Montessori and Reggio Together: Exploring Possibilities

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Abstract:

This paper describes an exploration of the Reggio Emilia approach undertaken by a Montessori school. It looks at the image of the child, the learning environment, the history and influences of each philosophy, their understanding of the learning process, their values, curriculum, teaching styles, organizational styles, the way each creates a school environment for children, and ultimately, how practitioners of each philosophy view the goals of education. Three Reggio practices in particular – the use of documentation, the incorporation of an art studio, and collaborative projects - are described.

It ends with a strong embrace of the principles of Montessori's Cosmic Plan, whose call to action is being repeated and underscored with urgency by the work of many scholars and students of life on Earth.

Acknowledgements

The teachers and staff at Children's Garden Montessori School have been my constant companions throughout the 2008-2009 school year, helping me in more ways than they can imagine. Together we have experimented, questioned, dialogued, documented, questioned more, searched for lost photos, and had meetings. And had meetings. They have exhibited qualities that great teachers tend to have – understanding, curiosity, patience, willingness to take risks, humor, flexibility, and empathy. The Children's Garden board supported me with encouragement and interest, and by sending me to Reggio Emilia, Italy, to participate in a study tour of the schools. Parents have supported all of us with their great interest in our journey with their children. And the children – they are the ones who bring anything written about education to life. It is one thing to read, and another to write, but the children make it real.

I owe special thanks to Bobbie Hobbs, Jamie Boes and Cheri Buxman, who all helped me understand Reggio better, to Catherine Ramey, who was often my captive audience as I discussed my ideas and questions, to Shannon Armstrong who helped make my *Montessori and Reggio Together* mind map legible, and to my daughter Ariel, who corralled my random semi-colons.

Dedication:

To my late husband Mark,
who would have seen
all the possibilities
I can see,
and more.

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Introduction

This is the story of one year in the life of a Montessori school community as it considers and explores the approach to early childhood education practiced in the schools of Reggio Emilia, Italy, an educational approach commonly referred to as the "Reggio Emilia approach". (Edwards, Gandini & Forman, Eds., 1998, p. 7) Using a term from the educational philosophy of Reggio Emilia, it is my *documentation* of a process of research done by myself and teachers at Children's Garden Montessori School as we worked with children and collaborated with each other. Since no discrete time can be plucked entirely from its historical context, this story includes something of the history of Children's Garden and how we came to study the Reggio Emilia approach. Like the autopoietic –self-creating, or self-making - process of a single-celled organism, which maintains life and structure through the interactions of its own internal systems with its environment, interactions with both Reggio and The Institute for Educational Studies (TIES) have affected my own autopoietic process, changing and reorganizing my previous ideas about Montessori education. In this Culminating Project, I have tried to share that story. To extend the metaphor of autopoiesis further, I am describing a living process, so it is an unfinished story.

The idea that learning and growth are results of the process of autopoiesis and structural coupling – the relation of an autopoietic system to its medium - feels like an accurate metaphor for my evolution as an educator. I

have experienced many different learning, or autopoietic, environments, all of which have influenced me, so I write from a point of view made complex by these different educational experiences and influences. I was trained at Centro de Estudios de Educación, the Association Montessori Internationale (AMI) training program in Mexico City, Mexico at the infant-toddler and primary levels from 1970-72, and have worked in various Montessori schools and training centers since then. Because of my involvement in American Montessori Society (AMS) training programs, I acquired an AMS primary diploma from the Montessori Education Center of the Rockies (MECR) in Boulder in 2002, and am now pursuing a M.Ed. from The Institute for Educational Studies (TIES) with a focus on both the Montessori and Reggio Emilia educational approaches. Undertaking additional formal training as a Montessorian over the course of a nearly 40-year career has been a study in the pleasure of life-long learning, and in the diversity of the Montessori educational movement. Maria Montessori's ideas continue to be the touchstone against which I compare all new ideas.

In the last four years, my thinking has also been shaped by the experience of a relatively new stimulus and environment in my life: Children's Garden Montessori School. I came to Children's Garden in 2005 and am now completing my fourth year as head of school. Being at Children's Garden and trying to successfully perform my responsibilities as head of school has allowed me, and called me, to learn as much as I can about the educational approach

that is referred to as the Reggio Emilia approach, named after the northern Italian city of the same name. When I arrived, the school had been exploring some practices from the schools of Reggio Emilia for several years, so I was playing catch-up. In the years since 2005, I have read books, asked questions, gone to conferences, travelled to Italy to visit Reggio Emilia, experimented at Children's Garden, and gone through many periods of puzzlement and doubt. There are many schools in the United States, and indeed around the world, inspired by the Reggio Emilia approach. Because of the (purposefully) limited training to become a Reggio teacher, I value my visit to Reggio Emilia as an essential first-hand experience of the schools as Loris Malaguzzi, considered to be the primary developer of the Reggio Emilia approach, and his fellow educators, envision them. Throughout this Culminating Project I refer to that visit, and quote from the lectures I transcribed. (Later in this paper, we will also explore Malaguzzi's background further, and compare it with Maria Montessori's.)

However, that short visit provided just a visual for me – so, this is how it looks. As described by the Santiago Theory of Cognition, learning occurs through a process of active involvement with the environment, and my observations, done from the corner of a classroom filled with children speaking Italian, however intriguing, provided little active engagement. For me, those lectures and observations were a beginning place, but they did not provide me a model of how Montessori and Reggio might enhance each other. That has

been my own challenge. A various times, I have questioned not only the viability of a Montessori/Reggio combination, wondering how it could possibly work, or even why we should try to make it work. As I tried to lead a group of teachers who hoped I knew more than they did, we experienced our share of difficulties and missteps. There were times that could only be described as miserable! The progress towards understanding has not been steady, and sometimes in the course of a single day, I experienced opposing emotions: first hating and then loving the Reggio approach; feeling confused and then experiencing moments of clarity. Many times, I retreated back to Montessori and still do, while at other times I felt so inspired by Reggio ideas that I was ready to leave Montessori education behind. In a word, I was challenged - by ideas, by Children's Garden teachers, by visitors to the school, and by demons of my own creation. I have reminded myself often of one short sentence from *The Seven Life Lessons of Chaos:* "So it turns out that chaos is nature's creativity." (Briggs & Peat, 1999, p. 19) This year and this school have provided me an experience with the creativity of not knowing – a place that often feels like chaos - the opportunity to observe and interact with children, and a place to do what I hope has been respectful and careful experimentation.

In January 2008 I began a course of study with The Institute for Educational Studies (TIES) an on-line M.Ed. program affiliated with Endicott College, which has enabled me to structure my study of the Montessori and Reggio Emilia pedagogical approaches, and to pull me beyond the daily job of

running a school. TIES brought me a new perspective on Montessori's body of work and contribution to education. Our readings and ensuing on-line dialogue have displayed an openness to new ideas that has allowed me to feel comfortable looking closely at the Reggio ideas, as well as to view Montessori education in a different way.

Like the Montessori educational philosophy, the Reggio philosophy is complex and highly developed, so I believe understanding it well and finding your own way to implement it is a multi-year process. Unlike Montessori educators, Reggio educators have purposefully not developed extensive training programs for teachers, so those of us who aspire to understand and actually use aspects of the approach in schools have countless hours of solitary study and collaborative work ahead of us, and undoubtedly will make mistakes. At Children's Garden, my current staff and I are in a relatively early stage of exploring this process, although the school is not. The school, under the direction of Bobbie Hobbs, the co-founder of Children's Garden and former head of school, began to explore Reggio in the early 1990s, so in spite of being an almost entirely new staff, we are immersed in a school cultural tradition influenced by Hobbs' interest in Reggio. Each teacher and administrator at Children's Garden is, engaged in a personal evolution as an educator, and each brings a different perspective to our experiment. That has made this last year exhilarating, but also difficult enough that some of us, at various times, have

felt that our study of Reggio threatened the integrity of our Montessori program, as it certainly could.

I learned of the Reggio Emilia educational approach before I arrived in Denver when I attended a workshop in Philadelphia that compared the Montessori, Waldorf and Reggio Emilia educational philosophies. I won a door prize at that workshop – an augury of adventures to come, perhaps? Just as I imagine that Montessori's ideas elicited great excitement 100 years ago, the Reggio approach has stimulated interest across the world in the last few years. Two kinds of books have come out of the Reggio educational experience: those written by the Italian educators who developed, and continue to develop, the approach, and those written by educators from across the world inspired by their work. Many of them tell the story of their own schools as they explore Reggio ideas. Loris Malaguzzi believed that the learning process for young children is inextricably embedded in the culture that cradles them, and counseled often and passionately against trying to export Reggio ideas of a piece. Today's Reggio educators continue to believe that, and prefer the term "Reggio-inspired" to describe programs that embrace Reggio values. (transcribed lecture, *Dialogues on Education: Professors and Students International Study Tour*, Loris Malaguzzi International Center, March1-5, 2008, Reggio Emilia, Italy)

This year at Children's Garden, we have grappled with what I consider one of the greatest challenges teachers face – aligning practice with philosophy.

This is the story of a Montessori school exploring Reggio ideas, but also the story of a school defining itself both in theory and in practice. In my reading and thinking, I have looked for key values which form the basis for the Montessori approach and which guide our work as Montessorians, and then looked for the key values in the Reggio practice, searching for places where it seemed to me Reggio educators might have used Montessori's ideas but made them their own. I looked for places where shared values are interpreted and articulated differently, potentially adding richness to the philosophy grounding an educational practice. Carlina Renaldi (2006) quotes Malaguzzi as saying: "Montessori – she is our mother, but as all children, we have had to make ourselves independent of our mothers." (p. 7) That Loris Malaguzzi, the founder of the Reggio Emilia approach, cited Maria Montessori as one of the educators whose ideas were foundational to his own, gave me confidence in my search.

Several books have been written by educators attempting to include some of the ideas from Reggio Emilia, and they all seem to start with a disclaimer about how long they have been studying the Reggio approach, and trying to practice it, and how hard the path has been. Ann Lewin-Behnam, in *Powerful Children* (2008), describes several years of slow development of the teachers at the Model Early Learning Center (MELC) in Washington D.C., as they tried to implement practices and values from the Reggio schools. "Where to start? There was so much we didn't know!", (p. 28) Lewin-Behnam writes.

Most would-be Reggio-inspired teachers see arrival points, what a practice looks like well beyond its inception. The purpose for describing early work is to show departure points, what powerful practices look like as teachers are just beginning to use them. (p. 7)

In *An Encounter with Reggio Emilia* (Kinney & Wharton, 2008) that theme is repeated:

We would want the reader to realize from the outset that this book is a reflection of what we understand about this pedagogical approach at this stage of the journey; journey's end is not within sight and is not necessarily our goal. We see ourselves as being very much in a process and recognize it as a long one. (p. xiii)

We at Children's Garden are also in the beginning stages of exploring Reggio ideas and practices.

The aligning of practice with philosophy has helped shape this Culminating Project. I have tried to describe my experiences this year with both. In Chapter I, I describe Children's Garden Montessori School, the cultural context for my study of philosophy, and my place of practice. I also define autopoiesis, as it was developed by Humberto Maturana and Francisco Varela, so that it can be used as a model for how children learn, a metaphor for how schools are structured, and as an intriguing connection between the Montessori educational approach and the Reggio Emilia approach. It is my

observation that both educational philosophies were built on a structure which can be described by autopoiesis. In Chapter II, I have tried to describe the educational philosophies developed by Maria Montessori and Loris Malaguzzi and other educators in Reggio Emilia, paying particular attention to the people involved in education – children and teachers – and the learning environment. Chapter III describes the three areas of Reggio-inspired practice which we chose to explore this year at Children's Garden: the use of documentation; the inclusion of art into our Montessori program; the development of collaborative group projects with some of our older children. In Chapter IV I share my observations about the integration of Montessori and Reggio practices and directions which I believe are worth pursuing. My study is young and our practice still evolving, so I do not claim to have definitive conclusions about whether Montessori and Reggio complement each other, but I have ideas based on a year of practice. Finally, my study with TIES has given me a sense of urgency and importance about my work as an educator. The TIES program deserves a chapter of its own. TIES shifted my worldview, and provided me a model I have used to consider ways to better prepare children to assume their roles in this world.

With this Culminating Project, I invite you to join my journey. I will try to point out potholes in the road, signposts not to miss, and interesting detours that might be taken. I am not able to share the resting place that might exist beneath a tree. I have not found it yet.

Chapter 1: Autopoiesis, Montessori, and Reggio

How do children learn? How do teachers learn? How do living organisms learn? What *is* learning? For the last year within my own work with The Institute for Educational Studies (TIES), and with young children, I have considered two philosophies of education, each suggesting answers to questions about how children learn, and both originating in Italy. One is the Montessori educational philosophy, and the other the Reggio Emilia approach. I have also considered, within the TIES program, the theory of *autopoiesis,* or self-creating, as a way to describe the process of learning. As I have studied the Montessori and Reggio Emilia educational approaches, I have come to believe that autopoiesis can be used to more fully understand both Maria Montessori's ideas and Reggio ideas. Referring back to the principles of autopoiesis time and again throughout this last year, and throughout the writing of this Culminating Project, has helped me see and evaluate similarities and differences in the two philosophies and practices. Early in the TIES program, Marsha Morgan and Philip Gang (2003) said, in *Introduction to Montessori Radical Education: Setting the Context,* that we would use "three sources of wisdom: 1) Montessori's notion of following the child; 2) the contributions of Mario and Maria Montessori; 3) a community of committed adult learners." To those sources of inspiration I have added others specific to my own study - the work of Loris Malaguzzi and other Reggio educators, and the children, teachers, and families of Children's Garden Montessori School, which has served as the physical autopoietic context for my

learning. My writing reflects all of these sources of inspiration and provocation. With this first chapter of my Culminating Project for TIES, I have tried to: 1) articulate my understanding of autopoiesis so that it can be used to describe both the learning process of a young child, and the processes, relationships, and structures which define a school, and; 2) introduce my own autopoietic context – Children's Garden Montessori School.

Metaphors. The use of metaphor weaves its way throughout this writing, as it has my reading. Metaphor, for me, has been a way to understand – a way to learn. I have been encouraged to use metaphor by many of our readings, and by the structure of the TIES program itself. Marsha Morgan uses the metaphor of autopoiesis when she compares the characteristics of the TIES learning community to living systems:

> All members of an ecosystem are interconnected in a web of relationships in which all life processes depend on one another. The success of each member depends upon the success of the system as a whole. In a learning community all participants are inter-linked in a network of relationships that work together to facilitate learning.(www.ties-edu.org/LC16 Learning Communities by Gaian Design/6:3)

Elisabet Sahtouris (2001) writes:

> Consider that whenever we want to describe something previously unknown to us, when we want to understand it, we must find something familiar – a metaphor (literally a "carrier") – to which we can compare it.

The brain can use new incoming patterns of information only in the

context of its existing patterns. (p. 161-162)

Margaret Wheatley (2006), in describing her book entitled *Leadership and the New Science*, writes: "Each chapter inquires into metaphorical links between certain scientific perspectives and organizational phenomena..." (p. 10), and John Briggs and F. David Peat (1999) begin *The Seven Life Lessons of Chaos* with a chapter entitled: "Before Words: The Metaphor of Chaos Theory". (p. 1)

Interestingly, the use of metaphor is also common to Italian educators as they describe their work in Reggio Emilia.

We undoubtedly have a great love of metaphor: and this is primarily

because children love and often make use of it. We see metaphor not as a

rhetorical or stylistic device but as a genuine tool of cognition. As many

other studies and investigations confirm, we have noticed that metaphors

are particularly useful when new ideas are emerging from within groups

of people (and therefore also groups of children), and the use of previous

concepts and expressions is avoided on the grounds that they might be

misleading. In this case, metaphorical language, precisely because it is

more undefined, allusive and sometimes ambiguous, but at the same

time open to new concepts, becomes the only tool available to the new

understanding that is seeking to emerge and find an audience. (Renaldi,

2006, p. 75-76)

What is autopoiesis? In order to use autopoiesis as a metaphor for human cultural institutions, it is first necessary to define it. The Santiago Theory of Cognition, or autopoiesis, describes the relationship between living and learning. It can be used to describe the learning process for living systems as structurally different as single-celled organisms or human children. I believe it can also be used metaphorically to describe human cultural institutions like schools. Because it is complex, different aspects of autopoiesis can be considered by themselves, thus suggesting comparisons with different educational philosophies. Might it be that the Montessori educational approach and the Reggio Emilia approach both can be more clearly understood by using the metaphor of autopoiesis, but that Montessori focuses attention on *one* aspect of autopoiesis, and Reggio focuses attention on *another*? Moreover, might it be that, by incorporating elements of both philosophies into our practice, we can serve children more fully? I also believe the study of autopoiesis as a metaphor is highly relevant to my first question - what is learning - as well as offering insight into the relationships that encourage learning. These have become my questions as I consider both educational philosophies, while moving my eyes across the complexity of the autopoietic theory of cognition.

Chilean scientists Humberto Maturana, later joined by his student and collaborator Francisco Varela, coined the term *autopoiesis* in an article published in 1974, in which they described living organisms "as systems that

produce themselves in a ceaseless way." (Retrieved June 2, 2009 at www.oikos.org/mariotti.htm) For years, neuroscientist Maturana, as he studied color perception, sought to answer two main questions: How are living systems organized?, and; What is perception, or cognition? (Capra, 1996; Mariotti, 1996) As Maturana's ideas evolved, his conceptions of the processes of living and of cognition because so intertwined that his two main questions required one answer: "Living systems are cognitive systems, and living as a process is a process of cognition. The statement is valid for all organisms, with and without a nervous system." (Maturana as cited in Capra, 1996, p. 97) Some years later, he and Francisco Varela, working together at the University of Santiago, coined the word *autopoiesis* – self-creating – to describe their understanding of living systems as cognitive systems, a theory sometimes referred to as the Santiago Theory of Cognition.

The Santiago Theory of Cognition, stated very simply, says that living is learning, and learning is living, and as living systems learn, they self-create. This self-creating occurs as a living system interacts with its environment through a process called *"structural coupling."* (Capra,1996: Mariotti, 1996; Sahtouris, 2001; Wheatley, 2006) Structural coupling, as defined by Maturana and Varela, is a dynamic, cooperative and circular process in which a living system responds to its environment (which could be another living organism or a network of interrelated organisms) and in some way signals its response, which in turn signals a response, in a process much like a shared

conversation, or the t'ai chi tradition of push-hands. (Retrieved June 2, 2009 at www.oikos.org/mariotti.htm; Capra, 1996; Sahtouris, 2001; Lehrhaupt, 2001, p. 115) The concept of structural coupling implies autonomy, relationship, connection, dynamism, and cognition. To link living and cognition together represents a major shift in the understanding of what it means to *know,* or to *learn,* as well as what it means to be *alive.* Capra (1996) describes it like this:

> In the emerging theory of living systems the process of life – the continual embodiment of an autopoietic pattern or organization in a dissipative structure – is identified with cognition, the process of knowing. This implies a radically new concept of mind, which is perhaps the most revolutionary and most exciting aspect of this theory, as it promises finally to overcome the Cartesian division between mind and matter. According to the theory of living systems, mind is not a thing but a process – the very process of life. In other words, the organizing activity of living systems, at all levels of life, is mental activity. The interactions of a living organism – plant, animal, or human – with its environment are cognitive or mental interactions. Thus life and cognition become inseparably connected. Mind – or more accurately, mental process – is imminent in matter at all levels of life. (p. 172)

An organism engaged in the process of structural coupling, by dint of its structure, is able to maintain itself while at the same time being a part of a larger network, and both capabilities - maintaining structure and engaging in a

network - are essential elements of the autopoietic model. Living organisms, according to Maturana and Varela, are able to maintain their structural integrity through a process of self-referencing, or referring back to themselves. (Capra, 1996, p. 97; Wheatley, 2006, p. 85)

Using autopoisis as a metaphor and a model. Although Maturana and Varela's theory describes living systems, "the concept of autopoiesis has long surpassed the realm of biology", writes Brazilian psychiatrist and psychotherapist Humberto Mariotti.

It has been used in areas so diverse as sociology, psychotherapy, management, anthropology, organizational culture, and many others. This circumstance transformed it into a very important and useful instrument for the investigation of reality. (para. 1)

Maturana and Varela themselves wondered "to what extent [might] human social phenomenology be seen as a biological phenomenology?" (Retrieved June 12, 2009 at www.oikos.org/mariotti.htm) Within our TIES program, we might have reframed their question like this: to what extent might schools, in accordance with biological phenomenology, be seen as using the natural laws of living systems as guiding principles for their work?

A caveat: it would be easy to forget Maturana and Varela's definition of cognition. It would be easy to anthropomorphize it, and forget that in their definition of autopoiesis, cognition does not depend on a brain or on the awareness we associate with having a brain like ours. Living systems are

cognitive systems, and living as a process is a process of cognition. The statement is valid for all organisms, with and without a nervous system.

