know about the activities for Spoken and Written Language is ready to be applied to whatever subject sparks interest, stimulates activity, and feeds a child’s hunger for the patterns and elements of the cultural world. Conversation, True Stories, Poetry, Songs and read-aloud Books; Questions Games and Command Games; Three Period Lessons for the Vocabulary of attractive and intriguing collections of classified Picture Cards as well as the objects and beings in our environments; writing and reading known words and information – all are available everyday to support the natural and joyful transmission of culture to each child in our care.

The Guide’s Work

Our first responsibility is to embrace these subjects as experiences we weave into everyday life in the Casa – whether through specific manufactured manipulatives, teacher-made materials, or the more ephemeral connections of picture and story. We keep each of these subjects clearly in mind as we plan and prepare individual and group lessons, the furnishings and artifacts of our environment, the stories we tell, and the visitors we invite.

Secondly, we organize all of this cultural information: classifications will be our indispensable tool – keeping information simple and accessible for the first plane mind; familiar progressions of activity will give us direction – building new experiences onto familiar ones and working from very general information to very specific information.

Simultaneously, we observe for existing interests among the children and use these interests as our ‘hook’ to first connect children to a subject and then guide that interest into concentrated engagement. And we remember that by building on existing interests we can set the stage for new interests – creating precedents in the mind that translate into readiness for new, more challenging levels of engagement.

And we commit to providing a variety of cultural extensions for children of each age and experience level in the Casa. We offer these activities to different children according to interest and readiness, cultivating experts in the group who become the true transmitters of culture within the community of the Casa.
A new Montessori teacher can start by building these cultural extensions according to his/her own levels of knowledge and interest: organize and share what you already know and love. Then choose some subject you would like to know more about – do a little research, explore how to create some experiences for exploration, generate any needed materials, and solidify the language for yourself – then launch your new interest into the culture of your group. Increase your confidence through these successes, develop some processes for easily and efficiently incorporating new experiences, and create your own patterns of culture as you cycle subjects through the environment every year.

Through our planning, preparation, organization, observation and commitment, we offer absolute support for each child’s successful adaptation to the culture of this time and place. But we also offer another gift to the children in the Casa: we help each child lay a secure foundation for Cosmic Education, a foundation in their own experiences and in their own minds for the future study of these subjects – not as isolated, compartmentalized and tedious collections of facts but as vital, dynamic and holistic explorations directed by the reasoning, imaginative mind of the Second Plane and beyond.

**The Clock and the Calendar**

What humans call “time” is an experience grounded in the concrete sensorial world of nature, in observable patterns of natural phenomena. Humans perceive and identify these natural patterns through their body-based senses (sight, touch, hearing, smell and taste) and then – through their powers of reason and imagination – organize these perceived patterns into a mathematical system in the built environment of the supra-nature: concrete, sensorial experiences become abstractions held solely in the mind; the abstractions themselves are then named, systematized and manipulated in the mind to have a particular effect in the world. Knowledge and understanding of the patterns we call time are enhanced through progressive advances in technology – technology which extends sensorial perception beyond our immediate ‘grasp’. New knowledge and understanding inform and enhance our abstractions of time, refine human interaction with the natural phenomena called time, and stimulate more complex imaginative speculation about the implications of the phenomena of time. Different groups of humans create different systems for accommodating the patterns called time, systems based on their level of knowledge and understanding. These systems are managed and transmitted as patterns of culture.

On an everyday basis, a culture's abstracted system of time is more immediate to its members than the concrete sensorial perceptions which ground that system. Functional awareness of time, then, is a matter of culture; systems for interpreting and managing time vary from culture to culture; and cultural transmission is necessary for an individual to operate successfully according to a particular culture’s system of time.