As a review, this is what we know of the theory of autopoiesis: (1) it is the process by which living systems self-create; (2) it defines living as a process rather than a state; (3) the process is one of dynamic interaction, called structural coupling, with an environment or another living system; (4) structural coupling requires networked, interconnected systems; (5) if a system is to stay alive, the process of structural coupling results in change, or cognition; (6) during the process of structurally coupling, living systems maintain their organizational integrity while acquiring resources from the environment. Therefore – living is a process of self-creating which is a process of interacting that is a process of learning. Living is learning. As I describe my understanding of Montessori's ideas about education, as well as the Reggio ideas, and explore how they compare with each other, I will refer again to this theory of how living systems organize themselves, particularly noting how Montessori and Malaguzzi understand and support cognition (learning), independence (autonomy), and interdependence (communicating).

Children's Garden Montessori School. Learning occurs during a process of structural coupling with an environment, not necessarily physical, but often so. Children's Garden Montessori school has afforded me a physical environment within which to practice for the last several years. Four young mothers who wanted to create a preschool program for their own children

established it in 1972. They maintained the school using each other's basements, and took turns serving as teachers, until it became necessary to move, when they purchased a small Victorian house in the Cherry Creek area of Denver, Colorado. Their knowledge of the Montessori approach grew with the school, and each of them acquired Montessori training in the early years of the program. Soon neighbor children began to join them, and the school expanded into the house next door. Finally, in 2001, almost thirty years after its beginnings, the two neighboring houses were joined together by an addition that today serves as a Montessori toddler classroom, and a multi-use room that could be used in different ways by children from all three of the Montessori classrooms. Since its beginnings in a quiet neighborhood on the outskirts of Denver, a medium-density residential neighborhood has grown up around the school, so today it sits amidst expensive and well-maintained condominiums. Today the school serves around 70 families and 90 children, and is affiliated with the American Montessori Society (AMS).

Eventually all of the original founders left Children's Garden except for Bobbie Hobbs, who continued to serve as the head of school. In the mid-1990s, reflecting Hobbs' interest, the school began to explore the education approach developed in the municipal preschools of Reggio Emilia, Italy. Over the next ten years, she and her teachers read, discussed, and tried various Reggio-inspired projects. Hobbs visited the schools in Italy herself, bringing back ideas for the Children's Garden program based on what she saw.

My first impressions. During the summer of 2005, I moved to Denver and took Bobbie Hobbs' place as the head of school. Now, at the end of my fourth year at the school, I still see the school from the distance afforded by my second-head-of-school status, a perspective that is sometimes enlightening and other times confounding.

Montessori teachers are trained to believe that careful attention to the environment is essential to a successful educational program, and when I first saw Children's Garden, the physical structure of the school reflected that kind of care. Even more than the prepared environments of the classrooms, the structure of the building itself, and the gardens surrounding it, felt welcoming. I noticed that the classrooms, especially in the newer part of the building, were filled with light from large windows. There were either no doors between classrooms, or sliding glass doors that let light travel throughout the school and allowed children to see from room to room. Interesting holes cut in some of the walls created openings through which children could peer. Space seemed to be arranged for maximum openness and flow, and the studio, in the center of the school and used by all the children, assumed importance simply by its position. Although I noticed all of these interesting details, I did not think too much about the building, except that it was attractive and well cared for. It felt inviting.

What I now know is that the building in many small ways reflects Hobbs' interest in the environments of the schools in Reggio Emilia. (personal

communication, B. Hobbs, June 26, 2009) Like Montessori educators, Reggio

educators focus a great deal of attention on the environment as a learning tool

– perhaps, one could say, as an autopoietic environment inviting structural

coupling. In *Possible Children*, Ann Lewin-Benham (2006) writes:

They [Reggio teachers] design environments with great forethought,

considering every item's placement, size, color, light, and proximity to

other areas and to the outdoors. Everything is purposeful – discussed,

debated with other teachers, tested, and refined over decades. (p. 15)

Lewin-Benham, herself a trained Montessori teacher and the founder of

the Reggio-inspired Model Early Learning Center (MELC) in Washington D.C.,

mentioned Montessori's influence on her own thinking as she organized the

MELC classroom environments. The importance placed on the development

and care of the environment is one of many examples I found of Reggio

educators using a Montessori principle but making it their own. "Our objective,

which we always will pursue, it to create an amiable environment, where

children, families and teachers feel at ease", (Malaguzzi as cited in Edwards et

al., 1998, p. 63) wrote Loris Malaguzzi. It felt to me as though Hobbs had done

what she could to design an amiable environment, to use the terminology of the

Reggio educators.

I noticed other things about the classrooms and the way the school was

run that were somewhat different than what I was used to – differences which

caused my Montessori antennae to sway a bit. Instead of a head teacher and

an assistant, the model to which I was most accustomed, a collaborative team of trained Montessori teachers managed each classroom. There were very few individual tables in the classrooms. Classroom materials, even teacher-made, were owned by the school and shared. The first day I visited the school one teacher worked on painting a beautifully constructed paper mâché camel in the art studio, so sophisticated I doubted it could be entirely the work of children. In spite of these organizational differences that caught my attention, children and teachers were calm and happy, and I heard the familiar hum that Montessorians tend to associate with children at work.

Still, what I noticed made me wonder about a number of things. In my experience, Montessori teachers feel a great deal of ownership of their classrooms and materials. How did these Montessori teachers feel about team teaching, living with an open plan building, and sharing materials? Were choices made both architecturally and organizationally that encouraged the teachers to develop a more collaborative, social style of work? Similarly, was the choice of group tables meant to stimulate children to work collaboratively instead of independently, as is the habit in most Montessori primary environments? Why was so much space allocated to the art studio? Although at the time of my visit, I had not heard the term autopoiesis, it now appears to me that this carefully designed environment, different from many Montessori environments I had seen, might have been designed to elicit a particular reaction from children, teachers and parents. If a Montessori prepared

environment is looked at as an environment in which children learn through a process of structural coupling, how might this environment affect their learning?

Learning about the Reggio Emilia approach. I learned of Children's Garden's interest in the Reggio Emilia approach when I interviewed for the job of head of school, and naively felt I would be able to understand it, in fact, thought perhaps I already did. I had attended a workshop in Philadelphia about the Montessori, Reggio and Waldorf approaches, as well as a seminar about the Reggio Emilia approach at an AMS conference, so at least I knew something about it. Four years have taught me that the Reggio Emilia approach is just as complex as the Montessori educational approach. My confidence was born of ignorance, and the only reason it does not embarrass me more now is that the Reggio educators intentionally provide very little formal teacher training other than on-the-job training, so I, like everyone else, am learning mostly on my own through research and reflection, and finding my way experience by experience.

Children's Garden's board of directors has supported me in my endeavor to understand the Reggio Emilia approach, and in March of 2008, sent me to Italy to participate in a four-day long *Dialogues on Education: Professors and Students International Study Tour* organized by the Reggio Children organization and the Loris Malaguzzi International Center. When I observed the infant/toddler and preschool early childhood centers in Reggio Emilia during

that tour, my immediate reaction to what I saw with my Montessori-trained eyes was positive. To say that I was entranced by the Reggio schools is not an exaggeration, but I was left with many questions. Even though there were clear differences in how these schools and Montessori schools were run, they were orderly, beautiful, and calm – all qualities that sat well with my Montessori sensibilities. The Reggio schools felt familiar and strange at the same time. In *Writing in the Dark,* Max van Manen (2002) describes just how I felt: "Wonder is that moment of being when one is overcome by awe or perplexity – such as when something familiar has turned profoundly unfamiliar, when our gaze has been drawn by the gaze of something that stares back at us." (p. 4)

I returned from Italy filled with memories of an enchanting city and lovely schools. Perhaps I was in the period Beth McDonald (2004), the director of the Reggio-inspired McDonald Montessori Childcare Center in Minneapolis, Minnesota, calls the "infatuation phase." (p. 8) But I had a warning ringing in my ears from several lectures given by Reggio educators as they spoke to educators from around the world: Do not expect to take what you see back to your schools and make it work. You must go home and learn what is special and important in your own culture – children's learning springs from the culture in which they are immersed. (transcribed lectures, *Dialogues on Education: Professors and Students International Study Tour,* Loris Malaguzzi International Center, March 1-5, 2008, Reggio Emilia, Italy) This directive comes from the strong influence Russian psychologist and theorist Lev

Vygotsky (1896-1934) has had on Reggio thinking. He believed that "human activities take place in cultural settings and cannot be understood apart from these settings". (Woolfolk, A. as cited on www.education.uiowa.edu/resources/tep/eportfolio/07p075folder/Piaget_Vygotsky.htm, retrieved on June 28, 2009) We were encouraged to build our own school communities, and discover what was meaningful to our own children – in other words, to explore the autopoietic environment of our own community of children, families and teachers.

As I considered their strong warnings, I noticed once again a striking similarity between the Reggio message and the Montessori message, but with a twist. Montessori describes education as an "aid to life" and writes of the need for the child to adapt to his/her time and place. (Montessori, Mario Jr., 1976/2008, p. 5-6) Did she mean, as the Reggio educators emphatically do, that a child should be oriented to a time and place so particular that it includes the city in which they live? Many times during my visit to Reggio Emilia, and later as I considered their words, I experienced moments that could best be described by the Tinglish term "same same but different". (Retrieved June 17, 2009 at http://en.wikipedia.org/wiki/Tinglish) This was one of those moments.

I left Reggio Emilia a bit disappointed. I had hoped to return to Colorado with a clear plan of action, and my teachers had hoped the same. Instead, I returned with an awareness of the depth of an approach the understanding of

which still challenges me, and a directive to study my own cultural milieu. Looking back on the message to study my culture, I believe I was hearing validation of the processes of living and learning described by the Santiago Theory of Cognition. I was being encouraged to clarify my own environment so that I might self-refer, and to identify the characteristics of the environment of the families, children, and teachers with whom I work.

It is beyond the scope of this paper to describe either the Italian culture of Reggio Emilia, or the North American culture of Denver, Colorado in great depth, even though I suspect many answers to my questions lie in the differences between the two cultures. My ongoing study of the culture of Children's Garden has focused on the things I noticed in Italy that were either the same or different from my home in Colorado, and on the aspects of culture which I believe are most important to children – their human relationships and their relationship to the natural world. These are the areas of human culture, which I believe most closely fit into the autopoietic model and which require structural coupling in a specific environment, support for independence and autonomy, and relationships with other autopoietic systems. I have tried to imagine the children's curiosities based on what they see around them each day. My description of the culture of Children's Garden is an example of phenomenological observation that includes me as an observer and as a member of the community that I describe. Moreover, because I am still a part of this community, it is not finished.

...all interpretive phenomenological inquiry is cognizant of the realization

that no interpretation is ever complete, no explication of meaning is ever

final, no insight is beyond challenge. . . it behooves us to remain as

attentive as possible to life as we live it and to the infinite variety of

possible human experiences and possible explication of those

experiences. (van Manen,1990, p. 7)

I begin with the children, the living systems, which are the focus of my study.

The children. Safe, secure, healthy, comfortable, and well supported – I would choose these adjectives to describe the lives of a majority of the children with whom I work. Many of the children have siblings who attend, or have attended, Children's Garden, so newly entering children are often already familiar with the school. The Children's Garden community is small enough that many of the families socialize outside of school, so the children know each other well. Mirroring the values of their parents, Children's Garden children are physically active and somewhat competitive, engaging in soccer teams, ski lessons, horseback riding, and summer camps. The children seem very aware of the local western culture of Colorado and Denver – they hike in the mountains, attend the Western Stock Show, know about the local sports teams, and regularly visit Denver's cultural facilities.

It is not uncommon for our children to travel out of the country during vacations. I remember two brothers, one five and the other three, who returned from a holiday trip to Rome and declared with enthusiasm that we should

study the Coliseum. Another five-year-old boy, when asked about a photo of his family, explained that they were on a trip to Tuscany, where his mother could speak the language – German. Although their understanding of the world may be modest, their experiences are diverse.

However, with affluence comes particular challenges, and our children are not immune to them. Howard Gardner (2008) sees the challenges of 21st century American children as being ". . . the increased pressures for accountability, the push to foist the methods and goals of primary school onto preschool, the powerful and often destructive forces of markets, media, and material consumption", (Gardner as cited in Lewin-Behnam, 2008, p. xiii) and Brian Swimme's (1996) warning that we are "hand[ing] our children over to the consumer culture". (p. 14) These statements could both have been written about the children who attend Children's Garden. That is their world. They are confronted with (1) a pace of family life that sometimes leaves little time for unstructured play; (2) early and unremitting academic pressure; (3) lack of ready access to nature (even in nature-friendly Colorado); (4) the influence of media, including television, videos, computers, and music; (5) and life with parents whose lives are often fast-paced and high-pressured. Even though parents seem to place high value on spending time with their children, sometimes finding that time is difficult.

The families. From my viewpoint, Children's Garden families are a relatively homogeneous community of well-educated, active Coloradoans who

are looking for the very best for their children and have high standards for themselves, their children, and for the schools which support them. Although some of our families are blended and have older children from previous marriages, every family we had during the 2008-2009 school year was intact. We have no children who live with a single parent. Most are financially secure enough to either have one parent stay at home with the children, or to hire a caretaker. Many, although not all, have extended family living nearby, and if that is not the case, grandparents are involved enough in their grandchildren's lives that many of them visit the school from out of town once or twice a year. Many grandparents pay tuition for their grandchildren, or support the school through donations. In response to family interest and involvement, we try to keep out of town relatives informed about school events, as well as share our conviction that they are important to the lives of the children.

Many families have been involved in the school for years and know the school's culture and traditions well (sometimes better than I do)! Children who are siblings of current children, or the children of alums take most of our admissions openings. The families have clear expectations of the school and are not hesitant to share their thoughts. They expect teachers to be well-prepared, warm and communicative; they expect to be involved in the education of their children; they value the inclusion of art into the program; they expect their children to be well-prepared for the next school they attend; they expect to support the school financially and with their hard work; and

they expect their children to enjoy school. Since a large part of the cultural tradition of the school for the last ten years has been to incorporate some elements of the Reggio Emilia educational philosophy and practice into our Montessori program, our families are accustomed to what that looks like. Our extensive Arts Festival, in which the children's art is displayed, is the most anticipated and best-attended event of the school year. Whereas some Montessori school communities would expect close adherence to the Montessori pedagogy, Children's Garden families are open to new ideas as long as they believe their children are doing well. Several parents actively seek out additional information about our program, attending book study groups, informational meetings, and reading newsletter articles.

The staff. It takes a certain kind of teacher to work at Children's Garden. Because the school has explored the Reggio Emilia approach for many years, our program asks of its teachers two things: a strong understanding of Montessori principles, and a willingness to explore beyond Montessori's methods. That is not easy, and some teachers have left the school not because they could not do that, but because they chose not to venture down our path. They need to be comfortable with ambiguity and not knowing, because we often do not know, and that is difficult. They must be willing to collaborate with each other or they will not be happy. They have to be good communicators. They have to be curious, intelligent, and confident. Of our staff of thirteen, two have been at the school for over twenty years, two others for six or seven years, and

the rest for three or four years. They, like our families, are either native or happily transplanted Coloradoans, a state that values activity, good health, and the outdoors, and most of the Children's Garden teachers reflect those values in their daily lives.

Autopoiesis – my model. Maria Montessori, first by herself and later joined by her son Mario, developed her educational principles decades before Francisco Varela and Humberto Maturana coined the term autopoiesis, so for me to use autopoiesis as a way to consider her ideas has been an exercise in re-examining and re-framing - an effort which has been assisted by the TIES program. If we want to use the metaphor of autopoiesis in conjunction with Montessori education, it is incumbent on us, her followers, to update her use of language and carefully reframe her ideas. Loris Malaguzzi, however, lived and worked during the 1970s when the concept of autopoiesis was being developed, and he refers to Francisco Varela and Gregory Bateson as some of his sources of influence. (Edwards et al., 1998, p. 60) Bateson is cited as "arriv[ing] simultaneously at the same revolutionary concept of mind" as Maturana. (Capra, 1996, p. 173) Bateson's daughter, Mary Catherine, the current president of the Institute for Intercultural Studies, continues to work closely with the Reggio schools, (Ms. Bateson was a keynote speaker at the opening to the *100 Languages of Children* in Denver Colorado on October 26, 2008) so we know it is likely that Malaguzzi considered autopoiesis as a theory of cognition.

Throughout this year, I have used autopoiesis as a model with which to evaluate both the Reggio Emilia and the Montessori educational approaches. Inspired by the metaphor of autopoiesis, I have tried to focus my attention particularly on how these two educational philosophies prepare an environment, and support the relationships that are essential to structural coupling. Adding to that question of *how*, is a question of *why* – to what purpose do Montessori and Reggio educators work? What are their goals? Philip Gang (1989) wrote in *Rethinking Education*:

> The Montessori underlying principles are universal truths which can continually inform our thinking, but the methodology and the doctrine need constant updating. I see a current dilemma surrounding Montessori education because nothing has significantly changed since her death. The universal truths are still there but much has been discovered in the human and natural sciences that shed additional light on her work. As knowledge evolves, so must theories and techniques. (p. 14)

In this Culminating Project, I have specifically considered Montessori's methodology, doctrine, and techniques in light of the work of educators in Reggio Emilia, Italy, and in light of lessons from the view of living and learning as articulated in the Santiago Theory of Cognition.

Chapter II: Montessori and Reggio- a Comparison of Literature

I believe it is appropriate to use the metaphor of autopoiesis to describe both the Montessori and Reggio Emilia educational approaches. Based on my reading of the literature, each views the child as capable of self-creating, although they describe the process somewhat differently. Each describes the child's potential for growth and learning to be unknown. Each philosophy views the process of self-creating as occurring through interaction with a carefully designed environment, although they define and develop the environment differently. Each places the child within a network of supportive human social and cultural structures, although one philosophy more fully elaborates the qualities of a more extended web of support farther beyond the child than does the other. Although both Montessori and Malaguzzi and his collaborators developed all the elements of education which would be required to fully articulate the autopoietic metaphor, it appears to me that that Montessori can be seen as focusing more attention on *one* aspect of the autopoietic metaphor – the autonomy of the child, while Reggio focuses more attention on *another* –the networks supporting the child. It is my hypothesis that Montessori educators might strengthen their practice by incorporating some elements of the Reggio Emilia philosophy into their own, and thus more fully support a child in the process of self-construction.

Having spent a lifetime involved in Montessori education, it has become a part of me, so seeing children from a different point of view has been a neuro-

phenomenological observational challenge, but my study of the Reggio Emilia approach has encouraged me to see aspects of Montessori approach differently. I have always believed that Montessori's support of the child as an individual runs through her approach to education, but would not have noticed how strongly if I had not studied the Reggio Emilia approach as well. I have held a figurative magnifying glass up to different parts of the metaphor of autopoiesis and looked carefully at the importance of each aspect of the metaphor in the life of a young child, because, in a sense, that is what I believe Montessori and Reggio Emilia educators have done. Then I have put my magnifying glass aside, stepped back, and tried to see the whole.

My sources of information have been varied. I have relied primarily on the writing of Montessori herself, and the Italians educators who have been most directly involved in the development of the Reggio Emilia approach and active in the schools that are in the city of Reggio Emilia – Loris Malaguzzi, Carlina Renaldi, Lella Gandini, and Vea Vecchi. My comparisons have been made challenging by unequal circumstances in the history of the two educational movements, which in one instance handicaps Montessori, and in the other instance, Reggio. Montessori began her work more than fifty years before Malaguzzi did, and her use of language and style of writing, by most standards, is dated. The robust development of the Reggio Emilia approach, on the other hand, began in the 1960s and continues to be developed actively today, which tends to give their writing freshness and accessibility that

sometimes Montessori's does not have. (Montessori education is still being developed today, but it appears to me that the development may not be as active as the development in the Reggio educational community). Reggio educators, on the other hand, are handicapped in comparison with Montessori because they have only worked with children from birth to six, whereas Montessori education has been developed for children through adolescence, so we know a great deal more about how Montessori viewed the child beyond the age of six and very little about what Reggio educators might discover about working with older children. (While in Reggio Emilia in 2008, I heard discussion of an experimental elementary program they hope to implement in Reggio Emilia, but because my comparisons have focused on the age of the children with whom I work, I have not pursued information about that program).

While it is important to consider primary sources - Montessori's original ideas next to Loris Malaguzzi's original ideas, I have also sought the work of current practitioners of each educational tradition in an effort to compare recent thinking in both the Reggio and the Montessori fields. Although I have informally heard of many other Montessori schools that are beginning to explore incorporating elements of each philosophy into one program, as we have at Children's Garden, I have found little literature comparing both philosophies or describing a practice of combining elements of each within one school. Furthermore, because Reggio educators have thus far provided little

comprehensive training in their approach, and prefer that schools outside their city are simply "inspired" by them, even if a Montessori school is attempting to incorporate Reggio elements into their program, the possible interpretations of that combination of philosophies and practices are numerous. These circumstances have made what might seem like a straightforward comparison of two educational philosophies that have both developed an approach for children of the same age, somewhat complex.

As described previously, I have organized my study of the literature about the Montessori and Reggio Emilia approaches according to how each philosophy describes the children, the teachers, and the environments of these schools. Within those three categories I have searched for information about how each philosophy views the activities of each group within a learning environment, and in fact, how that environment is defined. I start with how the two educational movements began, because I believe their beginnings, and the personalities of the two people most responsible for the two educational approaches – Maria Montessori and Loris Malaguzzi - may provide interesting pointers about how the two philosophies have developed. Carolyn Pope Edwards (2003) notes that Italy is not a large country, nor a country that has produced significant scientific research in many areas, but in the field of early education,

> . . . it can be described as a kind of gifted, creative giant. Italians have
> always revered beauty, architecture, painting, cuisine, and creative

design. In a similar fusion of art and science, they have produced two of

the 20th century's most innovative and influential leaders in early

education, along with their methods of pedagogy and philosophies of

education. The two figures were Maria Montessori (1870-1952) and Loris

Malaguzzi (1920-1994). (p. 34)

I begin with a description of the beginnings of the Montessori educational

movement.

Montessori's beginnings. Maria Montessori was born in 1870 in

Chiaravalle, Italy, the only daughter of a well-respected and well-positioned

family. (Standing, 1957/1998; Edwards, 2003) It is clear from her decisions

about her own education that she was independent, opinionated, and not

afraid of defying the social norms of her time. She first studied to become an

engineer, then became interested in biology, and finally studied to become a

doctor. She was the first woman in Italy to graduate from medical school. Years

later, she obtained an advanced degree in physical anthropology. She

approached the study of young children as a scientist would, and encouraged

teachers she prepared to teach in her schools to approach their work

scientifically. In *The Montessori Method,* she describes her wish "to awaken [in

the teacher] that scientific *spirit* which opens the door for him/her to broader

and bigger possibilities." (1912/1964, p. 9)

Montessori opened her first *Casa de Bambini* in 1907 in the San Lorenzo

slum district of Rome, having been asked to look after little children who were

left alone during the day while parents and older siblings worked. Previously she had worked with "deficient" children in insane asylums in Rome, creating materials and developing techniques that proved to be so successful with children thought to be impossible to educate that she hoped to try her methods with children considered normal. She saw San Lorenzo as presenting that opportunity. (Standing, 1957) Her own descriptions of the timid, frightened, and dirty children who came to her center in San Lorenzo, however, paints a picture so dire that many people would not have felt hopeful about the future of these children, but Montessori (1912/1964) wrote in *The Montessori Method* that,

> . . . from the very first I perceived, in all its immensity, the social and pedagogical importance of such institutions [childcare centers in tenement houses in Rome] and while at that time my visions of a triumphant future seemed exaggerated, today many are beginning to understand that what I saw before was indeed the truth. (p. 43)

In subsequent pages of *The Montessori Method,* she describes at some length the development of the relationship between the parents of the young children and the *Casa de Bambini – the Children's House -* and its teacher, who was given a place to live within the remodeled tenements. As parents began to interact with the Children's House and its teacher, their attitudes changed. Using the metaphor of autopoiesis, the families experienced a process of structural coupling with this new system in their lives. Their relationship with

the Children's House began as one imposed on them by the association which managed the tenements. Montessori (1912/1964) describes "regulations" posted on the walls of the tenement that read: "The mothers are obliged to send their children to the 'Children's House' clean, and to co-operate with the Directress in the educational work". (p. 61) From that early time when families behavior toward the Children's House was regulated, Montessori describes a later time when, in her words,

> . . . we may say that the mothers *adore* the 'Children's House', and the directress. How many delicate and thoughtful attentions these good mothers show the teacher of their little ones! They often leave sweets or flowers upon the sill of the schoolroom window, as a silent token, reverently, almost religiously, given. (p. 64)

The relationship between family and school had evolved from forced compliance to grateful appreciation.

While working with children thought to be retarded, Montessori studied the work of French physician Dr. Jean-Marc Itard and his student Dr. Edouard Séguin, and was so convinced of the brilliance of their work with retarded children in France that she is said to have translated and copied their books in longhand as a help in understanding them. From a study of Itard and Séguin's work, she developed her ideas about the critical periods of development that human children pass through, which she called "sensitive periods" of development, much of her didactic materials aimed at developing sensory

awareness and acuity, and one of her signature techniques for introducing new vocabulary - the three- period lesson. (Standing, 1957: 1998; Chattin-McNichols, 1998; Edwards, 2003) Montessori only briefly mentioned other sources of influence to her thinking, but John Chattin-McNichols (1998) believes that "it is fair to say that Montessori was an eclectic borrower. But the primary borrowing of materials seems to have come from Séguin." (p. 36)

Further reading of Chapter III of *The Montessori Method* shows her early interest in educational institutions as a means to change society. She imagined possible "tenement-clubs" in which workmen might socialize or read in the evenings. She considers the possibility of a "new woman" who might be "like man, an individual, a free human being, a social worker; and like man, she shall seek blessing and repose within the house, the house which has been reformed and communized [sic]". (p. 69)

Montessori's early descriptions of this very first school reveal a vision that she never lost. She viewed the education and care of young children, whom she came to describe as the creators of the human adult, as a force for change and for good within human society, and that attitude has continued to have voice in the international Montessori community of educators. (Chattin-McNichols, 1998; Edwards, 2003; Lillard, 1972; Standing, 1957)

Reggio's beginnings. Loris Malaguzzi, the Italian educator considered to be the founder of the Reggio Emilia approach, wrote this description of the

beginnings of the Reggio schools, which occurred "six days after the end of the Second World War:"

> It was the spring of 1945. I [found] women intent upon salvaging and washing pieces of brick. The people had gotten together and had decided that the money to begin the construction would come from the sale of an abandoned war tank, a few trucks, and some horses left behind by the retreating Germans. (Malagizzi as cited in Edwards et al., 1998, p. 49-50)

Unlike the first Montessori school which was begun *for* parents the first Reggio school was begun *by* parents, and extensive parent involvement continues to be an essential part of the Reggio model today.

Malaguzzi, at that time a young middle school teacher with an educational background in psychology and pedagogy, continued to be involved from a distance in the development of the pedagogical system in the small but growing group of schools for infants, toddlers, and preschoolers in Reggio Emilia. He gradually became more involved in the development of the schools and their pedagogy, and eventually joined the families to serve as director of the system of municipal early childhood centers of Reggio Emilia until his death in 1994. With Malaguzzi's active leadership, the first school created by mothers near Reggio Emilia in 1945 has today evolved into a system of city-run infant/toddler and early childhood centers numbering approximately sixty schools. Since Malaguzzi's death, the *Reggio Children International Center for the Defense and Promotion of the Rights and Potential of All Children* works to

support the schools and provide information about the Reggio Emilia approach. (Edwards et al., 1998; Gandini, L. & Edwards, C., 2001; Retrieved on July 1, 2009 from www.aboutenglish.it/comeniusasilo2/malaguzzi.htm)

Unlike Montessori, Loris Malaguzzi and other Reggio educators are generous in their acknowledgement of others who they have found influential or with whom they have collaborated. I believe it possible that the long lists of educators with whom they have worked is reflective of the social-constructivist bent of the Reggio philosophy. Montessori is certainly one of their influences, and is described by Malaguzzi as being "our mother". (Renaldi, 2006, p. 7) In addition to Montessori, Malaguzzi mentioned early influences to his thinking as being John Dewey, Henri Wallon, Edward Chaparede, Ovide Decroly, Anton Makarenko, Lev Vygotsky, Eric Erikson, Urie Bronfenbrenner, Jean Piaget, Pierre Bovet, Adolfe Ferriere, Celestine Freinet, and the Dalton School in New York City. Then, in the 1970s, they:

> . . . listened to a second wave of scholars, including psychologists Wilfred Carr, David Shaffer, Kenneth Kaye, Jerome Kagen, Howard Gardner, and the philosopher David Hawkins, and theoreticians Serge Moscovici, Charles Morris, Gregory Bateson, Heinz Von Foerster and Francisco Varela, plus those who work in the field of dynamic neuroscience. (Edwards et al., 1998, p. 59-60)

Later in the same interview with Gandini, Malaguzzi added a comment about additional influences to their thinking, significant because it hints at their current practice of inviting adults from varied disciplines into their schools to work with the children:

But talk about education (including the education of young children) cannot be confined to its literature. Such talk, which is also political, must continuously address major social changes and transformations in the economy, sciences, arts, and human relationships and customs. All of these larger forces influence how human beings – even young children – "read" and deal with the realities of life. (Malaguzzi as cited in Edwards et al., 1998, p. 60)

In spite of the extensive list of influences shared by Malaguzzi, one theorist appears to have had the most significant influence to the Reggio philosophy, and that is Russian psychologist Lev Vygotsky. According to Carol Garhart Mooney (2001), author of *An Introduction to Dewey, Montessori, Erikson, Piaget and Vygotsky,* Vygotsky built on Piaget's belief that children *construct* their understanding of the world through active engagement with it, but further developed a study of the social quality of learning.

Vygotsky. . . thought that personal and social experience cannot be separated. The world children inhabit is shaped by their families, communities, socioeconomic status, education, and culture. Their understanding of this world comes, in part, from the values and beliefs of

the adults and other children in their lives. They develop language skills

and grasp new concepts as they speak to and listen to each other. (p. 83)

The socio-constructivist style of the Reggio Emilia approach has its roots

in these Vygotskian theories about how learning occurs. Vygotsky believed that

children learn in social settings that include peers and adults, and that they

operate within an area of understanding he called the *zone of proximal*

development (ZPD), which Malaguzzi described as "the distance between the

levels of capacities expressed by children and their levels of potential

development, attainable with the help of adults or more advanced

contemporaries". (Edwards et al., 1998, p. 83) A socio-constructivist style, as

well as acknowledgement and use of the zone of proximal development,

permeate the Reggio Emilia approach. Help given to children in order that they

might move upwards within a ZDP Vygotsky called *scaffolding,* which might be

provided by a more capable peer or an adult. (Edwards et al., 1998; Edwards,

2003) A short video of a lesson with a child, meant to demonstrate a teacher's

use of her understanding of a children's ZDP, reminds me a great deal of a

well-done Montessori lesson with the addition of considerable use of language.

(Retrieved on June 21, 2009 at www.sciencestage.com/v/687/lev-vygotsky-

zone-of-proximal-development.html) From Vygotsky as well, comes the Reggio

understanding of the relationship between thought and language, and the role

of language in education. Malaguzzi writes that, "Vygotsky reminds us how

thought and language are operative together to form ideas and to make a plan

for action, and then for executing, controlling, describing, and discussing the action. This is a precious insight for education". (Malagizzi as cited in Edwards et al., 1998, p. 83)

Although Vygotsky's influence is strong within the Reggio Emilia approach, Malaguzzi is careful to disentangle the approach from any one theorist, and refers to Vygotsky as "our own Vygotsky", and Piaget as "our own Piaget" (Edwards et al., 1998, p. 81 & 83), just as he refers to Montessori and "our mother", from whom they have had to move on. (Renaldi, 2006, p. 7)

The child. The child is the protagonist in our autopoietic metaphor, so how educators from each tradition view the child, and then how they describe the activity of the child, can be seen as a way to describe education. At first glance, it appears that there are great similarities in how Montessori and Reggio educators view the child from birth to six, and other educators have noted that as well. Beth McDonald (2003) writes: "In my estimation, Montessori and Reggio both see the child as competent, resourceful and independent". (p. 8) Carolyn Pope Edwards (2003) writes that Montessori saw children as "intelligent, active, reality-based, self-regulating and self-righting." Reggio educators, Edwards writes, see the child as "intelligent, powerful, curious, social from beginning of life." (Edwards, p. 35)

A peek beneath the surface, however, uncovers some significant differences in how Montessori and Reggio educators view children, and their dissimilar views result in similarly significant differences in their programs.

Both philosophies might view the child as powerful and resourceful, while at the same time differing in their estimation of what the child might *do* with that strength and ability. Montessori developed clear descriptions of the developmental stages she observed in children, and believed that children all over the world, in spite of cultural differences, would follow those developmental stages. (Chattin-McNichols, 1998; Loeffler, 1992; Stoll Lillard, 2005) Joy Starr Turner (1992) wrote that "Montessori's theory of development postulated a universal child". (Turner in Loeffler, Ed., p. 29) Malaguzzi, on the other hand, viewed children as being deeply embedded in a particular culture. (Renaldi, 2006: Gandini et al. 1998) While I believe it is likely that Montessori and Malaguzzi might have agreed that universality and cultural embeddedness are both true, and not necessarily mutually exclusive, where each places the emphasis as they describe a child has resulted in differences in the educational approaches they developed. Malaguzzi also found the belief in developmental stages, which is integral to Montessori theory, limiting, even referring to stages as being potentially "imprisoning." (Renaldi, 2001, p.182)

Montessori's view of the child. Montessori was trained as a scientist, and based her understanding of child development primarily on her the scientific practice of careful and extended observation, both of the natural world and of children themselves. Her first sentences in *What You Should Know about Your Child* are: "The Montessori Method is scientific education. Knowledge of

childhood is its foundation. It is built on the discovered laws of the development of the body and mind of the child". (Montessori, 1950/1966, p. 1)

Joy Starr Turner (1992) lists these "four basic principles" as describing Montessori's theory of child development:

(a) Development is hierarchical and unfolds in a series of stages.

(b) The child is different from the adult – in purpose, pace and rhythm, mentality, and needs.

(c) The mechanism of development is both genetic and constructive.

(d) The child is innately motivated to fulfill both physical and psychic potentialities through activity and interaction with the environment. (Turner as cited in Loeffler, 1992, p. 21)

She believed that children go through different stages of development, which she called the Planes of Development, and she customized her approach based on the characteristics exhibited in each plane. The period from birth to six, which is the age range during which Reggio educators work with children, Montessori called the First Plane of Development. Janet Engel, an AMS Montessori consultant, lists these characteristics as those that Montessori identified as describing children in the First Plane of Development: "1) absorbent mind; 2) sensitive periods for language, movement, order; 3) construction of individual self; 4) creation and refinement of basic human behaviors; 5) seeks independence and freedom." (personal communication, Janet Engel, June 15, 2009)

Montessori writes of three distinguishing characteristics of the child from birth to six that she called the *absorbent mind*, the *spiritual embryo*, and the *sensitive periods of development*. The *absorbent mind* is the term she used to describe the young child's ability to learn effortlessly from his/her environment. "[The child] absorbs knowledge directly into his/her psychic life. . . . Impressions do not merely enter his/her mind; they form it. They incarnate themselves in him/her. . . . We have called this type of mentality, *The Absorbent Mind.* (Montessori, 1967:1995, p. 25-26)

By the term *spiritual embryo,* Montessori meant that a human child, whose level of development at birth is less advanced than most other mammals, follows a developmental path which is to a great extent unguided by instinct, even though it follows developmental patterns. She described the human infant as having hidden within him/herself potential that will be only revealed in time as he/she grows. She was describing her belief in the capacity of the human child to construct the adult he/she will eventually become. Montessori's notion of *sensitive periods* refers to time-limited stages she observed in children during which a child focuses intensely on acquiring a particular skill, like walking or talking. Montessori believed that after a sensitive period has passed, a child would never again be able to acquire a skill so effortlessly, so she developed her didactic materials to take advantage of these periods of intense and focused development.

Montessori built her educational approach around a child she viewed as capable, self-directed, of unknown potential, and always and intensely seeking independence. Montessori's grandson Mario Jr. (1976/2008) writes that, "The motto of Montessori education, derived from the utterance of a toddler ('Help me to do it myself'), implies an acknowledgement of the child as a striving being with its own aims and needs." (p. 40-41)

How to support the child in his/her quest for independence runs through Montessori's educational approach from toddlerhood to young adulthood. She wrote that the university student needs to achieve "his/her own independence and moral equilibrium" (Montessori, 1948/1994, p. 93), and of infants: "All the efforts of growth are efforts to acquire independence. . . The child needs to do things by himself/herself from the beginning of life, from the moment he/she is capable of doing things". (Montessori, 1961/1966, p. 11-12)

Her strong belief in a child's drive toward independence may be behind some practices typical to Montessori primary classrooms that are supportive of individual work. Although Montessori's approach to education has been described as early constructivist by some (Loeffler, 1992, Chap. 5; Lillard, A. S., 2005, p. 11), I do not believe that the Montessori approach for children in the First Plane of Development could be considered socio-constructivist, and will write more of that later in this paper.

The Reggio view of children. In each of several Reggio conferences I have attended in the last four years, sessions have begun with a discussion of the

view of the child. In the teacher workroom at the Boulder Journey School, a Reggio school in Boulder, Colorado, the walls are covered with words describing how the Journey School teachers view the child. How the child is defined forms the basis of their work. Reggio educators place so much importance on their image of the child that I have chosen to include the following description from *In Dialogue with Reggio Emilia,* by Carlina Renaldi. (2001)

> One of the focal points of the Reggio Emilia philosophy, as Loris Malaguzzi wrote, is the image of a child who, right from the moment of birth, is so engaged in developing a relationship with the world and intent on experiencing the world that he/she develops a complex system of abilities, learning strategies and ways of organizing relationships. This is: (1)A child who is fully able to create personal maps for his/her own social, cognitive, affective and symbolic orientation. (2)A competent, active, critical child; a child who is therefore 'challenging', because he/she produces change and dynamic movement in the systems in which he/she is involved, including the family, the society, and the school. (3) A producer of culture, values and rights, competent in living and learning. (4) A child who is able to assemble and disassemble possible realities, to construct metaphors and creative paradoxes, to construct his own symbols and code while learning to decode the established symbols and codes. (5) A child who, very early on, is able to

attribute meanings to events and who attempts to share meanings and

stories of meanings. (p. 83-84)

Even though some words in this description of the child are similar to

ones that might be chosen by Montessori teachers, Reggio educators and

Montessori educators understand child development differently. In contrast to

Montessori, Reggio educators seldom mention the developmental stages of

children. Carlina Renaldi writes, in regards to Piaget, that,

In the seventies, the children opened up a lot of new possibilities. In

terms of Piaget they gave us the courage of having a big crisis regarding

the phase, referring later to the theory of "phases" as being a kind of

imprisonment. (Renaldi, 2001, p.182)

Malaguzzi, also in discussion about Piaget and his contribution to the

Reggio Emilia approach, disparages Piaget's belief in the "lock-step linearity of

development", and his "overuse of paradigms from the biological and physical

sciences." (Edwards et al., 1998, p. 82) No doubt if Malaguzzi had been

discussing Montessori's theories, he would have found her Planes of

Development and comparisons between human stages of development and the

stages of a butterfly limiting as well. (Montessori, 1949/1995, p.101)

The Learning Environment. A full description of children in an educational

setting must involve the environment in which they act, and curriculum that

sets them in motion. Montessori referred to an environment ready for children

as "the prepared environment". (Montessori, 1967, p. 47-48) Most Montessori

teachers today use that term to describe a classroom prepared for children. I believe it is possible that Montessori herself might have been referring to more than a single classroom when she described her first "Children's House" as being "socially important in that it was a "school within a house", but what she has given us are detailed directions for how a classroom environment should be designed. (Montessori, 1967, p. 40) In contrast, Reggio educators refer to an environment readied for children as "the amiable environment", and by that they mean an entire school building and the spaces therein. (Edwards et al., 1998, p. 63-64) I believe this difference in scope of environmental planning reveals significant differences between the two approaches. One of the areas of similarity between the two philosophies seems to be a shared belief in the importance of the child's learning through interaction with the environment (thus the relevance of the metaphor of autopoiesis), so a variance in size and scope of the environment is significant.

The Montessori prepared environment. Montessori placed great importance on the learning environment. Her grandson Mario Montessori Jr. (1976/1992) quoted her as saying, "To understand the child's tendencies with the purpose of educating him/her, we must see [the child] in correlation with the environment and how his/her adaptation to it is created." (p. 6) Montessori classroom environments are orderly, sequenced, structured, functional, and predictable. Classrooms are arranged to support the child's strong need for order and desire independence, for freedom of movement and for choice.

Montessori has been recognized as being the first educator to furnish classrooms with child-sized tables and chairs, light enough so that the children could easily arrange them by themselves. (Montessori, 1967, p. 47) One of the primary goals of a Montessori prepared environment is to support the child developing independence from the adult, "that is, it is a place where he/she can do things for him/herself – live his/her own life – without the immediate help of adults." (Standing, 1957, p. 267) During the period from birth to six, Montessori believed that children become increasingly more proficient at choosing their own activities from many possibilities, so as a child moves from an infant/toddler program to a primary program, the number of choices increases. (Lillard, P.,2003, Chap. 1; Lillard, A.S., 2005, p. 98-99)

Montessori classrooms are arranged with low open shelves upon which are displayed carefully designed didactic materials divided into the following areas: activities designed to help a child master tasks of daily life called Practical Life activities; the Sensorial Materials, whose aim is the education and refinement of the senses; Math; Language; and the Cultural Areas, which include history, geography, the sciences and the arts. Within classrooms teachers often hang prints by well-known artists so that children are exposed to great art, and place natural objects like sea shells, plants or small pets in the room. Believing that children have yet to fully develop the ability to gather necessary materials together for a particular task, Montessori trained her teachers to place all the materials needed to accomplish one task together so

that the child can easily manage without assistance from an adult. Within each area, materials are arranged from easiest to most difficult and from concrete to abstract. For example, at one end of a math shelf might be materials for counting from one to ten using large manipulative materials, and at the other end, counting to one thousand, or working with the decimal system using smaller, more abstract manipulative materials. To say that a well-prepared Montessori environment is like a highly organized sailing ship is not too much of an exaggeration!