These reflections confirm that time is a cultural subject, linked to other scientific or cultural subjects which are enthusiastically explored by the reasoning and imaginative mind from the Second Plane of Development onwards. Its place in the First Plane of Development is the same as all of those Cultural Subjects which humans have abstracted into the supra-nature out of perceived natural phenomena – as patterns of culture comprehensively and unquestioningly observed and generalized by the Absorbent
Mind; as an expression of the habitual patterns of human activity in a particular culture; as an expression of what Montessori called the “mathematical part” of culture, which forms the shape and content of a child’s cultural adaptation. Montessori describes this in *The Absorbent Mind* chapter ‘Further Elaborations through Culture’, in which she reflects on the Mathematical Mind in the First Plane and which includes the following thoughts:

> The child absorbs … from the world about him the distinctive patterns to which the social life of his group conforms. ... He absorbs the basic or summarized part, the precise part, which ... is repeated in the habitual life of the people. He absorbs in short, the mathematical part. And once the patterns have become established within him, they remain as fixed characters, just like his mother tongue.  (p.189)

From birth, reference to time is inescapable in the child’s life. By the time a child joins the Children’s House, the process Montessori describes is well underway: the child’s senses have been alive to the perception of natural phenomena which ‘create’ time; and the child’s mathematical mind has been alive to the systematization of time embedded in the ‘habitual life’ of her people. In terms of time, our role as guides for the last years of the First Plane is the same as for all other sensorial and cultural impressions a child has been absorbing: to offer systematic help as the child refines and perfects the abstractions she creates out of her life experiences; and to support her relentless effort to create a precise and accurate organization out of the sensational chaos her world provides.

Our goal for Time, then, is the same as our goal for Botany, Zoology, Geography, Music, Art and any other subject organized as human knowledge in the supra-nature: to provide a systematic guide for cultural transmission and establish an accurate and reliable basis for aware, deliberate study after the First Plane. We meet this goal – we provide systematic help and support best – through concrete experience connected with spoken language.

Therefore, any work we offer related to time – to clocks or calendars – is offered through open-ended, crystallizing activities of Language.

**Time-based Vocabulary to clarify** (as codified in a particular culture)
- darkness; light ... day; night ... today; yesterday; tomorrow ...
- day; week; month; year ... spring; summer; autumn / fall; winter
- names of the days of the week and their conventional order
- names of the months of the year and their conventional order
- next; last; first; before; after ...
- hour; minute; second ...
- numbers: ‘one’ through ‘sixty’
- terms: one-half / half; one-quarter / quarter

**Techniques** – Experience of this vocabulary in context
- Accurate use of vocabulary as modeled by adults in the environment
- True Stories / Conversation / Stories from books / Poetry / Songs / Question Games
Three Period Lessons with relevant objects
Mathematics Group 1: Number One – Ten
Mathematics Group 3: Teens; Tens
Mathematics Group 6: Fractions
(Roman Numerals)

**Example: Reading a Clock**  [Similar Activities can be created for Reading a Calendar]

**Material**  A Working Analog Clock with
- hour, minute, second hands moving with precision
- numerals as used in the dominant culture
- marks for minutes / seconds

This clock hangs at child height as part of the environment; it can be easily removed for exploration
- Three Period Lesson: ‘hour hand’ ‘minute hand’ ‘second hand’
- Observation of the Second Hand moving
- Counting the Seconds in a Minute
- Observation of the Minute Hand moving
- Stillness (connects with the Silence Game): How long is a minute / How long are five minutes, etc
- Five Year Olds and older: how long / how many (e.g., how many math facts problems solved in 5 minutes)

When a child knows the concepts of Numbers One to Ten; Teens; Tens
- The Numbers that Designate the Hours
- The Numbers that Designate the Minutes between Hours
- Filling in the numbers not shown on the Clock
- Naming a Particular Time Shown on the Clock

When a child knows these clock concepts
- Compare with a Digital Clock – digital display of numerals reflects this time on the analog clock

When a child knows the concepts of Fractions
- Alternate terms: quarter past / half past / quarter ‘till
Activities for Experiencing Difference  
For Children Ages 3-6 in a Montessori Children’s House

The child in the first plane (ages 0-6) is a **concrete sensorial learner** who gains new knowledge through direct experience. Children of this age absorb culture through specific experiences in the environment and from observation of the habitual behaviors of the people around them. These specific experiences and observations are spontaneously organized by the Absorbent Mind into patterns of behaviors, attitudes and beliefs, without judgment or discrimination, then generalized into abstractions which define how to be a person of this particular time and place.