The Reggio amiable environment. As in the Montessori approach, a carefully designed environment is a hallmark of the Reggio Emilia schools, although instead of a prepared environment, the Reggio educators refer to their schools environments as *amiable* environment. "Our objective, which we always will pursue, is to create an amiable environment, where children, families, and teachers feel at ease." (Malaguzzi as cited in Gandini et al., 1998, p. 63) In contrast to Montessori's environment that is designed for the child, the Reggio environments are designed to meet the needs of the child, the teachers, and the families of the school. I returned from visiting Reggio Emilia to tell people that the schools were so lovely it was as if every time something was put in a classroom environment, the question was asked – is there a way we can make that more beautiful? The attention to detail I observed, even as a longtime Montessorian who has seen many lovely environments, was striking not just

for its beauty, but also for its use of natural and handmade materials. Returning home from Italy, I was not surprised to read,

> . . . entering a Reggio school was first and foremost an emotional experience. One could feel them vibrating with life and though the thinking of Montessori, Freinet and Dewey could be recognized in them, it was apparent that the language of spatial environment went beyond that, thanks to the attention paid to architecture and visual arts. (Renaldi, 2001, p. 77)

Carlina Renaldi writes at length about the conversations between educators and architects about the buildings that either were built expressly to be schools, or remodeled to become schools. Reggio educators describe space as an expressive language, and one that is very strong, and is a conditioning factor. "Young children demonstrate an innate and extremely high level of perceptual sensitivity and competence – which is polysemous and holistic - in relation to the surrounding space" (Renaldi, 2001, p. 82)

In one school I visited in a remodeled two-story stone farmhouse, teachers described inviting a troupe of modern dancers into the newly remodeled building to explore the space with the children. As I listened, I recalled my initial impressions of Children's Garden – open spaces, floor to ceiling windows, peepholes cut in walls – and felt more certain that Bobbie Hobbs, in designing the building, had remembered some of these Italian schools.

Like Montessori classrooms, the environments are carefully designed to promote independent activity by the children, and Reggio children are given a great deal of freedom to choose their own activities within the environment. Reggio educators call the environment the "third teacher", with classroom teachers and parents being the first two. Unlike Montessori classrooms, however, the Reggio classroom environments contain very few if any materials that have been designed to introduce a particular concept. In fact, the schools I observed contain few commercially produced pedagogical materials at all. Instead, they were filled with art supplies of every description, and extensive collections of natural and recycled manufactured objects carefully categorized and displayed by color, texture, or shape. Collections of natural objects like bones, sea shells, stones, grasses, and sticks are available for children to admire or touch, as well as plants and animals to observe. Classrooms contain light tables, overhead projectors, and many "sensory tables", some so large that big logs or branches might be contained within them. (personal observations, *Dialogues on Education; Professors and Students International Study Tour,* Loris Malaguzzi International Center, March 1-5, 2008, Reggio Emilia, Italy)

It is quite possible to describe a single classroom – one Montessori prepared environment within a school - which operates quite separately from all the other classrooms in the school (this is certainly not an essential characteristic of a Montessori school, but it also is not uncommon). This would not be the case in the Reggio schools that I visited in Italy. The schools operate

as a group of adjoining spaces rather than the independent rooms often seen in Montessori schools. Within each Reggio school are classrooms and an *atelier*, or workshop, which is shared by children from all the classrooms. The *atelier* can be used as a resource room, an art room, or a room in which large and lengthy projects might be carried out. Via Vecchi, long-time *atelerisita* in Reggio Emilia, said in an interview with Carlina Renaldi, that, "The *atelier* serves two functions. First, it provides a place for children to become masters of all kinds of techniques, such as painting, drawing, and working in clay - all the symbolic languages. Second, it assists the adults in understanding the processes of how children learn." (Gandini et al.,1998, p. 140)

Other spaces in the Reggio schools include *mini-ateliers,* or small art areas, in each classroom, a central space, or *piazza,* which, like the *piazzas* in the city, are "place of encounters, friendships, and games", a lunch room and kitchen, and an entry-way which is used to display artwork or other artifacts that show the culture of a particular school. (Malaguzzi in Edwards et al, 1998, p. 64) Reggio schools also have communication centers – areas devoted to sending drawings, notes, or letters to children or staff members in the school. They are supplied with all sorts of writing and drawing materials, and each person in the school community has a mailbox for receiving written communications. Although there were certainly child-sized tables and chairs, and the low open shelves one might see in a Montessori environment, there were also platforms of various dimensions that were being used to delineate

work areas for projects done by the children. Mirrored surfaces were common, especially in toddler or infant rooms. (Edwards et al. 1998; personal observations, *Dialogues on Education; Professors and Students International Study Tour,* Loris Malaguzzi International Center, March 1-5, 2008, Reggio Emilia, Italy)

Perhaps most distinctive about Reggio schools is the documentation that covers the walls. Documentation became the topic of my research for TIES, so it will be described more extensively in Chapter III. Also distinctive to each school are pieces of artwork or writings that the children leave behind as gifts for the school and future students, and as a way to build up the cultural identity of the school.

In the previous sections, I have tried to describe two autopoietic environments designed for children, in some ways similar in appearance, but different in their goals and in the kinds of responses they elicit from children. I have been curious about what behavior the educators who have developed these two different kinds of environments expecting from the children, and what behavior will they get. Children, I believe, are at the same time independent and social, seeking autonomy and connection, needing both stimulus and calm, and responding to both order and beauty. Perhaps, as I suggest in Chapter I, there are fruitful conversations waiting to happen between Montessori and Reggio educators which can enrich our lives as educators, and in turn, the lives of children.

The role of the Montessori teacher. The role of the teacher is quite different in Montessori and Reggio. Unlike the Reggio teacher who might describe her/himself as a co-learner with a group of children, Montessori teachers might be more likely to describe themselves as the link between the child and the environment, and protectors of the sanctity of a child's activity with the environment. Carolyn Pope Edwards wrote that Montessori "teachers prepare the environment, observe children, give demonstrations, and are resources and models." Of Reggio teachers, she wrote: "teachers prepare the environment, listen to the children, and are resources, models, and partners in learning." (Edwards, 2003, p. 35) When comparing the role of teachers in the Reggio Emilia philosophy with the Montessori philosophy, Ellen Hall, the director of the Boulder Journey School, a Reggio-inspired school in Boulder, Colorado, told me: "I think of Montessori as hands off. I think of Reggio as hands close." (personal communication, E. Hall, November 2008)

For Montessori, helping a child achieve independence from the adult was a primary goal. In service to helping a child toward independence, Montessori counseled teachers that "beyond a certain point every help given to a child is an obstacle to its development." (Montessori, 1950/1966, p. 9) In many ways, she saw the teacher's role as being to remove obstacles from the path of a child. "Evidently the social conditions produced by our civilization create obstacles for the normal [human] development." (Montessori, 1955/2007, p. 10) "The child really learns only when he/she can exercise his/her own

energies according to the mental procedure of nature. . . .the child learns by his/her own activity, taking culture from the environment and not from the teacher. . . " (Montessori, 1955/2007, p. 39)

So the role of a Montessori teacher becomes to create a connection between the child and a carefully prepared environment, and then step aside and observe. The connection between child and the environment is done by introducing materials to the child in short, clear lessons which demonstrate one way to use a material. The teacher is also responsible for preparing and maintaining the environment, and keeping it lively and interesting to the child.

The role of a Reggio teacher. Reggio educators particularly focus on the learning that occurs in a social context, and from that philosophical focus, one can derive a description of the role of the Reggio teacher. Two teachers work as a team of equals in a process that Malaguzzi called "co-teaching." They continue that collaborative model with children, referring to themselves as co-learners or co-researchers with the children. (Edwards et al., 1998, p. 71) Of teachers, Malaguzzi writes: "To learn and relearn together with the children is our line of work. We proceed in such a way that the children are not shaped by experience, but are the ones who give shape to it." (Edwards et al., 1998, p. 86)

As a way to support children in co-learning, Reggio teachers lend children their writing skills as they document children's work, which they share with the children and parents, and use themselves as they collaborate

with each other and as they negotiate curriculum with the children. It is not only an active role, but a varied one as well.

> We need a teacher (educator) who is sometimes the director, sometimes the set designer, sometimes the curtain and the backdrop and sometimes the prompter. A teacher who is both sweet and stern, who is the electrician, who dispenses the paints and who is even the audience – the audience who watches, sometimes claps, sometimes remains silent, full of emotion, who sometimes judges with skepticism and at other times applauds with enthusiasm. (Malaguzzi as cited in Renaldi, 2006, p. 73)

Supporting teams of Reggio teachers are the *atelierista,* or art teacher, and a *pedegogista,* who is a highly experienced teacher-consultant who works with several schools at once to help teachers in the complex process of developing curriculum with the children. The *atelierista,* according to Vea Vecchi, longtime *atelierista* in the Reggio schools, serves a supporting role to both teacher and child as a trained artist who is able to give lessons with the many different graphic symbolic expressive media like painting drawing, and sculpture. He/she is a member of the collaborative team of teachers who hypothesize about the direction children might take with a particular idea or interest and prepare materials to support the children as they develop their ideas. (Vecchi as cited in Edwards et al., 1998, p, 141)

Carolyn Pope Edwards writes that Reggio educators assume the responsibilities of being politically active in support of early childhood

education to other more typically accepted teacher roles. Edwards also writes that Reggio teachers regularly conduct research in the classroom. Carlina Renaldi also strongly promoted the notion of teacher-as-researcher during a lecture in Reggio Emilia. (Edwards et al, 1998; transcribed lecture, *Dialogues on Education: Professors and Students International Study Tour,* Loris Malaguzzi International Center, March 1-5, Reggio Emilia, Italy)

Constructivism and socio-constructivism. Constructivists believe that learning occurs as a child interacts with the environment and thus gives his/her own meaning to the people, places, and things in their world. (Mooney, 2000, p. 61-62) Their model is essentially the autopoietic model. Many believe that Montessori was a constructivist, and throughout Montessori's writing find descriptions of the learning process which appear to place her in the constructivist camp. Angeline Stoll Lillard (2005) describes the constructivist theories of ". . . educational theorists such as Dewey, Piaget, Bruner and Montessori [who are] referred to as constructivists because they view children as constructing knowledge, rather than simply taking it in like an empty vessel". (p. 12) Echoing that description of constructivism with a statement of Montessori's beliefs, Mario Montessori Jr.(1976/2008) writes that "all aspects of [the child's] personality must be formed by his/her own experiences as he/she interacts with the environment. . .". (p. 11)

Montessori supported the child's construction of his/her understanding by providing carefully designed materials, each one focused on demonstrating

one quality, allowing for as much repetition as the child likes, and having built into their design, a way to see whether the material is used correctly or not. Margaret Loeffler (1992) also considered Montessori a constructivist, and described the built-in characteristics of the Montessori materials as a "unique form of scaffolding", which, although in style and method of delivery unlike the Reggio scaffolding that a teacher or more capable child might provide, in result and intent, is the same. (p. 109)

In contrast to Montessori, who seems to have believed that children in the First Plane of Development construct their knowledge individually, and thus trained teachers to protect the concentrated individual work of the child, Reggio educators believe that children construct their understandings in a social context. Highly influenced by Russian psychologist Lev Vygotsky, they have built their approach around supporting the social aspects of the child's construction of knowledge. (Mooney, 2000; Renaldi, 2005; Edwards et al,. 1998) Their philosophy, therefore, is most correctly described not just as constructivist, but socio-constructivist. That philosophical difference leads to what I believe is one of the greatest visible differences between the Montessori and Reggio approaches – the curriculum, and the delivery of the curriculum.

The Montessori curriculum. Because Montessori developed a curriculum for children through adolescence, it is difficult to describe her curriculum for children under the age of six without referring to her understanding of

humanity's task on earth, which Mario Montessori Jr. (1976/2008) describes as this:

> . . . the service that must be rendered to by the individuals of each species to the environment on which they are dependent for their existence to maintain it in such a way that it will support their descendants, generation after generation. (p. 99)

To prepare children for this task, or responsibility, is the goal of the "cosmic education" she envisioned for children from six to fourteen, so one can consider the education for children under the age of six to be preparation for this level of Montessori's cosmic education. (Montessori, Mario Jr., 1976/2008, chap. 8) Within the highly manipulative, concrete materials which fill a primary Montessori classroom is hidden her curriculum, meant to connect children with the natural and cultural world and come alive as they interact with them. It is not only a complex curriculum, but carefully integrated and interwoven. Angeline Stoll Lillard (2005) describes the Montessori curriculum like this:

> . . . the overarching Montessori curriculum is [. . .] tightly structured. Materials within a curriculum area are presented in a hierarchical sequence, and there is a complex web of interrelationships with materials in different areas of the curriculum. As far as I know, no other single educational curriculum comes close to the Montessori curriculum in terms of its levels of depth, breadth, and interrelationships across time and topic. (Lillard, A. S., 2005, p. 21-22)

As described earlier in a section about the prepared environment, the Montessori materials are divided into several areas. By working with the didactic materials over a period of three years, a child is exposed to a holistic curriculum within the prepared environment which systematically introduces the child to "the world at large [but] within reach of the child at whatever stage of development it is at any given moment." (Montessori, Mario Jr., 1976/2008, p. 18)

Reggio educators use the word research often to describe the activities of children and teachers, and I believe one could also use the word research to describe the learning that occurs as a child works with a particular Montessori material. In a Montessori setting, children's research is supported by very simple structures and procedures that help a young child who has still-developing skills. The room is exceedingly orderly and predictable. Materials are sequentially arranged from easiest to more difficult and concrete to abstract, and are presented to a child in the same sequentially ordered way. Children are shown procedures for handing their work like how to place it on a rug so that others know it belongs to them, and how to put a material away where they found it when they are done. They are offered vocabulary that names their discoveries, and activities that allow them to develop many of the techniques used by scientists as they conduct research – classification, categorization, grading, and describing. The child does the research for him/herself by interacting with the highly specialized materials each designed

to provide built-in guideposts along the way – particular points of interest, built-in controls of error, the presentation of only one difficulty at a time, and a carefully sequenced path to follow from one didactic material to the next. Compared to Reggio educators, Montessori educators leave very little to chance. (Lillard, A.S, 2005; Lillard, P., 1972; Montessori, 1949/1995; Montessori, 1917/1967)

The Reggio curriculum. Several years ago I sat in an auditorium at the Boulder Journey School listening to a lecture about the Reggio Emilia approach. I listened with my Montessori conditioned ears. All of a sudden, I realized something about the approach that seemed so radical to me that goose bumps covered my arms – in Reggio schools, there is no curriculum! (transcribed lecture, Forman, G., July, 2006) Steeped in an educational practice that has possibly the most extensively and thoroughly developed curriculum of any early childhood program, I had not even been able to *hear* this critically important information about the Reggio Emilia approach before. I was stunned – so stunned that I simply refused to believe it. How could a school function without a curriculum? Furthermore, I felt my disbelief was corroborated by the classrooms I had seen at the Boulder Journey School, which were filled with materials, and I tended to agree with Ann Lewin-Behnam (2008) that, "In early education the environment *is* the curriculum." (p. 21)

Since that lecture in 2006, my understanding of the Reggio Emilia approach and its curriculum (or not) have changed considerably, and today I

believe it is more accurate to say there is no *set* curriculum. Reggio educators describe the curriculum in their schools as being *emergent* or *negotiated.* Ideas can emerge from children or teachers, or from both working together. Ideas might emerge because of a chance event, an idea or problem posed by a child, an experience initiated by the teacher. As ideas begin to form, teachers listen carefully, ask generative questions, documentation what is hear, and then collaboratively imagine many different ways the children's interests might go, trying to stay one step ahead by preparing for various possible scenarios. Ideas are developed into projects within small groups of children with the assistance of the teacher and often the *atelierista.* As a project emerges, the children use different symbolic languages to express their developing questions and understandings. Teachers provide records of the children's work as they document, often using their documentation to help the children know where they have been, in a process that might be compared to the self-referencing that is part of the autopoietic process. Projects can take anywhere from hours to years, and as they develop, they become the curriculum. (Renaldi, 2006; Edwards et al., 1996; Pope Edwards, 2003; Gandini, 1993; Lewin-Behnam, 2008)

A critical aspect of project development is the use by children of many different graphic symbolic means of expression as a way to explore their questions and express their growing understanding. Documentation of examples of the children's work as they develop projects has formed the basis

for the exhibit of children's work from Reggio Emilia which has traveled the globe since 1981, and which bears the name *I Centro Linguaggi dei Bambini - The Hundred Languages of Children*. (Edwards et al., 1998, p. 12; Retrieved July 7, 2009 from http://zerosei.comune.re.it/inter/100exhibit.htm)

The travelling exhibit was my first introduction to the Reggio Emilia approach, and intrigued me so much that in the mid-1990s, while teaching the language section of the Montessori curriculum at the Montessori Education Center of the Rockies (MECR) in Boulder, Colorado, I took all the Montessori interns to see the exhibit. For me, at the time, in the middle of sharing Montessori's approach to helping children master the language of words, the Reggio exhibit was not so different from what we were doing – it was about children communicating – using the language of art to communicate.

The focus on communication, in all its forms, again underscores the socio-constructivist quality of the Reggio Emilia approach. Carlina Renaldi (2006) writes of a shift from thinking of language as a noun to "languaging" as a verb. "Languaging brings forth a world created with others in the act of coexistence. . ." (p. 12) But using language, any language, requires knowing something about it, so within the Reggio schools, children are given support to "become masters on all kinds of techniques, such as painting, drawing, and working in clay – all the symbolic languages". (Vecchi, V. as cited in Edwards et al., 1998, p. 140) Giving children experience and support in learning those techniques is one of the responsibilities of the *aterierista.* The children in

Reggio schools explore their interests using many different modes of creative expression including but not limited to talking, writing, reading, listening, moving, drawing, painting, building, sculpting, singing, dancing, dramatic play or collage.

Educational goals – independence and connection. Montessori's grandson Mario Jr. describes the goal of Montessori education as being "an aid to life." Maria Montessori herself writes that:

> The great power of [the human] is that he/she adapts to every part of the environment and that he/she modifies it. For this reason every [human] that is born must prepared his/her personality anew. There is no hereditary adaptation in individuals; each must develop something which corresponds to it. (Montessori, Maria as cited in Montessori, Mario Jr., 1976/2008, p. 6)

Thus Montessori saw education as being a help to a child in the process of adaptation to his/her particular place and time. Interestingly, in spite of her belief in supporting the individual child, Montessori's goal of helping a child adapt and orient to his/her time and place is a message of connection, the same message that comes strongly from Reggio educators. Further strengthening the argument that Montessori understood the importance of relationships, Mario Montessori Jr. (1992/2008), her grandson, writes: ". . . human development is the result of an unconscious creative activity of the

individual, and that is process is possible only in association with others. It is only in the community that man's potentialities can be realized". (p. 6)

During my stay in Reggio Emilia, one teacher- trainer said: "We always keep in mind relationships, connections, interdependency, and systems thinking – a school is a system of relationships between children, teachers, and parents, all who are seen as active protagonists." (transcribed lecture, *Dialogues on Education: Professors and Students Study Tour,* Loris Malaguzzi International Center, March 1-5, 2008, Reggio Emilia, Italy)

It appears to me that the goals of each educational philosophy might be very similar – to assist a child in his/her adaptation to a particular time and place. It is a message of relationship and connection. Where the two philosophies differ is not in their understanding of the importance of relationship, but in their beliefs about how best to support a child from birth to six so that they are fully connected, or adapted. Returning to the metaphor of autopoiesis, I believe Montessori educators focus much of their attention on the autonomy, or independence of the child during the First Plane of Development, whereas Reggio educators focus much of their attention on the connections between the child and his/her autopoietic environment. To say that focuses either exclusively on autonomy or interdependence would be inaccurate, but it appears that they may emphasize different areas of development in the child.

Reflections. It is my belief that questions of how best to support these two qualities of the child – a desire for independence and a desire for social

connection – drive the Montessori and the Reggio philosophies and practice. Carolyn Pope Edwards (2003) writes that Reggio is an "education based on *communication and relationships*" and that Montessori approach is "an education based on *freedom and independence."* (p. 35) From independence comes Montessori's practice of encouraging individual work, of meticulously prepared environments, of a built-in control of error that minimizes the need to check with a teacher, of large groups of children with only one or two teachers, reverence for concentration and the sanctity of each child's work within a group, and perhaps a system of teacher training which focuses not on continuing the development of her work, but on honoring what she herself did. From relationship comes the Reggio practice of collaborative small-group work, of the expansion of an environment prepared for a child to an environment prepared for the family, of a belief in socio-constructivism, of supporting symbolic languages which also include the graphic languages of art – all human tools for building relationship, of a style of school organization which emphasizes collaboration and eschews hierarchy.

The challenges facing a school that might be interested in combining elements of both philosophies, are considerable, as are, I believe, the possibilities. Possibilities and challenges are the topics of Chapter IV.

Chapter III: Three Reggio-Inspired Practices

This chapter describes three Reggio-inspired practices we explored within our program at Children's Garden Montessori School. One area of study was the practice of documentation, which we understood to be based on careful observation of children. Since observation is integral to the Montessori approach, we hoped using documentation might improve our observational skills. We also saw documentation as a way to structure and record our study of the Reggio Emilia approach; in essence, we planned to document ourselves exploring the Reggio Emilia approach. A second area of exploration occurred in our studio. Montessori schools as small as Children's Garden do not often choose to have a separate studio space, but ours is a valued tradition at Children's Garden, which we have continued. We were fortunate to have an art teacher who had done her student teaching at the Reggio-inspired Journey School in Boulder, Colorado, and she added valuable insight to our exploration all year long. Small group project work was our third area of study. We frequently had discussions about Montessori's highly developed curriculum compared with the Reggio practice of emergent or negotiated curriculum, as well as how the individual work that is supported by the Montessori approach compares with the small group project work common to Reggio schools. We were eager to try some project work that allowed children to develop their own ideas, especially with our older children. All three of our areas of experimentation overlapped daily. Projects were developed in the art studio.

Documentation drove the project's development, and always there was a great deal of documentation happening in the studio.

This year of exploration represented a choice as a staff to step outside our comfort zone, which is Montessori education. Every teacher at Children's Garden except the art teacher is Montessori trained. Since Children's Garden has a tradition of including Reggio-inspired practices into its program dating back to the mid 1990s, Reggio was not a new exploration for the school, but for many of the current staff, it was new. As head of school, how to manage the disequilibrium with attends exploration and growth- and certainly we did experience growth- dominated my thoughts. Simply that I was the head of school, instead of the founder who had preceded me and led the school for thirty years, already represented considerable change. To follow the challenge of managing that kind of change could be the topic of an entire Culminating Project, but I have chosen instead to include it when it seems to closely relate to something else.

Part I: Reggio-Inspired Documentation

Finding a way to structure our study of the Reggio Emilia approach confounded us for months. Experimenting with documentation, however, provided us with a structure, and became my topic of research. My research question was: *Can the incorporation of Reggio-like documentation techniques deepen the observational practice of Montessori teachers?*

Documentation is a response to observation and listening, a way of recording what teachers see and hear. Reggio teachers place close observation and listening, especially listening, at the center of their pedagogy. As they observe and listen, they gather data using recording tools ranging in sophistication from paper and pencil, to digital cameras, or audio and video recorders. They transcribe children's words, and often collect and save work done by the children. Teachers' reflections add depth and value to the documentation and open up avenues for teacher development, collaboration and curriculum development. Documentation is used: 1) to share with the children themselves as a possible stimulus to further activity and to let them know their effort is valued; 2) as a professional development tool for teachers; 3) to make parents aware of their children's experience and maintain parental involvement, and; 4) to develop and maintain a history of a particular school.

Completed documentation – the collection of transcribed words, photos, and children's work, all interpreted through teachers' reflections - are often carefully displayed for the children and parents to see, either on large poster-like panels, or in journals, called *diarios*, which follow one child's growth and development over a period of several years. *Diarios*, although they describe a single child, always place that child within a group of children, reflecting the Reggio socio-constructivist approach. Observations and photos placed in *diarios* are carefully annotated and reflected upon by teachers. (Edwards et al, 1998; Edwards & Renaldi, 2009; Gandini & Edwards, 2001; Lewin-Behnam,

2008; McDonald, 2003; Pope-Edwards, 2003; Renaldi, 2006; Renaldi, unpublished lecture, 2008; Wein, 2008)

Reggio teachers consider themselves teacher-researchers, and documentation serves as one of their primary research methodologies. Their ongoing research about how children learn is driven by questions like: "How might children acquire knowledge? How might children process and organize knowledge? How might children carry out personal research? How might teachers increase our knowledge of children?" (transcribed lecture, *Dialogues on education: Students and Professors International Study Group*, Loris Malaguzzi International Center, March1-5, 2008, Reggio Emilia, Italy)

Lella Gandini and Jeanne Goldhaber (Edwards & Gandini, 2001) describe the process of documentation as following a circular pattern which begins and ends with questions. A teacher frames a question, observes, records and collects artifacts, organizes observations and artifacts, analyzes/interprets observation and artifacts, builds theories, reframes questions and, plans projects and responses. (See Table 1)

The cycle of inquiry consists of six steps arranged in a circular flow:
1) framing question
2) observing, recording, collecting artifacts
3) organizing observations and artifacts
4) analyzing/interpreting observations & artifacts; building theories
5) reframing questions)
6) planning (projecting) and responding
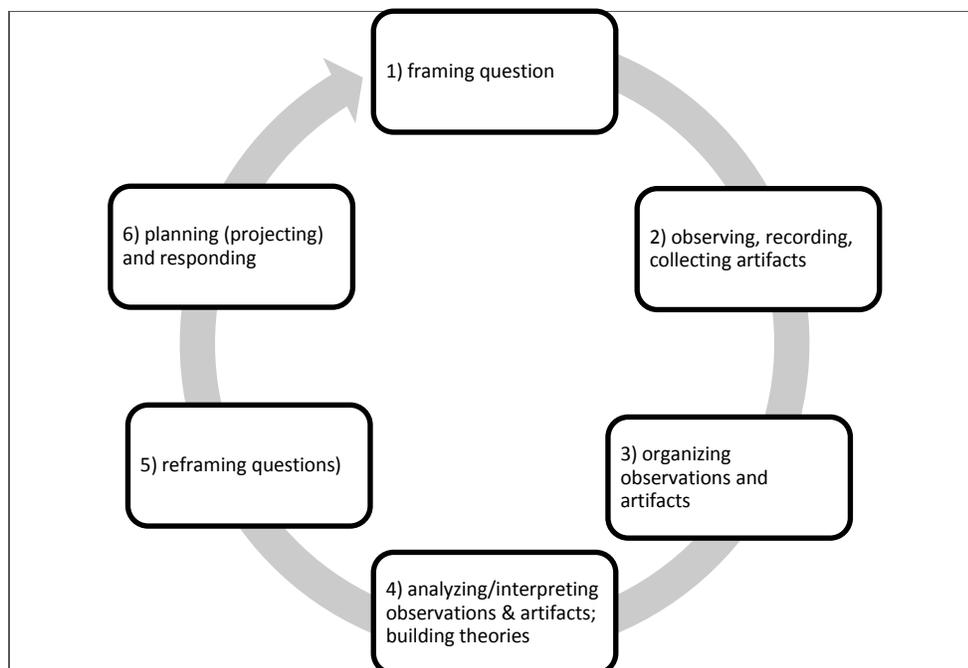
Table 1: *Adapted from*: The Documentation Process as Cycle of Inquiry (Gandini & Goldhaber, p. 136)

Pedagogical documentation, used by the teachers as a research tool, is integral to the Reggio approach. I believe that Malaguzzi may have first encouraged it as part of an effort to develop in-school professional development for teachers. Carlina Renaldi (2006) describes Malaguzzi's response to a lack of educational opportunities for his teachers as the impetus for creating schools which were "educational and formative place(s) not only for the children but also and especially for the staff. . ." (p. 148) Renaldi describes the Reggio schools as being "places where things were tried out" (p. 149), and writes that Malaguzzi developed a style of ongoing professional development for teachers

> . . . whose task [the professional development] was to renew, above all,
> his/her curiosity in relation to the child and the child's processes: the

child, not as a static subject, but as a subject who is constantly

undergoing modification and evolution. The word 'research', in this

sense, thus ceasing to be a privilege of the few (in universities and other

designated places) to become the stance, the attitude with which

teachers approach the sense and meaning of life. (p. 148)

At Children's Garden, we felt a similar lack of training which met our specific

needs. As we explored the ways the Reggio approach might fit with our

Montessori program, we felt we lacked the educational opportunities we

needed. We could easily find professional development programs developed for

Montessorians, as well as those for Reggio educators, but we were doing

something different. We were exploring how the two philosophies compared,

and how they might work together, and we could find no clear models.

There were several reasons we believed documentation might help

structure our study of the Reggio educational approach. Although there were

many parts of the Reggio pedagogy, which felt foreign to us, observation, did

not, nor did recording what we observed. As teachers, we had been instructed

by Montessori (1955/2007) that "our first teacher, therefore, will be the child

him/her-self". (p. 16) Since our program was already grounded in careful

observation, we felt documentation would not threaten our program. It felt

attainable.   Looking back at our beginnings, I realize that when we compared

Montessori record keeping to Reggio documentation and thought we knew

them both, we were just beginning to understand documentation. If we had

understood more, we might have proceeded with more caution. Months after our beginnings, we have realized that the process of documentation as Reggio educators envision it requires a relationship between teacher and child which is significantly different from what we are used to as Montessori teachers. One of the teachers described it like this: "It [documentation] gave me a slightly different stance or relationship to the child. Instead of Montessori's [approach to] observing, stepping back and observing more, Reggio is more listening and then leaning in closer and saying 'tell me more?'" (R. O'Connell, personal communication, Feb. 25, 2009)

As we began our research of the use of documentation, our motives were varied. My impetus for studying the Reggio approach began as an obligation to honor the earlier work which had occurred in a school clearly beloved by many. I also realized during our second seminar with Enid Larsen (www.ties-edu.org/campus/LC16 Creativity Workshop - II) that the study of the Reggio approach was simply the latest manifestation of my long-standing interest in the education of young children. The twelve other teachers and staff members at Children's Garden expressed similarly evolving motives for study. Throughout this last year in particular, each of us has tried to assume the stance of *researcher* – in relation to children, ourselves, the process of learning as both children and adults experience it, Montessori philosophy and practice, and the Reggio philosophy and practice.

Change and growth within a staff. A school is not just an autopoietic environment which provokes structural coupling from children. It also stimulates learning, or autopoiesis, in teachers. Although exhilarating, our year of research has not been easy, and an unintended consequence for me has been to learn a great deal about how a group of teachers in a school manages change. Throughout our study of the Reggio approach, we tried to come from a position of valuing and understanding the Montessori approach. Finding the way to incorporate new ideas into our Montessori program without weakening it continued to be a great challenge. We sought growth and change in order to keep our program vibrant while staying true to its Montessori roots. As we stepped into new territory as teachers, we used the ideas about dialogue which were developed by David Bohm (1996/2006) in our staff meetings, trying to develop "shared meaning" throughout the school year. Moving beyond our comfort level as Montessori teachers, we often needed the ".. 'glue' or 'cement' that holds people and societies together." (p. 7) Our shared understanding developed in settings varying in formality, and included a facilitated weekend retreat, weekly staff meetings, presentations for parents, a book study group for which we read a book about the Reggio approach, and daily conversations at school. We tried to value disagreement and conflict as opportunities to learn; mistakes were expected, accepted, and seen as opportunities for growth. Initial questions and ideas were revisited and reframed.

As I reflect on our use of Bohmian-inspired dialogue, finding a balance between dialogue and action was difficult. Some teachers felt we moved too slowly and others felt we moved too rapidly, and found change, with its inevitable risks and mistakes, uncomfortable. An unintended consequence of our study of documentation techniques and observation of children was greater understanding of ourselves as observers. As we supported each other through this study, we tried to balance what we knew with what we did not know. Like the emergent curriculum of the Reggio schools, a sense of not knowing – where an idea will go; what the outcome might be; whether a question was a fruitful one; became a way to describe our year. This yearlong study required the entire staff at Children's Garden to embrace the possibilities that might emerge before us. As the head of school, as well as the person most eager to explore Montessori-Reggio possibilities, Margaret Wheatley's (2006) words, along with those of Briggs and Peat, served as sources of guidance and reassurance for me: "The things we fear most in organizations – disruptions, confusion, chaos – need not be interpreted as signs that we are about to be destroyed. Instead, these conditions are necessary to awaken creativity." (p. 21) One teacher described this unintended result of our study when she wrote:

> The documentation techniques deepened my practice of observing but even more importantly they promoted self awareness and a crisis of discomfort/confusion. This crisis made me look more deeply at WHY I do things and HOW I might do things differently. I began to question

everything…which I continue to do…this helps me to understand the WHY'S and HOW'S more deeply. (Lloyd, A., personal communication, Feb. 25, 2009)

Catherine McTamaney (2005), in *The Tao of Montessori,* writes that "Some of us keep journals that we use to help document our classrooms, but any writing describes its author more acutely than its subject. Use your journal to document yourself."(p. 65) I believe McTamaney is describing research that has the characteristics of neuro-phenomenological research – research which is subjective, reflective, qualitative, and including something of the observer, and this was the kind of observation and documentation we did at Children's Garden. The teachers listened to children's voices and then added their own, and in a process paralleling theirs, I listened to my teacher's voices and then added my own. Interestingly, I believe the documentation practiced in Reggio schools with children also has characteristics of phenomenology. Laurie Kocher (2004), a researcher also interested in documentation, describing her own study of documentation done by three Reggio-inspired teachers this way:

> I find a strong parallel between phenomenology, particularly Max van
> Manan's description of human science research, and the experience of
> Ann, Sarah, and Margie, as documenters. What these particular teachers
> are doing in their everyday practice appears to be, indeed, un-named
> phenomenological research of the lived experience of these teachers and
> children. (p. 30)

The reflections of teachers, their first person accounts of someone else's activities, are critical to completing the documentation process. Reggio *pedegogista* Carlina Renaldi described this insertion of the first person into documentation this way: "Documentation is not a technique - it's a way of guaranteeing that our thinking always involves being reflective and sharing, that our thinking needs reciprocity." (transcribed lecture, C. Renaldi, *Dialogues on education: Students and Professors International Study Group*, Loris Malaguzzi International Center, March 1-5, 2008, Reggio Emilia, Italy) Throughout our study, often because we proceeded tentatively, we were careful to observe ourselves as well as the children, and although most of the teachers did not add their own reflections to their documentation (the exception to this was our Reggio-trained art teacher), we reflected on our experiences with each other a great deal.

When we began our exploration of the documentation process in September 2008, we were not certain how documentation could fit into our already busy program, nor were we convinced it should. We viewed it as an add-on, and instead of being a way to *change* what we did, most of us saw documentation as a way to *showcase* what we did. The one staff member who viewed documentation differently was our art teacher who likened her then lack of a computer and camera of her own as being somewhat like a Montessori teacher who had no Montessori materials. Because we viewed documentation as an addition requiring new skills and more time, we felt we needed to think

carefully about how to support the teachers in their endeavors. In September 2008, we formed a Documentation Committee that would assess our technology needs, help purchase and set up equipment, and train teachers as needed. We purchased a laptop and digital camera for each classroom, a dedicated photo printer, and a camcorder that we hoped to use throughout the school. We installed a copy of Adobe Photoshop Elements for each computer so that teachers could share the same organizing and editing process for their photos. We also made the decision to hire a teacher who could step into any classroom and provide each teacher some scheduled time during the day to upload and organize photos to their computers, transcribe their handwritten notes or taped conversations, and mount photos on panels if desired.

This early part of the process was overwhelming for a number of teachers who did not feel comfortable with the technology we felt we needed to use. Reflecting on this part of the process, I believe now that our focus on technology led us to see documentation as a product instead of a process. As I write this many months later, I realize how imperfectly we understood the documentation process at this point in our exploration, but I also believe that this stage, which allowed all the teachers to become much more comfortable with technology use, was necessary.

Documentation, as mentioned before, is used in many different ways: to communicate with parents; to build curriculum; as a professional development tool; and to maintain and build the history of a school. We used documentation

in all of these ways, and I have chosen a few examples from this year to illustrate our experience.

     Communicating with parents. Part of the culture of Children's Garden is to involve parents in our program and to communicate with them frequently. Long before our exploration of documentation, parents had grown accustomed to hearing from teachers often about activities in the classrooms. Class communication styles differed, and ranged from a handwritten and hand-decorated story of the week, to a carefully written and typed monthly newsletter. Parents also received a longer, all-school newsletter each month that might contain a parenting article, the monthly calendar, and news of interest to all. When we began to try to use Reggio documentation techniques, we added photos to weekly communications with parents. Two of our classes began to produce weekly reports that we emailed to parents. Another class chose to establish and maintain a blog. Inspired by our reading of documentation done by Reggio teachers that included their own reflections, some of the teachers began to write not just about activities, but also about what they felt they meant to children. We wrote about the developmental stages we observed, or the Montessori pedagogical theory that might be embedded within those activities. Our efforts got a mixed reaction from parents, with some teachers reporting that parents liked our new style of communicating with them, and others hearing from parents that they did not care about photos, did not care about pedagogy, but simply wanted to know what had

happened and what was coming up. As I reflect on this experience with parents, I suspect that some of the negative reactions we got from parents were because we were novice documenters, or that we needed to state our objectives more clearly.

Developing curriculum. Using documentation to develop our curriculum was particularly challenging for us, perhaps because it is close to the heart of what appears to be one of the major differences between the Montessori and the Reggio approaches – the source of the curriculum. Some teachers felt uncomfortable letting go of any of the Montessori curriculum we knew so well. Instead, we considered the possibility of photographing children going through common processes in a Montessori classroom, like having snack, or making a collage, feeling that the children might be interested and stimulated by seeing documentation of these every-day occurrences. One teacher took photos of these processes as they were occurring and was also able to capture some discussion. She posted these photos in her classroom just above the shelves that hold this work, or, in the case of the snack, above the table where the children serve themselves snack. Her hope, based on Reggio readings, was that the children would notice the photos, discuss them, and additional work would emerge in that area. The collage documentation spawned some initial discussion, but the teacher expected more and was disappointed. Just as she was planning to take the photos down, however, some children began to discuss them again, so she left them up. This was an example of the subtle and

qualitative nature of our experience. Because Montessori teachers already observe children's work and use those observations to make curricular choices, we sometimes were not able to discern a real difference between the children's reactions to our new practices, and what they might have done anyhow.

Using documentation for staff development. In one of our Montessori classrooms, the oldest children began showing an interest in castles, an interest that grew out of a study of Europe, and several children began to build castles out of collected recycled materials. Their castle projects were collaborative, open-ended, displayed characteristics of emergent curriculum, and required considerable negotiation between the children - all characteristics of Reggio-inspired projects, so the teachers allowed and supported their activity. One afternoon, as several girls worked on a castle, one of the teachers, not feeling she had time to do the careful listening required to document their conversation, simply turned on an audio recorder and let it run. Occasionally she came by and took a picture of the project as it evolved.

After school that day, she began to listen to the recorded conversation between the girls, and realized as she listened that the girls were struggling to work together. They were challenged by deciding how to create the castle, who would take it home, and how big it should be. Roles began to develop among the girls: the leader who lapsed into pushiness periodically; the peacemaker who tried to keep everyone happy; the girl who chose to break away and make her own castle, possibly because she was unable to stay successfully involved.

At different times, one girl reminded the others to be nice because the teacher might return, or another girl, who sensed hurt feelings, expressed genuine support and encouragement of the others. The recording revealed the complexity of the social challenges involved in a collaborative project.

The teacher spent the next few days putting together documentation panels of photos of the girls and their castle project, complete with their transcribed words. We all pored over the panels as she assembled them, interested in the challenges the girls were having, and wondering if we knew everything we needed to know about supporting children as they face these kinds of challenges. I decided to invite our consulting child psychologist to spend a staff meeting with us discussing the common social and emotional challenges of five year olds, especially girls. During our meeting, we referred to the panel periodically, and I believe we were able to come to our discussion with more questions and deeper understanding because of the documentation.

I found this example of documentation, and its use as a professional development tool, to be highly successful. It captured an hour out of the lives of five year olds that showed a great deal about how they felt about each other, and what they knew about navigating difficult interactions. Having photos and transcribed words to revisit gave us a reference point as we discussed working with children. As we added the important step of teacher reflection to the documentation, I believe it clearly enhanced and deepened our observational and interpretive skills. This experience was just one of several times when it

seemed that sharing documentation led to growth and broke down the isolation which sometimes attends classroom teaching.

Leaving tracks. Reggio educators consider their approach to be inextricably embedded in the culture of a society in general and a school in particular. They use documentation to build a history of each school, a process they call "leaving tracks". (transcribed lecture, *Dialogues on Education: Students and Professors International Study Tour*. Loris Malaguzzi International Center, March 1-5, 2008, Reggio Emilia, Italy). Linda Kenney and Pat Wharton (2008) describe an example of a long-term project in a Reggio-inspired preschool in Scotland that began in 1999 and continued at the time of the publication of their book that "had literally become part of the fabric of the early years building." (p. 54) The documentation we did at Children's Garden which we expect will become part of the fabric of our community is in the form of books. Using an online publishing service, one teacher published several books of children's theories about the changing of the seasons, and *The Adventures of Snowball,* written and illustrated by our oldest children, will remain on our bookshelves. Many of the teachers created photo journals or diaries of the children in their classes that were given to the children and their families at the end of the year. Our oldest children wrote a book with their teachers about how to join the toddlers as a helper, a role the oldest children traditionally assume with the youngest at Children's Garden. Their intended

audience was the children who will be in the extended day class in years to come.