**Language** is not sufficient to bring new knowledge and experience to children of this age. Remember: our guideline for language is ‘experience precedes language’. During the first six years of life, language is a tool that is still being constructed by the child. For older children and adults, language can be a tool to gain new knowledge and experience vicariously; however, a tool cannot be used until it is constructed – therefore, since children in the first plane are still constructing language, it is not the ideal way for them to learn about the world. At this age language is most helpful either as a **label** which describes or names something the child has already experienced; or as a **spoken story** which presents a context for an experience common to human beings. If we want to support positive attitudes at this age about diversity and difference among people, our best approach is to first **provide positive experience of difference**, then attach **clear, accurate language** to label or ‘fix’ the abstractions generalized from that experience. This doesn’t mean we stop using language on these subjects, just that we are careful to provide the supporting experiences as well; particularly, if a child asks we have to be prepared to respond in a true, brief and positive fashion that matches the child’s developmental.

I found that it is very easy to attach language for diversity to experiences the children were already having using the sensorial materials and the geography materials. I used many of these extensions in my own classroom (where diversity often meant the Euro-American child with brown hair and brown eyes).

One more comment: I personally do not like to use the **term ‘race’**. Science has indisputably denied this term and its historic meaning. There is no race among humans. Genetically, we are all one. I do recommend finding out what particular groups of humans want to be called – there often isn’t even a consensus within groups, so we do the best we can (Native American groups are a case in point). I also feel that here in the United States, if we are going to use the terms such as African American, Asian American, Chinese American, we should also be using terms such as European American, Italian American, etc. Otherwise, we give the impression that Euro Americans are the ‘authentic’ Americans, and only other groups have to be distinguished according to heritage. These are perhaps subtle points, but they are exactly the subtle, intuited aspects of attitudes and language which the Absorbent Mind will detect and generalize despite any overt expressions we might make.
Neutral and Accepting Experiences of Cultural and Ethnic Difference for the Children's House

**Examples: Sensorial Matching and Grading**

<table>
<thead>
<tr>
<th></th>
<th>Matching:</th>
<th>Grading:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>children find someone the same height – how many matches?</td>
<td>children grade themselves from shortest to tallest</td>
</tr>
<tr>
<td>Grading:</td>
<td>children grade themselves from shortest to tallest</td>
<td>who is taller / shorter than each rod; name numeric lengths</td>
</tr>
<tr>
<td>Red Rods</td>
<td>children grade themselves from shortest to tallest</td>
<td>who is taller / shorter than each rod; name numeric lengths</td>
</tr>
</tbody>
</table>

**Examples: Sensorial Matching and Grading**

<table>
<thead>
<tr>
<th></th>
<th>Matching:</th>
<th>Grading:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hair Color matches?</td>
<td>children find someone with the same hair color – how many</td>
<td>children grade themselves from darkest to lightest hair color</td>
</tr>
<tr>
<td>Grading:</td>
<td>children grade themselves from darkest to lightest hair color</td>
<td>children grade themselves from shortest to tallest</td>
</tr>
</tbody>
</table>

**Examples: Sensorial Matching and Grading**

<table>
<thead>
<tr>
<th></th>
<th>Matching:</th>
<th>Grading:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Color matches?</td>
<td>children find someone with same skin color – how many</td>
<td>children grade themselves from darkest to lightest skin color</td>
</tr>
<tr>
<td>Grading:</td>
<td>children grade themselves from darkest to lightest skin color</td>
<td>children grade themselves from shortest to tallest</td>
</tr>
<tr>
<td>Color Tablets:</td>
<td>there are no gradations of black and white</td>
<td>compare black and white color tablets to actual skin color</td>
</tr>
<tr>
<td></td>
<td>compare skin color to gradations of brown</td>
<td>compare skin color to gradations of brown</td>
</tr>
</tbody>
</table>

**Examples: Research, Outline, and Tell Geography-Related Stories**

- Human migrations from Africa across the globe
- Body features adapting to different biomes
- Historic Journeys of Exploration
- Historic Population Migrations
- Festivals Based in the Seasons and Seasonal Changes (Halloween; Christmas; Easter; etc)
- Festivals Based in Historic Events (Cinco de Mayo; 4th of July; Memorial Day; etc.)