What we learned. Our understanding of documentation changed a great deal as the year progressed. Our focus was on whether the practice of documentation could make us better observers, but along the way, many other realizations developed. In September, I believe most of us considered documentation to be the final, visible products that we had seen in books about Reggio schools or in Reggio-inspired schools themselves. We viewed documentation as a product rather than a process. What we missed was the most difficult understanding of all - *why* we were documenting. Just as beautifully designed pedagogical materials that tell just a little about the entirety of the Montessori educational practice confront a visitor to a Montessori classroom, documentation panels are simply the visible part of a complex process that may have taken weeks, months or even years. Ann Lewin-Benham (2006) described the difficulties she believes many educators face when trying to understand the Reggio approach in her book *Powerful Children*: "Most would-be Reggio-inspired teachers see arrival points, what a practice looks like well beyond its inception. The purpose for describing early work is to show departure points, what powerful practices look like as teachers are just beginning to use them". (p. 7) Without clear models or fellow researchers, we certainly experienced this challenge.

Near the end of our school year, I asked teachers, using a questionnaire (Appendix I), to evaluate our exploration of Reggio-inspired documentation. A follow-up discussion of that questionnaire raised many questions that will drive our ongoing study. Some teachers wondered how we could slow the pace of our program so that we are able to follow the children's expressed interests in more depth. We wondered what kinds of questions we could ask of children that would lead to the kind of work Ann Lewin-Behnam (2006) calls "significant work". (p. 5) We wondered how we could document our observations of children using cameras and audio recorders without disturbing concentrated work. This question was perhaps our greatest concern about documentation, and several teachers mentioned discomfort using a camera or audio recording device, or just simply being so close to children, because they felt it disturbed their work. As Montessori teachers, we were used to observing unobtrusively and from a respectful distance, so this closer style of observation felt different, uncomfortable, and somewhat disrespectful. "The second I jump up and take pictures of them . . . as soon as I get up it changes the dynamic. There was a lot of castle building work; we did not document any of it because it would have changed it. I don't know how to balance that." (personal communication, B. Howell, Feb 25, 2009)

During one of the TIES Creativity and Research Seminars, Philip Gang wrote: "What if the purpose of research was to explore "questions worth thinking about" -- thereby providing both researcher and participant an

opportunity to become more aware?" (www.ties-edu.org.campus/ LC16

Creativity and Research/13:26) My sense is that we did exactly that – explored

questions worth thinking about and became more aware. I believe we became

better observers, and that was certainly corroborated by questionnaire

responses from the staff. Nearing the end of a year of experimentation with

documentation, my primary question about documentation has changed, or,

using the terminology of Edwards and Goldhaber's Cycle of Inquiry, I have

reframed my inquiry. The question for me is no longer about whether

documentation can enhance our observational skills. My belief is, without

question that it can. Instead, I wonder not so much about *how* we observe, but

about *what* we observe, and *why*? What behavior exhibited by children do we

consider to be important enough to document? Did we, as Montessorians,

observe moments of concentration, or did we, as Reggio teachers, watch for

moments of social connection? Did we, as Montessorians, value examples of

order, concentration, coordination, and independence, or do we, as Reggio

teachers, watch for collaboration and creativity? Do we, as Montessorians,

listen for silence, or do we, as Reggio teachers, listen for conversations that

reveal children's interests? Ours is an issue of phenomenological research:

> We look for what we are expecting to see, and when we see it, take it as
>
> proof both that we were right to expect it, and that it is significant. Which
>
> is *not* [italics added] to say that it is or isn't, but certainly that we should
>
> examine ourselves examining, to learn what we can about our own

conditioning, preconceptions, values, and limitations. (A. Ross, personal communication, April 26, 2009)

As I reflect on our exploration of Reggio-inspired documentation, I would say that integrating the practice of documentation into our Montessori program was arduous and uneven at best. It is likely that, in our enthusiasm and determination to integrate documentation into our practice, we unbalanced our Montessori program. Beth McDonald (2003), in describing her school's work integrating Montessori and Reggio, wrote: "In any stage of a relationship, people make choices to end or to continue on the shared journey. Sometimes people also make choices 'to take a vacation from each other.' I think that happened to us many times". (p. 10) It also happened to us at Children's Garden. Late in the fall of 2008, close to parent-teacher conferences, I suggested to teachers that they take a break from the heavy use of technology, knowing that getting up to speed with computers, cameras, and blogs had been time-consuming and difficult. Although I had not intended our technology break to be a documentation break, that is what it became. We needed to step back and regroup.

In the coming school year, we will approach documentation with different questions: why are we documenting; what is worth documenting; and what are we looking for? Moreover, how do we, the observers and listeners, interpret and learn from what we see? In order to answer those questions, we need to follow Margaret Wheatley's (2006) advice, which, interestingly, sounds as though it

could describe the teacher reflection that is part of Reggio-inspired documentation. "We need to be able to see what we are doing as we are doing it; this is where the true learning is. To develop this "observer self" requires practice, curiosity and patience." (p. 149)

Part II: The Art Studio

In the center of Children's Garden sits Zach's Place, a studio space named after a former student who enjoyed art. Zach's Place was completed in 2001 when the two original classrooms at Children's Garden were joined together with a newly constructed part of the building. Although the school had already been exploring ideas from Reggio Emilia for several years, Zach's Place gave Children's Garden an *atelier,* or workshop, like the *ateliers* in Reggio schools, and opened up new possibilities.

As described in detail in Chapter II, the *atelier* in Reggio schools is a place that is especially devoted to supporting children as they explore the many kinds of art forms, which the Reggio educators see as symbolic languages that children use to communicate. The *atelier* is a place where children encounter a vast array of artistic media and are helped to learn the techniques for using each. The *atelierista* serves as a resource person for all the children and teachers in the school, lending his or her artistic expertise and sensibilities to the team of teachers. Art anchors a culture of inquiry that permeates the schools in Reggio Emilia, and provides pre-literate children various ways, using the symbolic languages of drawing, painting, and sculpture, to share their

interests and develop their understanding. (Edwards et al., 1998; Renaldi, 2008; Pope Edwards, 2003; McDonald, 2003))

Bobbie Hobbs designed the studio so that children and teachers would have more space available to explore open-ended projects. She hoped to create a space where children and teachers could approach a topic of interest differently than they might in a typical Montessori prepared-environment. A Montessori classroom is filled with materials that each have a specific purpose and a particular way to be used. Each material is designed to introduce one concept at a time. Hobbs wanted to give children experiences with activities that could be done in many different ways, and had no right or wrong way to do them. She had noticed a tendency toward perfectionism in some of the children at Children's Garden, which she believed might be countered by the inclusion of more open-ended experiences into the program. (personal communication, B. Hobbs, June 26, 2009) Jamie Boes, an experienced Montessori teacher who spent one year as the studio teacher, agreed with Hobbs, and spoke of her resistance, as the studio teacher, to turning Zach's Place into just another Montessori environment. While Jamie was in the studio, she tried to provide the children opportunities to participate in collaborative, open-ended, and experimental projects. (personal communications, J. Boes, 2008/2009) Like Boes, Hobbs also envisioned the studio as a place where children could experience the feeling of "what will happen if..." with teachers who could assume the Reggio-inspired role of co-learner. She envisioned the

studio as a place for science experiments with the children. As I observed children and the paper making in the studio this year, both adult and children experimenting with a relatively unknown process, it struck me that art and science are both often accompanied by surprise.

How we used the studio this year and how we decided how to use it is an object lesson in collaboration, decision-making, shared meaning, and staying at the lively edge of uncertainty. In the eight years that the studio has existed, there have been eight different staffing configurations, and the school has experimented with eight different variations of how it might be used. Perhaps the challenges of the studio reveal most clearly the push and pull between the Montessori and Reggio Emilia approaches, or perhaps they simply reveal the push and pull within a group of teachers as we confront possibilities that entice but at the same time threaten.

If one considers the metaphor of autopoiesis as it pertains to an entire school, Zach's Place can be seen as our nucleus. And if we self-reference, the circular process of checking back to remind ourselves of our identity, or what Margaret Wheatley (2006) calls looking through "the lens of values, traditions, history, dreams, experience, competencies, culture", (p. 86) the art studio always comes into view. That does not mean that we are an art school – we are not – but the reasons we have a studio, and how we choose to use it, help define who we are as a school. I have heard Zach's Place described in different ways by different people. One staff member at Children's Garden refers to the

studio as the heart of the school. I have heard others say it is what makes us different from other Montessori schools. Even though we are thought of as a Montessori school, and identify ourselves as one, the studio is where the values and vision that I believe define Children's Garden must come together. We are not a Reggio-inspired school, but instead a Montessori school inspired by Reggio, and the studio is where our interest in the Montessori philosophy and the Reggio Emilia approach meet. When we lose our way, forgetting who we are, the resulting confusion shows immediately in Zach's Place.

With a Reggio-trained art teacher in the studio, we began the school year with high expectations. My hope was that Cheri Buxman, our art teacher, would not only work with the children, but also be someone who could help us as teachers understand the Reggio way of doing things. She was able to do that, and we learned a great deal from Buxman, but bridging the gap between how we as Montessorians viewed the process of learning, and how Buxman saw it, required all the skill we had in developing a cultural of collaboration. In the previous year, after reading *On Dialogue,* by David Bohm (1996/2006), we spoke as a staff of trying to develop a culture of listening to each other carefully, and "relaxed, non-judgmental curiosity". (p. xviii) Often as I listened to Buxman patiently explain her approach to a problem as a Reggio-inspired art teacher, and watched the rest of us stretch to understand her, I observed us exhibiting that kind of curiosity. I often visualized Buxman's situation in reverse, imaging how it would feel if one of us had been plopped into a Reggio-

inspired school to explain Montessori to the Reggio teachers. It would not have been a comfortable position. Working with Buxman, and talking to her at length, contributed to my ever strengthening believe that Montessori and Reggio together is neither impossible nor a bad idea. Her observations pointed out ways that children might be assisted by a strong Montessori program, as well as how the Montessori approach might have limited their ability to handle what she offered, at least in the beginning of the school year. As with all of our observations, these are not conclusive, but instead are meant to point out interesting possibilities for further research.

Relationships – Montessori and Reggio. Ann Lewin-Benham (2006), who wrote *Powerful Children,* has a Montessori background and founded one of the first Montessori programs in the public schools. Because of her knowledge of the Montessori method, we chose to read and discuss *Powerful Children,* which describes the Model Early Learning Center (MELC) in the District of Columbia. Although MELC was not conceived of as having a program that combined Montessori and Reggio, we found Lewin-Benham's understanding of children highly compatible with ours.

In the first chapter of *Powerful Children,* Lewin-Benham (2006) describes hiring an experienced Montessori teacher to help other teachers develop classroom management procedures that enabled them to create a school environment in which children could do interesting work. "Connie took firm command, established procedures, taught the staff techniques, imposed rules

for everyone, and defined roles." She describes four rules they adopted: "Use your quiet voice. Use your walking feet. Keep your hands to yourself. Put your things away." (p. 23) MELC was a new school filled with new children, so she and her staff were not able to rely on the help of experienced returning children to develop the classroom culture of order and independence that develops in a mixed-age Montessori environment. They hoped to have children doing the complex group projects common in Reggio schools, but their children could not handle them. "Children who are not self-regulated cannot do complex projects", she writes. (p. 24) What Lewin-Benham was describing sounds very much like how Montessori described children who were not yet normalized.

Montessori coined the term *normalized* to describe children who have, through freely chosen purposeful activities, achieve such a high level of personality integration that they appear happy, rested, and confident. (Lillard, 1972; Montessori, 1966) Dr. Roland A. Lubienski Wentworth, (1999), a colleague and friend of Montessori's, describes normalization as being a "condition in which the child and educator work in unison, without opposition." (p. 15) Through a combination of meaningful work, respectful relationships, short life lessons about how to handle typical social situations, and simply because they treat children as though they expect them to succeed, Montessorians are able to help children achieve a level of emotional competence that allows them to experience the profound excitement which they sometimes experienced in Zach's Place, and then return to their calm centers.

It is easy for me to imagine the out-of-control and disruptive children Lewin-Benham describes, and like her I attribute the manner in which our children approached working in Zach's Place, at least in part, to their Montessori experience. The majority of our children come to the studio already knowing how to put their work away, knowing how to put an apron on, happy to wash their paintbrushes, and contented to let other children do their own work. Older children helped younger ones. Their self-regulation and ability to manage independently was strongly supported by our Montessori program. I do not mean to imply that Reggio-inspired schools do not know how to help children find their calm centers, because the children I observed in schools in Reggio Emilia appeared happily concentrated and focused on meaningful work, but a century of repeated experience in Montessori schools all over the world means we can count on the structure of a Montessori program giving children very clear and consistent support to function productively and happily within a school setting. Creating something aesthetically beautiful and unexpected is exciting, and several times I observed children who were so enthused or astonished by aesthetic experiences in the studio that they whooped or danced with joy, but most often they were able to return to order. I believe the Montessori classrooms, because they were so settled, and the studio, because it could be so stimulating, was able to give some children valuable experience in controlling their emotions.

As well as helping establish a functioning atmosphere and clear behavioral expectations in the studio, the Montessori classrooms also helped children develop competence with tools they encountered in the studio, like scissors and glue. Hobbs told me years ago, when discussing the studio, that she did not envision it as a place where those kinds of skills were developed. Instead, she saw the studio as a place where they could be used. How the use of scissors is taught in a Montessori environment is a good example of the highly orchestrated quality of many Montessori exercises. First children are shown how to use a pair of scissors to cut a narrow strip of plain paper, then one with straight lines drawn on it, then one with curvy lines, and finally a paper with zigzagged lines. The exercises are sequenced from easiest to most difficult, and do not have as their intent to directly support creativity, but Montessori teachers would make a case that lessons so carefully planned and sequenced do indirectly support creativity by helping a child develop needed skills. In most Montessori classrooms, the teacher would give a child a lesson before those exercises of cutting with scissors could be done. In spite of whether one believes that is a good way to introduce cutting with scissors or not, it is a way that works. Buxman continued to offer needed help, which Reggio educators call scaffolding, with scissors and any other skills the children had difficulty with in the studio, but the careful work done in the Montessori classrooms meant most of our children came to the studio already having mastered many skills. The studio provided a place for creative and

lengthy artistic experimentation that the Montessori classrooms often could not, and the Montessori classrooms provided highly structured skill-building lessons. (Some schools with larger classroom environments might be able to incorporate many more open-ended artistic experiences into their classrooms, but our somewhat limited space in the Montessori classrooms did not allow this.)

Buxman noticed two other things about the behavior of the children, especially during the first part of the school year, which made us wonder about how well children could handle the two approaches to environmental design and teaching style. Buxman observed that before beginning to work in the studio, some of the primary (three-to-six) children expected to be given a lesson. They wanted to be shown what to do. (The toddlers, on the other hand, seemed entirely comfortable with simply exploring the studio in a style very much in keeping with their exploratory approach in their Montessori environment.) Furthermore, the primary children expected to find everything they needed for the lesson gathered together in one place. Buxman had on purpose not set up the studio environment to support that way of working, nor did she feel the need to give the kinds of lessons Montessori teachers tend to give.

The Reggio educators clearly have adopted Montessori's ideas about the importance of an orderly and beautiful environment for children, and Buxman developed the studio in a way that was as orderly as our Montessori

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classrooms. Although the initial reaction to the studio was that it was extremely well ordered, Buxman had an approach to organizing materials that reflected her objectives with children, which was to create a space which supported them to ask their own questions, explore possible solutions, and express their emergent understandings. Large supplies of high quality colored markers were sorted by color and displayed in glass jars, and colored pencils, similarly sorted, were nearby. Other glass containers were filled with colorful glass and translucent plastic shapes that could be placed on a light-table or on the top of an overhead projector to throw colorful shapes against the wall. (Buxman initially felt very uncertain about using glass with young children, but we assured her that they could handle it, and they did.) Fine-tipped black markers were abundant, as was high quality paper cut into different sizes. The studio burst with color, looking like a well-organized workshop ready to be used.

Buxman's expectation was that the children would come into the studio, see the beautifully displayed and organized supplies, and collect what they needed from multiple places. Instead of creating a teacher-driven curriculum which might include art projects, she prepared an environment with supplies available for children whose own ideas and questions would lead the way. Our Montessori trained children came into the studio and reacted to the abundance of art supplies in one of two ways – they either seemed overwhelmed and unable to get started, or they behaved as though they had been given

permission to raid a candy store, taking out so much and piling so many colorful shapes onto the light table at once that the task of re-sorting their objects by size and color and returning them to glass containers seemed impossibly overwhelming.

Similarly disoriented by an environment they could not read, some children seemed paralyzed by the lack of specific, targeted lessons about what could be done in the studio. When Buxman responded to the children's request for lessons, possibly acting from her training in a philosophy which is based on the Vygotskian theory that language and listening are the foundation of human learning, (Edwards et al., 1998; Renaldi, 2006) she tended to gave verbal directions to children who seemed more used to visual ones, and she asked them questions about what they were interested in doing. She handed them the reins. Some of us wondered whether the children's independence was being limited because they were not receiving needed introductory lessons, and Buxman wondered if we had made children more dependent on adults with our lessons and environments. She hypothesized that we had underestimated the children's abilities or enjoyment in figuring things out for themselves, and limited them by our own limited expectations. Buxman hoped to stimulate open-ended exploration, and some of our children seemed to expect a close-ended Montessori exercise. Using the metaphor of autopoiesis, our children had interacted with our highly organized Montessori environments in a process of structural coupling that had encouraged them to grow in a particular way,

and they were initially stymied by a differently arranged environment which reflected the Reggio Emilia approach.

We noticed that as the year progressed, the children became more and more used to the way Buxman organized the studio, and it is possible that Buxman, based on her observation of the children, gave more introductory, skill-based lessons. Everyone adapted. Eventually the children seemed entirely comfortable with finding supplies from different places in the studio, and mixing and matching materials. In a process of structural coupling, they had learned from a different environment, and they had grown. Occasionally I would walk through the studio to see a child who had gathered a collection of various objects from the supply of recyclable materials which he intended to use for a collage with an abandon only a child or a trained artist might have.

There was another way our children behaved, possibly because they were coming from Montessori environments, which puzzled our Reggio-trained art teacher. "The children don't talk", Buxman would tell us. "They just come into the studio and choose independent work and stay with it". Even if she asked them questions about what they were doing, they would often respond with a silent look or a brief answer. (personal communication, C. Buxman, October 2008) When she described their behavior, as Montessorians, we would nod in recognition and not a little satisfaction, knowing that we had modeled quiet, concentrated, independent work in our classrooms. We values concentrated, individual work, but Buxman was looking for something different. She hoped

for collaboration and conversation, questions and complexity. She wanted to support relationships – we wanted to support independence. Perhaps one could say, using the autopoiesis metaphor, that Buxman wanted to support the connections between networked systems, and the Montessori teachers wanted to support autonomous self-knowing. What we each hoped to develop in the children was based on different ideas about what children need, and variations of that concern stayed with us all year long. The two Montessori teachers working with our afternoon extended day children faced this same problem in reverse. They had decided to allow a lengthy collaborative project involving building castles to develop in their extended day class, and then found it difficult to rekindle a classroom atmosphere that was conducive to individual work.

There are different ways to explain the quiet work that our children seemed to favor. Montessori would explain it developmentally, and applaud it as moments of concentrated work that should be protected (Montessori, 1966; Montessori, 1949/1995), and as a long-time Montessorian, it is difficult for me to abandon that explanation, but as a teacher-researcher, I was curious. I had also seen silent and individual work as I observed the schools in Reggio Emilia, so I believe Reggio educators respect it and would recognize it as valid and important, but knew they also strongly believe in collaborative learning. In a statement acknowledging the importance of both, Carlina Renaldi wrote: "It is our belief that all knowledge emerges in the process of self and social

construction" (Edwards et al., 1998, p. 115). My hope is that at Children's Garden the children were supported in both processes.

Reflections. Zach's Place has been a part of Children's Garden for many years, and I believe it has always added an interesting dimension to the program, but it may or may not be similar to what the *ateliers* add to the programs in Reggio Emilia. Once again, I remind myself, when considering Zach's Place, that we are not trying to be a Reggio school, but instead a Montessori school inspired by the practices of the Reggio schools. Our goal contains complexity born of the necessity of understanding both philosophies, and then finding our own interpretation, and from that, developing our own practice. I see that as a goal that will keep us in a perpetual place of healthy exploration and growth for a long time.

In the *ateliers* of Reggio schools, the children do not learn about art, they use art to learn. (personal communication, C. Buxman, April 2009) Vea Vecchi, long-time *atelierista* in the Diana School in Reggio Emilia, says the *atelier* gives children support in "the use of visual languages as a construction of thoughts and feelings within a holistic education". (Edwards et al., 1998, p. 139) In the schools in Reggio Emilia, the use of visual languages permeates the entire program, so the *atelier*, says Vecchi "provides a place for children to become masters of all kinds of techniques, such as painting, drawing, and working with clay – all the symbolic languages". (p. 140) Our studio did become a place where children expressed their understanding through visual languages, and

the children did master certain techniques that they carried into the Montessori classrooms. Many Montessori programs have enough space in their Montessori environments to develop a large art area, and it is possible that they also might be able to support children as well as we did, but I believe having a special place, with an artist-teacher who can develop that space, worked well for our children. What I am not certain happened consistently was the use of art for learning, which is not because Buxman did not try, but because of our imperfect ability to balance our program between our Montessori classrooms and the studio.