Using the Painted Globe, tell stories about the *migrations* of humans on the planet. Track the migration in a particular story across the globe. It is worth doing a little research on this subject to provide true, brief details for stories appropriate for the first plane. Always use very concrete sensorial details as you tell the story; use land and water form names and geographical place names that are used in the Casa; outline and rehearse each story; and keep stories short and to the point.

**The first story** – ‘once upon a time, all of the humans on our planet Earth lived on the continent we call Africa’. You can include details about the climate and terrain they lived in, if you like, but the important points are:

- At that time the only way people moved across the planet was probably by walking.
- Some people always like to stay where they are; other people are adventurous, they want explore new places.
- So, some people started walking across Africa and soon they came to the places we call Asia and Europe (showing these migration routes on the globe).
Every place that humans walked to, some people liked that place and stayed and some people kept walking. This went on generation after generation. Some people figured out how to sail boats across water, so when some people came to lakes or oceans, they continued exploring across the water. When they came to land, they started walking again. (Show routes across the Bering Strait and down into the Americas and across from southern Asia throughout Oceania, and island hopping across the Pacific)

Over thousands of years, it happened that people were living on every continent except Antarctica – living on all of the continents and most of the islands scattered across the oceans.

The first story can end here.

This sets the stage to tell any number of stories and activities, as you choose. For example:

- How people’s *skin color* and *hair texture / color* changed as they settled onto different parts of the continents. (If children ask, describe that these changes resulted from the climate and position of the sun where they lived – northern Europeans needed vitamin D from sunlight so they lost the protective brown skin; central Africans kept that protection, etc.) Height and eye shape can also be included in the observable differences.

- **Individual ethnic heritage:** With this perspective, create *heritage maps:* world maps plotting the ethnic origins of the children in the group. Start by creating maps to show the origins of the adults in the room and how those origins explain why each adult looks the way he/she does; incorporate true and brief language, such as “I have lighter skin because most of my ancestors came from northern Europe.” My world map would highlight several places in Europe as well as the mid-Atlantic coast of North America before Columbus – so most of my features reflect my European ancestors and it’s hard to see my Native American traits, except in my facial bone structure, how easily I tan, and pictures of me with my original dark brown hair. Explain to the parents what you want to do and gather background information for each child: Whose families originally came from which continents and regions; and when, if known. The diversity of background here in the US would be marvelous to show that some of us trace our ancestry to many very different places; recent migrations show that the human journey continues; and cross-cultural adoption explains the often surprising fact that some of us might not look like other members of our families. Once a child knows the language of puzzle maps, they can make heritage maps for themselves.

- **Historic Expeditions for Exploration:** a theme here is that during later migrations wherever people explored, they usually found that other people were already living there! Stories related to these events can include
  - The Silk Road across central Asia to the Eastern Mediterranean (a ‘two-way street’: many story possibilities here related to cultural transmission)
  - Chinese voyages around the Indian Ocean and to Africa
  - European voyages to Africa and the Americas
Introduction to Cultural Extensions

- (Carefully told) How some people took people from one place and made them live in another place – not a good thing: this can be the entry point for understanding the history of Africans in the Americas.
- The migrations that often followed these expeditions: people leaving one place to live in another. The theme here – made suitable for the first plane! – is that often the new people and the people already living there didn’t get along very well ...: this can be an entry point for the history of Europeans and Native Americans.

- Carefully selected artifacts and pictures can be the stimulus and provide more props for stories related to cultural differences – starting with the common festivals in the children’s own culture (here in Portland that might be: Halloween; Hanukah; Christmas; Valentine’s Day; etc); then stories that might be less familiar or unknown to the children (Chinese New Year; Cinco de Mayo; Ramadan; Diwali; etc). All fundamental human activities such as music, art, transportation, food, housing, decorations, etc. can be channeled through here – fortunately we just have to offer keys to the world, not every detail: I think the really important point here is to truly diversify around the common experiences that unite all humans. I found that Southeast Portland children were wonderfully fascinated that huge luscious roasted grubs are the same for people on some Pacific Islands as the Thanksgiving turkeys they enjoyed each year.