Using the model developed in Reggio Emilia, children and teachers move between the classroom and the *atelier* in pursuit of understanding, and the *atelierista* serves as a resource person to all. (Edwards et al., 1998, p. 140 – 141) Problems that interested children in one part of the school, with one teacher, are also tackled in the *atelier*. It is a model that requires close communication between teachers as well as similar goals and approach. We were able to approach this level of integration some of the time at Children's Garden, but not often. This became one of our greatest frustrations and a problem we continued to discuss – how to integrate the work in the Montessori environments with work in the studio. Philosophically, it seemed easy, and we felt we were close, but in practice, it seemed unattainable. The time needed to discuss our objectives thoroughly enough to develop a shared understanding of what we were trying to do and why we were trying to do so was just not

consistently available to us. The successes we did have primarily related to the children's interest in the natural world. Children gathered leaves on fall walks or on the playground, learned the parts of a leaf in their Montessori classrooms, and then observed and drew leaves in the studio. The same things happened with flowers in the spring. As the concord grapes ripened on our playground, the children made grape jelly in one classroom, and used grape juice to dye paper in the studio. These were very short-lived collaborative moments which came and then were gone.

We were either facing a problem of reconciling the child-driven emergent curriculum of the Reggio Emilia approach with the highly developed teacher-driven curriculum of the Montessori approach, or else we were facing a problem of interpreting what Montessori meant when she said, "Our first teacher, therefore, will be the child him/herself. . . this must be our guide." (Montessori, 1955/2007, p. 16) Our frustration, or my frustration, lay in the possibilities I observed which we seemed to let pass us by, which I discuss at greater length in Part III of this chapter about group projects. I began to refer to the tyranny of the Montessori curriculum. The Montessori teachers felt strongly that they wanted to cover parts of the curriculum, in fact, did not know what else to do, and they had an agenda which had to move quickly if they wanted to cover all the information they believed children needed. The pace in the studio was slower and could not keep up, and Buxman spoke of the Reggio practice of stretching out inquiries over a long period of time (personal communication, C.

Buxman, November – May, 2008 -2009) (This was not entirely a problem related to differing approaches, but also had to do with the schedule we adopted in the studio. Because the studio is small and can handle only a few children at a time, any given group of children is able to come into the studio only once or twice a week, so, even if teachers followed the interests of the children, a basic principle in both Montessori and Reggio, an exploration of a topic might last weeks in a Montessori classroom and could take months in the studio). This was an issue of aligning philosophy and practice, which I believe is one of the greatest ongoing challenges facing teachers.

Buxman told me at the beginning of the school year that she hoped to make developing community building one of her primary focuses. As I have read more about the Reggio Emilia approach, I believe I have understood why that was one of her goals, and I can also see ways in which she achieved it. Because of the Reggio belief that learning always occurs through social interactions, and is embedded in a particular culture (Retrieved on June 29, 2009 at http://www.education.uiowa.edu/resources/tep/eportfolio/ 07p075folder/Piaget_Vygotsky.htm), Buxman wanted to use the studio to strengthen the bonds between the groups which together make a school. Being centrally located, Zach's Place is open to sight and sound, and naturally becomes a gathering place for conversations and sharing. Interestingly, having conversations occur in a Montessori environment would be frowned upon by most Montessori teachers, but Malaguzzi's goal of "build[ing] an amiable

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school, where children, teachers, and families feel at home" (Edwards et al., 1998, p. 64) encouraged us to allow conversation in parts of our school, and the studio was one of the places where it seemed to naturally occur. Because children from every classroom pass through the studio, Zach's Place belongs to the whole community of children. Moreover, because parents are so entranced by the art their children produced, Zach's Place in general, and our end-of-year art show in particular, draw parents to the school and encourage them to linger and ask about what we do. Buxman wanted to place her focus on the relationships between the systems that create the autopoietic learning environment which is Children's Garden. In that way, I believe her work strengthened our community.

The vision of how to use the studio surfaces as a question every year. It brings the staff together around a common challenge, which is not so much about what happens in the studio, but more about what the relationship between the studio and the Montessori classrooms should be. That question hides a more fundamental one, which is what the relationship between the Montessori approach and the Reggio Emilia approach should be. We value both philosophies, but how do they go together? That question was asked in many settings, but because the studio was created because of Hobbs' interest in the Reggio Emilia approach, it especially revolved around the studio. This is why I think of the studio as the nucleus, or center, of the networked systems that is Children's Garden Montessori School. It is a problem of autopoiesis – of

creating a clear identity that gives us a touchstone for self-referencing, and of creating strong relationships between interconnected parts of our system. I believe our challenge is not entirely deciding how to use a space, but instead, how to create relationships between it and the other spaces we have in our school. We want connections that are strong, flexible, and supportive of the children, who make those connections visible.

Part III: Our Use of Projects

One of the clear manifestations of the Reggio socio-constructivist approach is in projects, or project work, which Lillian Katz describes as "extended in-depth investigation[s]." (Katz as cited in Edwards et al., 1998, p. 27). Projects are done with small groups of children because, according to Mary Jane Moran, "group work …is central to the belief that children and adults socially construct knowledge and create *shared meaning* as they actively engage in activities." (Moran as cited in Edwards et al., 1998. p. 408) Projects can be about any number of things, but Malaguzzi believed that projects were most meaningful for children, and hold the most possibilities for learning, when the topic of investigation is something familiar to the children.

When the topic of the project is very familiar to the children, they can contribute to the project from their own knowledge, and suggest questions to ask and lines of investigations to pursue; the children themselves can take leadership and planning, can assume responsibilities for specific observations and for information and artifacts to collect. Such projects investigating real

phenomena offer children the opportunity to be the natural anthropologists they seem born to be. (Malaguzzi as cited in Edwards et al. 1998, p. 90)

This belief is in some contradiction to what the Montessori trained teachers at Children's Garden practiced when planning their curricula, which at one point in the year involved a study of Europe. Buxman, our Reggio trained art teacher, wondered why we did not study the street that ran in front of the school.

The Italian word for the planning process Reggio teachers (and parents) use as projects unfold is *progettazione,* which is difficult to translate into one English word. To really understand this style of curriculum development, or planning, I turn to their words:

> …our *progettazione* must involve multiple actions, voices, times and places. Children sometimes work with teachers, and sometimes without them; projects are sometimes short, and sometimes long. The curriculum is at once defined and undefined, structured and unstructured, based more on flexible strategies than rigid plans. There are no preconstituted [sic] paths, and consequently no set timetables or tests. Instead, relying on strategies means predicting and activating sequences that are based not only on our initial hypotheses but also on the work as it develops and unfolds. I like to use the metaphor of taking a journey, where one finds the way using a compass rather than taking a train with its fixed routes and schedules. (Renaldi as cited in Edwards et al., 1998, p. 119)

I had observed children working in small groups on projects while in Reggio Emilia, and heard about other extensive projects carried out in the schools, and like documentation, incorporating a few projects into our program seemed easy to do. We felt we just needed to let some projects happen, so we began listening for interests emerging from the children that we thought might develop into a project. Several projects did develop throughout the year, some lasting such a short time that we were not certain they could be called a collaborative project, and others lasting months. The ones that lasted several months were with our older children, who seemed to not only enjoy them, but crave working together in groups. The short ones occurred when we simply allowed children to follow an interest that was generated by a natural object on a science table or an item of cultural interest which we brought into our classrooms as we studied a continent or foreign country. For provocations, we relied on our understanding of the Montessori cultural curriculum and materials that we had collected relating to science or geography.

I had several examples of projects to choose from to describe for this Culminating Project. Many activities that might be described as a Reggio-inspired project seemed so much like something Montessori-inspired that one teacher would say to another – Is that Reggio or is that Montessori? The answer often was that it was both, or that it did not matter. Whatever it was, we felt it was respectful of the children, followed their interests, was developmentally appropriate, and simply *right.* From the many projects that occurred during the

school year, I chose two to describe because we began them with the intent of trying a Reggio-inspired project.

Snowball the Dove. In late September, we began introducing drama to our afternoon class of five year olds. A white dove named Snowball resides in that classroom, so we decided to see if the children could develop their own play about Snowball. We began a story, and then turned it over to them. As they created their story, we transcribed and turned it into the first act of a play, and acted it out. For several weeks, the children added chapters to *The Adventures of Snowball* and the play grew. Several of us were involved, helping with documentation by taking photographs and writing down the children's words, as well as brainstorming about how to continue it with the children. Our brainstorming I liken to the *progettazione,* or flexible planning, that occurs in Reggio schools. Like Carlina Renaldi's metaphor of a journey traversed with a compass, we knew where we wanted to go – to write a play and act it out, but we had no set plan as to how to get there, or even what the plot would be. We intended to develop it with the children.

After the play was written and the children had acted it out many times, the art teacher began to revisit the story with the children in Zach's Place, and over the course of the next two months, the children illustrated *The Adventures of Snowball.* Eventually the children's interest in the Snowball story waned and they moved on to something else, but Buxman continued the process of documentation by self-publishing a book of *The Adventures of Snowball* using

the children's illustrations. On documentation panels, she also added her own reflections about the process with the children.

In March, several months after the initial Snowball activities, we invited a sculptor to spend a week with children in the studio. We were curious to see if the Snowball project could still stimulate meaningful work. Using the documentation gathered months earlier, one child's illustration of Snowball became the blueprint for a sculpture, and another child's illustration, enlarged and projected on the wall so its shape could be traced, became the pattern for a highly textured two-dimensional bird. Finally, in May, panels documenting the entire project, as well as the book, were shared with parents at an all-school art show in May.

The Snowball Project gave us a taste of what it was like to incorporate several Reggio-inspired elements into our program. The project was documented extensively, and we used documentation to develop curriculum with the children, to share with parents, to strengthen the collaborative skills of a group of teachers working together in a school, and to add a new story to the history of Children's Garden, or, to use a Reggio term, to leave tracks. Those of us involved certainly experienced the power of negotiated curriculum with the children. *The Adventures of Snowball* began as a provocation that came from a teacher who purchased a dove for the classroom, and another teacher who suggested to the children that Snowball become the star of a play.

Documentation, art, and projects - looking back. When I was a new

Montessori teacher fresh out of international Montessori training in Mexico

City, Nan Hanrath, who had been our trainer in Mexico, spent several days

observing at St. Alcuin Montessori School, where I taught. As was her habit,

she suggested big and small changes to all of us at St. Alcuin, but warned us

that instead of getting better, our classes would be worse for a while. Change

would not be easy for the children, or for us. She was right, and we all spent

weeks trying to implement her suggestions, and sometimes simply trying to

understand them. I experienced the same feeling at the end of our intense year

of exploration of some Reggio-inspired practices within our Montessori program

– disoriented, uncertain, and not even able to evaluate our experience well.

However, learning about the Reggio Emilia approach is not all about what

happens in the classroom, and I have grown to admire many of the attitudes of

Reggio educators as much as I do their practices. The one attitude I find most

exciting is that of teacher-as-researcher. Rebecca New writes this about Reggio

teachers:

> …theory and practice are bound together by the binding power of their
>
> ongoing research that characterized teacher's roles and permeates their
>
> daily lives. . . . Throughout, teachers shift their focus back and forth
>
> between what they know and what they are learning about children as a
>
> group and as individuals, and what they can gather from families and

the larger community that is of relevance to their educational pursuits.

(New as cited in Edwards et al., 1998, p. 275)

We tried to remind ourselves throughout this school year that we were teachers and researchers, experimenting with new practices and wondering together how they fit with our own beliefs about education.

I end this chapter with a list of some of the Reggio principles and practices we tried to explore, as well as some of the questions that we have yet to answer. (1) The principle of emergent curriculum: we felt we understood much about emergent curriculum, finding it similar in our minds to Montessori's "follow the child", but in an attempt to let children lead enquiry, we sometimes let discussions continue which contained misinformation. For example, children believed that the Harvester ants in our ant farm were fire ants because they were red, and called fire ants because they started fires. We struggled with our desire to give the children real information about the ants, a Montessori principle, or let them continue developing their own theories, a Reggio principle. (2) The use of provocation: we feel we understand the concept of a provocation, and believe it to be compatible with our Montessori practices. Putting something of interest on a Montessori Science Table is an example of a provocation – something of interest, but not meant to be presented in a complex and highly orchestrated Montessori lesson. (3) The practice of documentation: we developed much more understanding of the documentation process, but still do not believe we use it to help develop curriculum with the

children, and only in some instances did we use it as a professional development tool. (4) The use of metaphor with children: Buxman, the art teacher, believed the children working on *The Adventures of* Snowball were exploring family relationship and roles as they developed their ideas about Snowball having a family. I found her focus on relationships extremely interesting and wondered if the discussions about the queen and king ants and how they cared for the rest of the ants showed their interest in caretaking. If so, how should we follow that? (5) Management of time: I believe this to be a false problem, personally believing that young children should be able to take as long investigating a problem or interest as they want, but many teachers felt some tension between long-term investigations and incorporating the Montessori curriculum into our program. This will continue to be a discussion we have as a staff. (6) Working with small groups: The Montessori teachers at Children's Garden tend to lead discussions with groups of children that often involve a full class of children, and although children in Reggio schools do meet as an entire group, project work is done in small groups. Although we felt we could accomplish this, it requires some classroom management shifts which, like all change, is challenging, and requires thought.

Will we continue our study? Yes. We look forward to a year ahead that will begin with more understanding, a deeper bag of technology tricks, a stronger community, less pressure to "do Reggio", and much more comfort describing ourselves as teacher-researchers.

Chapter IV: Implication and Directions for Further Study

I have used autopoiesis as a metaphor for the learning process as it occurs both in a Montessori prepared environment, and in a Reggio amiable environment. Educators coming from both traditions see a child who is active, capable, self-directed, and striving for independence *and* connection – a protagonist in his/her own learning process. Each tradition is built on profound respect for the child. In both traditions, teachers base their responses to the child on careful watching and listening – Montessori teachers speak of observation and Reggio teachers speak of listening, although these are different stances, both imply that attention is paid to the child. Those are the similarities between the two approaches.

Yet Montessori and Reggio educators approach this same child from birth to six with differing understandings of child development, and differing understandings of the learning process. From those differences, Montessori and Reggio teachers have developed different ways of working in classrooms, different curricula, different school organizational schemes, and different levels of involvement with families of the children with whom they work.

During the 2008-2009 school year at Children's Garden, we tried to work with these similarities and the differences. As the person at Children's Garden most intensely focused on understanding the possibilities and challenges within a Montessori/Reggio combination, I can say that I have learned a great deal, and also have changed a great deal. But as I write this, there is no

distance between this school year and my writing, and no second or third year to build on what we have learned. Too much closeness eliminates any illusion I might have of perspective. My observations are fresh and conclusions tentative.

To the problem of perspective I add these additional limitations on my study. (1) The problem of size. This is the story of one year in the life of one Montessori school in Denver, Colorado. It is the story of a group of thirteen of us who have worked together, each articulating through action a level of understanding and skill in implementation which none of us would want to hold up as models of how to *make this work.* We have struggled with buy-in, not because teachers didn't want to be involved, to learn, and to help, but because time is always limited, and my interest and focus undoubtedly was occasionally intimidating in its intensity. (2) The problem of subtlety. The Montessori approach and the Reggio Emilia approach have much in common. If one's goal were to make two parallel but singular lists, one of Montessori characteristics and the other Reggio characteristics, one would fail. Some days I have seen the Reggio Emilia philosophy as a natural evolution of Montessori's thinking, and at other times have seen only conflict. In *The Seven Life Lessons of Chaos*, John Briggs and F. David Peat (1999) write: "Perhaps it shouldn't be surprising that a high tolerance for ambiguity, ambivalence, and a tendency to think in opposites are characteristics researchers have found common among creative people in many different fields". (p. 23) Creative or not, ambiguity (and worry, its sometime companion) has sat beside me as I've explored Montessori

and Reggio, has been my tormentor as I write, and has been my partner during wakeful middle-of-the-night hours when I could not seem to find a way to *make this work.* (3) The problem of isolation. Reggio Emilia is a small city in Italy, opportunities for education about the Reggio Emilia approach in the United States are spotty, and a community of like-minded individuals who are also interested in the Montessori/Reggio combination may exist, but I have not found it yet. Although there seems to be a buzz about Reggio in Montessori circles, and I heard that many Montessori schools were trying this, I could find very little solid information about schools that were doing what we were doing. The possibilities of interpretation of just what a combination of Montessori and Reggio might look like are endless. (4) The problem of time. Although Children's Garden has incorporated elements of the Reggio Emilia approach for many years, and others have studied it, I have not, so there are areas of study that interest me, like infant and toddler care, that were simply not possible for me to pursue in this length of time. I could see the possibilities, but could not manage the time.

There are things I can do, and things I cannot. I can point to areas of possibility for joining Montessori and Reggio that I believe hold promise. I can describe areas that have given us difficulty or caused us concern. I can describe an attitude that is built into the TIES program, and is certainly a part of the Reggio teacher-as-researcher culture. It is an attitude that I believe should be a part of every Montessori training program or school – that we are

all learners, all in process, all able to support each other, and all, in some way, contribute to the evolution of life on Earth. Moreover, I can share my only conclusion - if I were to start one more school, it would be a Montessori school that includes elements of the Reggio approach. These two philosophies would be as seamlessly connected as I could manage, and that its mission would be to connect children to the natural world so that they grow into adults who love it so much they will care for it. I can share my vision of possibilities, none of which have been entirely realized, but that is the nature of visions.

Table II is a list of areas of possibility and areas of challenge which either we have experienced at Children's Garden, or which I envision based on my study of the literature about the Reggio Emilia approach and the Montessori approach. As in all aspects of life, many of the possibilities also contain challenges, some of the challenges are filled with possibilities, and if I believe that to be the case, I will explain it as I focus on that topic within the chapter. Every item listed in Table II in some way relates to all of the others. Just as we have used the metaphor of autopoiesis to describe a child learning and growing, I believe the same metaphor can be used to describe the workings of a school, a human-created cultural institution which exists within a network and contains within itself many networks. Because it is a network, everything is interrelated.

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│  │                                           │  │
│  │        POSSIBILITIES AND CHALLENGES       │  │
│  │                                           │  │
│  │  SCHOOL ORGANIZATION                      │  │
│  │                                           │  │
│  │  Clarity of vision                        │  │
│  │                                           │  │
│  │  Parent Involvement                       │  │
│  │                                           │  │
│  │  Community involvement                    │  │
│  │                                           │  │
│  │  Team teaching                            │  │
│  │                                           │  │
│  │  SCHOOL PROGRAM                           │  │
│  │                                           │  │
│  │  Teacher as researcher                    │  │
│  │                                           │  │
│  │  Emergent curriculum                      │  │
│  │                                           │  │
│  │  Socio-constructivist model               │  │
│  │                                           │  │
│  │  The 100 languages of learning            │  │
│  │                                           │  │
│  │  Seamless integration                     │  │
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Table II: Possibilities and Challenges in a Montessori/Reggio combination

Clarity of vision: As I review the last four years at Children's Garden,

which were my first with the school, Margaret Wheatley's (2006) description of

what she believes is behind a well-functioning organization sting a bit.

> ...I am positive that in each one [well-functioning organization] there was
>
> a leader who, in word and deed, filled space with clear and consistent
>
> messages about how customers were to be served. The field was strong in
>
> its congruence; it influenced behavior only in one direction. . . . The

invisible influences that field theory exposes can help us manage other amorphous aspects of organizational life. For example, *vision –* organizational clarity about purpose and direction – is a wonderful candidate for field theory. . . In a field view of organizations, we attend first to clarity. We must say what we mean and seek for a much deeper level of integrity in our words and acts than ever before. (p. 57)

When a Montessori school, staffed almost entirely with Montessori trained teachers, chooses to explore ideas from another philosophy of education that is equally as complex as the Montessori philosophy, maintaining a clear vision is a challenge. I know we were able to hang on tightly to the strong values which I believe are the most important - treating children with great respect, and working with integrity, but as for the details of our practice, we were besieged with questions of our own asking. Only in this last year, when we decided to approach our study through the practice of documentation, do I feel as though we made headway in understanding the possibilities of Montessori and Reggio together, and I am not even certain about that. Early in our journey, we read Beth McDonald's (2003) article, *Our Montessori Journey with Reggio: Living with Paradox and Dualities,* which describes the McDonald School's challenges, but we had to experience our own version of their story before we really believed her, and then we did. Of their journey, she wrote:

Our lives are so demanding, challenging and stressful that keeping

everything consistent and controlled becomes a "knee-jerk reaction". The

Reggio Emilia philosophy challenges us to rethink, refigure and reflect on

our view of the child, our view of the daily life of children (curriculum),

the role of the teacher, the role of the parents and the role of the

environment. There is no end to the challenge. (p. 11)

Next fall we will begin our school year with a day of reflection about our

vision, knowing now much more about the challenges we face as we continue

to define our school through our program. In hindsight, the conversations I

hope we are able to have at the beginning of this next school year could have

helped us several years ago. Again, Margaret Wheatley (2006) offers guidance

that seems to match our reality:

In this new world, you and I have to make it up as we go along, not

because we lack expertise or planning skills, but because that is the

nature of reality. We are required to be there, as active participants. It

can't happen without us, and nobody can do it for us. (p. 192)

If you choose to explore a combination of Montessori and Reggio practices,

expect to be confused. In some ways, I think the Italian educators from Reggio

Emilia would say – embrace it, because within confusion and uncertainty lies

creativity.

Parent Involvement. In Chapter II, as I described the beginnings of the

first preschools in Reggio Emilia, which eventually evolved into the municipal

infant-toddler and preschools of today, I noted that parents created them. I also noted that Montessori's first school, in the San Lorenzo district of Rome, was made *for* parents. In fact, the first parents involved in Montessori's school followed posted regulations detailing the conditions of their involvement. (Montessori, 1912/1964, p. 61) There is no way to know for sure if those beginnings presage later practices, but today Montessori schools tend to welcome parents into their classrooms with clear guidance for their involvement. Often they are asked to sit quietly and observe so as not to disturb the children working, and to arrange in advance for a visit so as not to overpower the room with too many adults. I have been in Montessori education for many years and felt very comfortable with that level of involvement by parents, feeling our approach was best for children. To consider a different style of parent involvement has not been an easy switch for me, and even though at Children's Garden we strongly encourage parent involvement in our program, I believe we cling to some practices that expose us to occasional discomfort and ambivalence.

Reggio schools, in contrast to Montessori, not only welcome parents into their schools, but they view family involvement in the life of the school, and conversely, the school's involvement in the life of the family, as something so important that Malaguzzi writes at length of how much it changes the role of the teacher:

Family participation requires many things, but most of all it demands of teachers a multitude of adjustments. Teachers must possess a habit of questioning their certainties, a growth of sensitivity, awareness, and availability, the assuming of a critical style of research and continually updating knowledge of children, and enriched evaluation of parental roles, and skills to talk, listen, and learn from parents.

Responding to all of these demands requires from teachers a constant questioning of their teaching. Teachers must leave behind an isolated, silent mode of working that leaves no traces. Instead, they must discover ways to communicate and document the children's evolving experiences at school. They must prepare a steady flow of quality information targeted to parents but appreciated also by children and teachers. This flow of documentation, we believe, introduces parents to a quality of knowing that tangibly changes their expectations. They reexamine their assumptions about their parenting roles and their views about the experiences their children are living and take a new and more inquisitive approach towards the whole school experience. (Edwards et al., 1998, p. 69 – 70)

Why would Malaguzzi describe in such length the requirements of teachers in relation to families? I believe it is because of the value that the Reggio approach places on relationships in the life of the child. In the forward to *Bambini*, a book describing the infant-toddler programs in Reggio Emilia as

well as several other cities in Northern Italy, American psychiatrist Robert

Emde writes:

>This is a book about a special culture, one that immerses the infant and
>
>young child in a network of relationships with shared meaning that
>
>overlaps considerably with scientific knowledge about development and
>
>with what we generally regard as the best practices for care. . . (Emde as
>
>cited in Gandini and Edwards, 2001, p. vii)

Relationship is a theme that runs through all the writings of Reggio

educators, and the issue of how to involve parents in the life of the school, and

thus in the full lives of their children, is a recurrent component of their

thinking about relationships. Its frequent recurrence is one of the reasons I

believe that the Reggio Emilia approach can be said to place focus on the

interconnectedness of living systems as seen through the metaphor of

autopoiesis. This attitude is one we have tried to nurture at Children's Garden

as well, and I consider it one of the most powerful messages of hope from

Reggio Emilia. It connects directly to the next interesting element from the

Reggio schools – involvement in community.

Community. In a recent conversation with Hobbs, we discussed the

challenges of importing cultural values from Reggio Emilia, Italy to Denver,

Colorado. Could it be done? A message one hears in Reggio Emilia, which I

have mentioned before, is – do not expect to take our ideas home and use

them. Instead, go home, learn about your own culture, and build from it. We

have tried to do that. Bobbie Hobbs and I mused, however, about when it was appropriate to move from simply knowing one's culture to trying to change it. I am not familiar enough with the whole of Italian culture to compare it with another. I can, however, describe several characteristics of our American culture I wish could be different because they may not support children well– the influence of the media, the pace of life, the distance between the child and the natural world, consumerism, the lack of financial and political support for education and for families, and misguided educational initiatives, to name a few. I believe one of the underlying messages in the story of the municipal schools of Reggio Emilia is one of political and social involvement. As Thomas Berry (1999) reminds us, we are in a "moment of grace", and such moments are privileged and transient. (chap.17) So the focus on how the Reggio schools began, and how they are now organized and run within the city – that story I heard repeatedly and for a time ignored – that story exposes a valuing of children within a culture which should not be ignored. It also underscores the Reggio message that their story is theirs, and each of us must create our own story within our schools and communities.

Team teaching. Team teaching, although it could be described as simply a school organization style, strongly affects school program. It is also aspect of our school that I struggle to categorize as either a possibility or a challenge, because I see it as both. The possibilities of this arrangement are that there are more well prepared voices in a discussion, and thus more creative ideas to

share. The challenges are that ownership of a classroom environment, clarity of vision and continuity of style within a classroom team are difficult to achieve. Any differences in work ethic and work habits are magnified, and communication challenges can bring down a team within a horizontal teaching model. Team teaching is the Reggio model, and has been the model at Children's Garden for years, so we continue to explore ways to maximize the benefits of this way of structuring a teaching staff.

The Reggio Emilia model is of teams of teachers who collaborate to plan emergent curricula based on documented listening to children. Lella Gandini (1993) describes the Reggio model, which she says is based on "cooperation as the foundation of the system":

> Cooperation at all levels in the schools is a powerful mode of working that makes possible the achievement of the complex goals that Reggio educators have set for themselves. Teachers work in pairs in each classroom (not as head teacher and assistant but at the same level); teachers maintain a strong collegial relationship with all other teachers and staff and engage in continuous discussion and interpretation of their work as well as the work of and with children. (p. 6-7)

Gandini goes on to say that, "cooperation needs much support; in Reggio Emilia schools, cooperation is supported by a careful, well-developed structure or organization." (p. 7)

My sense is that the challenges we have faced with team teaching result in part from my own ambivalence about this structure, and thus my lack of adequate support for the teachers. My Montessori background leads me to value a deeply developed prepared environment, extremely consistent lessons with the Montessori materials, and carefully considered and intentional interaction between adult and child - all goals which seem to me to be more achievable with a teacher-assistant model. Stated somewhat simplistically, the Montessori approach seems to focus on more fully supporting children as they connect with a prepared environment, while the Reggio Emilia approach places more focus on fully supporting children as they connect with people. When a school is attempting to combine Montessori elements with Reggio elements, deciding as a staff how to support both Montessori and Reggio goals in this area is something that consistently confounded us this past year.

The Teacher as Researcher. Carlina Renaldi gave the last lecture during the March 2008 *Students and Professors International Study Tour* in Reggio Emilia. During my visit I had observed, listened, taken notes, made sketches, taken a few photos, talked to other participants, asked questions – and worried. I worried about my responsibilities back home and the expectations of the teachers at my school. I knew they expected me to return from Italy with insight and clarity, and instead, what I saw charmed me and confused me in equal amounts. I had certainly not achieved clarity. Renaldi spoke about the idea she hoped we would "pack in our suitcases and take home" – the idea of

teachers-as-researchers. I recall feeling a sense of relief as she spoke of the collaborative aspect of research, looking forward to speaking to my own teachers when I returned to Denver. Perhaps I did not have to figure everything out myself! When I returned, I began talking to my teachers, not just about the Reggio approach, but also about research and learning, the theme I had "packed in my suitcase." I was entranced by Renaldi's ideas, and continue to be. Research is at the heart of the Reggio Emilia approach. They have developed what Renaldi called a "normalcy of research" – it is just what they do.

> What does research mean? Research is an attitude, an approach to everyday living in school and life. It is a way of relating to life and to others. Research is something that connects us with the world. Research is a word that describes the way in which we connect. We create our process of knowing. But where and how can we find the strength and courage for this change in our daily life? Not in university. How can we develop an attitude toward life that is a radical change? I think once again, from the children. The child is the first great researcher. Children deserve the first Nobel Prize of Research. They research for the meaning of life. They are strongly searching for meaning in the world around them; for meaning in the world we have culturally created around them. When you see them, if you know the children, you can recognize the tension to know, to ask the whys. They are generative - when they ask

"Why do we war?" Why do we die?" If you listen carefully and don't laugh, you can see the essence of a human being. We are the only animal which can ask the *generative* why. The people who understand the essence of this kind of *why,* are the children. The identity of human children is as a researcher of meaning and of sharing together.

She then spoke of Maria Montessori:

Research is one of the best ways to express one of the most important areas of our theory and practice - truth and research. There is a kind of dichotomy - a separation - that has caused big problems in the schools in Italy. I invite you to consider the theories which were practiced before. Our work with children builds on the great educators that came before - Montessori, Piaget, Vygotsky. There are theories that can create a practice, but practice can also develop theory. You have a spiral of knowledge. Theory begets practice which begets theory which begets practice, etc. This can work in schools as well as in life. (transcribed lecture, C. Renaldi, *Dialogues on education: professors and students international study tour,* Loris Malaguzzi International Center, March 1-5, 2008, Reggio Emilia, Italy)

Part of my life in the field of Montessori education has been as a trainer of teachers, and I have used much of my own Montessori training as a model, focusing attention on sharing the details of how each Montessori material is presented, and why. I have shared the philosophical foundation of those

materials as well, essentially passing on Montessori's ideas. What I have not done is strongly encourage research; in fact, I believe it may be part of the Montessori educational culture to tread carefully around the notion of research. I believe there is a fear that if we seek the answers to generative questions, the answers given by Montessori herself might be threatened. The reality is, we all do research all the time, as Renaldi says:

> Something I've personally discovered - life is research. For what? We research to find an answer to this question - why am I here? Those questions start with each child at birth. They can't articulate the questions, but they want to know why. To try to support them in their search is our work. Don't lose the why. Don't allow others to give you answers to the why. Even if life can be very scary, you have to ask why. (transcribed lecture, Carlina Renaldi, *Dialogues on education: professors and students international study tour,* Loris Malaguzzi International Center, March 1-5, 2008, Reggio Emilia, Italy)

Teacher-as-researcher is simply a shift in attitude, a way of looking at the work we have always done, now made fresh by using new words. As a trainer of Montessori teachers, I have come to believe that the details of how to present a Montessori material to a child are essential and must not be given up because they have repeatedly been shown to help children learn, but that is just the beginning. The acceptance of our ongoing role as teacher-researchers, both sharers and developers of information, is a powerful way to continue the

growth that is solidly built on the conclusions Montessori herself reached, which she based on her own research. She did not fear research, nor should we.

Emergent or negotiated curriculum. In Chapter II, the process of curriculum development in Reggio schools is described in detail. As a reminder: the curriculum in a Reggio school is not set, but instead emerges from the questions and interests of the children and through questions and interests teachers and children develop together. Interests are stimulated in many ways – by chance events, teacher-planned provocations, or by the children's own questions and interests. As the children's interests emerge, teachers collaboratively imagine and plan for possible avenues of development, and become involved in negotiated development of projects with the children. As long as ideas continue to hold interest for the children, they continue to develop within small collaborative groups of children and teachers who use the language of words and any number of other symbolic languages to further their exploration and understanding. Children's ideas are given more importance than teacher's ideas, and for Reggio teachers, careful listening takes the place that careful observation holds in the practice of Montessori teachers.

In theory, some aspects of emergent curriculum felt comfortable to us because they sounded like Montessori's notion of following the child. In practice, actually incorporating emergent projects that took any length of time or required extensive support and planning, was difficult. Although full-blown

projects may not have happened often at Children's Garden during this past year, small ones did from time to time, but they felt so similar to experiences we could recall having when we were simply operating from a Montessori perspective that they were hard to evaluate. Were they Montessori or Reggio? We could not tell.

More troublesome to us was our concern about leaving aside any of the Montessori curriculum. Although perhaps the Montessori approach can be described as having some aspects of constructivism, it cannot be described as being emergent, nor can it be described as socio-constructivist, and the projects that describe the Reggio curricular style are strongly emergent and socio-constructivist, and often take lots of time to develop. As we tried to incorporate Reggio-inspired projects into our program, we all felt the time-crunch of our rather short daily school schedule, and some teachers expressed feelings of pressure to prepare children well for the next schools they would attend. We also experienced a problem I mentioned in Chapter III – the elephants walking across the room that we simply let get away from us. There was just too much to do, which mostly meant too many lessons to be given, so as ideas came and went, our attentions were often in entirely different places. We have set aside for a future time an in-depth dialogue about what we mean, at Children's Garden, by "follow the child". Catherine McTamaney (2005) describes the dilemma I believe it presents us as Montessorians:

We are told often to "follow the child." What does that look like? Can we possibly follow every child? Won't we fall into utter chaos? What will happen to our lesson plans? What will happen to our control? Following the child requires attention, observation, and a very intimate knowledge. In order to understand where she leads, following the child requires us to understand the child's motivation, her development, her fears, and her joys. A daunting task, perhaps so daunting that it becomes much easier to follow our manuals than the child before us. "Follow the child" becomes a slogan we pull out when we can't otherwise justify our teaching. "Follow the child" becomes how we defend our disconnection. (p. 27)

It is telling that McTamaney uses the singular in her descriptions – "to understand the child's motivation, her development, her fears, and her joys." The Reggio approach seems to me to be so strongly socio-constructivist that their description could sound like- "to understand the children's motivation, *their* development, *their* fears, and *their* joys." That shift for us, although appearing small theoretically, in practice in the classroom, was a challenge. It underscored the differences between the Montessori approach and the Reggio Emilia approach in a very practical and confounding way. It threatened our understanding of how to do our jobs and confused us about what we believed our goals to be. Were we supporting independence or were we supporting cooperation, and how could we support both?

Working in small groups. We came to no firm conclusions about socio-constructivism at Children's Garden. Of all our children, the five year olds seemed most interested in group work, a behavior which fits closely with our understanding of child development based on Montessori's Planes of Development. I think socio-constructivism and the Montessori model of individual work might be able to co-exist within the same program and support children well. That is what I think I observed in Reggio Emilia, although, as I mentioned before, my experience is limited and my distance from this past year is exceedingly short. If a school is to try incorporating a socio-constructivist model into a Montessori model for children birth to six, I believe, like Ann Lewin-Benham (2006) that classroom management becomes the first issue to address. "Children who are not self-regulated cannot do complex projects." (p. 24) The second issue is to define what one means by group work. The group projects I observed at Reggio Emilia involved a teacher, sitting close-by, usually documenting, often conversing with the children, offering help, scaffolding their efforts through the zone of proximal development. The children were not simply left to work together, which, as most Montessori teacher have observed, often results in unproductive and disruptive activity. Carolyn Edwards, Lella Gandini and George Forman's (1998) description of some of the challenges of group work illustrates how carefully it is done in Reggio Emilia:

> Create small groups that are comprised only of children who are
>
> interested in the work and who you think have complementary styles of

working. Do not cajole a child into participating in a project that he or she is not interested in. Either find a component of the project in which this child is interested or let the child learn by observing the work of others. Often such a child will become interested in the project over time. Allow children to enter when they are ready. Defend this policy to the end! (p. 464)

In other words, group work does not just happen, just as individual work in a Montessori classroom does not just happen. We continue to experiment with supporting socio-constructivist group work within our Montessori program, which, according to Margaret Loeffler (1992) could be considered "constructivist." (p. 102)

The hundred languages of learning. Having spent this last year exploring the Reggio understanding of the use of symbolic language by children to develop their understanding of the world, and to communicate, I will never be able to look at children's art in the same way again. I now see the drawing, painting, and sculpting of children as either another means of exploring their world, or of telling about it. Long-time *atelierista* Vea Vecchi said, in an interview, about her work:

The *atelier* serves two functions. First, it provides a place for children to become masters of all kinds of techniques, such as painting, drawing and working in clay – all the symbolic languages. Second, it assists the adult in understanding processes of how children learn. It helps teachers

understand freedom, symbolic freedom, and paths to communication.

The *atelier* has an important, provocative, and disturbing effect on old-fashioned teaching ideas. . . . The other important function of the *atelier* is to provide a workshop for documentation. (Vecchi as cited in Edwards et al., p. 141)

This year at Children's Garden an art teacher who was first trained as an art educator, and then later, as a Reggio educator, joined our staff. She changed my understanding of the possibilities of our studio, and helped me see that, although I had observed three previous iterations of the use of the studio, we had not really been using the studio it would have been used in a school in Reggio Emilia. Each year was a valuable addition to our program and they expressed our best understanding of possibilities at the time. The evolution of how we have used the studio is a clear example of a school being inspired by Reggio, but doing it our own way.

The culture of a Reggio school is a culture of research. The teachers are doing research, and so are the children. Research is how the process of learning is described. An *atelier,* given that culture, becomes a workshop in which children and teachers research their questions and develop their understanding. It is equipped with the tools of exploration and communication. We have all known people who say, "I can't tell you, but give me a piece of paper and I can draw you a picture", or, "I can't figure this out – I need to draw a picture." That person, wanting to either communicate or develop an idea, was

using a symbolic language other than speech. Within the TIES program, mind maps became a symbolic language for us. That is what an *atelier* can offer a school – a place to develop many languages of expression.

As a Montessori school, we were challenged by a number of issues related to our studio, like how to schedule its use, and how to organize it, but they all emanate from one issue, and that is purpose. We have yet to be able to clarify for ourselves the purpose of our studio, thus how it is used has changed each year with each teacher, and I have wondered often if our lack of clarity has contributed to the march of teachers. When I said earlier that how we use the studio defines us as a school, and is also what most clearly shows our confusion, this is the dilemma to which I was referring. Are we a Montessori school which has an art studio, and which places value on art? Are we a Montessori school that is Reggio-inspired, but only in the art studio? Are we a Montessori school that has embraced a culture of research, and that uses our art studio as another place where teachers and children are able to explore their questions? In the four years I have been at Children's Garden, I would say we have tried all of those purposes on for size, sometimes all in the same year. The art studio at Children's Garden, just as Vea Vecchi says: "The *atelier* has an important, provocative, and disturbing effect on old-fashioned teaching ideas". (p. 140)

Seamless integration of our program. Both the Montessori and the Reggio educational approaches are holistic, meant to support the child in every area of

growth. Our exploration of the Reggio Emilia approach has not only brought value to our Montessori program, but it has challenged it. Questions like how a classroom can be managed to allow some group work alongside concentrated individual work are hard to answer. Our exploration of Montessori and Reggio is a story of change and growth, a story of autopoiesis among a group of teachers who then in turn create an environment which has enabled children to grow and change. Many times over the course of the last year, someone at Children's Garden has suggested that what we are trying to do is get to the point where we can say, and know what we mean: "This is what we do at Children's Garden. This is what we believe to be true for children", rather than: "this is Montessori", or "this is Reggio". Our need to separate the two philosophies as we tried to understand them apart and together has sometimes gotten in the way of seeing the many subtle but significant ways they might work together, and actually already do, within our program. We have certainly experienced autopoietic structural coupling as we have studied and experimented. Throughout Children's Garden is posted a quote from Ann Lewin-Benham (2008) about the quality of work she hoped to promote in the Model Early Learning Center in Washington D.C. It does not mention Montessori or Reggio, but describes for us not only the work we hope to support for our children, but the work we hope to do ourselves as adults.

Significant work of any type at any age has these qualities: It is intentional, highly articulated, purposeful and absorbing, responsive to a

child's interest, and transcendent, meaning it has the potential to branch to numerous other rich subjects that are directly or tangentially related. Significant work is creative, complex, and original, and it stimulates one or more innate human capacities. . . Significant work stems from a teacher's choice: Intentionally she or he decided to embrace a philosophy and undertake a set of practices based on a belief in children's enormous power...Significant work is creative. Significant work is complex. Significant work is original. (p. 6)

Chapter V: The TIES Journey

Understanding of the self only arises in relationship, in watching yourself

in relationship to people, ideas, and things; to trees, the earth, and the

world around you and within you. Relationship is the mirror in which the

self is revealed. Without self-knowledge there is no basis for right

thought and action. (Retrieved on July 26, 2008 at

(http://en.wikipedia.org/wiki/Jiddu_Krishnamurti#cite_ref-69)

When a teacher of young children goes to work each day, he/she

concentrates on children and their needs and rights. TIES concentrates on the

teacher and his/her needs and rights. However, the welfare of children and

teachers really cannot be separated – if one group is struggling, the other one

will be as well, so as we have considered our own roles as teachers, we also and

always consider the welfare of the child. While indirectly reminding us of the

enormity of our jobs and the importance of our work, TIES placed each of us,

as individuals, into a supportive autopoietic web of ideas that passed from one

to another, all related in some way to the eco-cosmological role of humanity. I

devote this chapter to TIES, which has for me been a journey of exploring and

building relationships: with others; with the universe; and with the process of

life described as an autopoietic process. TIES necessitates an exploration of

relationships simply because of its structure - is it possible to share

experiences and ideas across continents by using the Internet? Do people have

to meet each other in person in order for our conversations to be meaningful?

TIES has provided answers to these questions - cyberspace, if structured properly and used by thoughtful and dedicated people, can be a forum for developing community and relationship. TIES has been a manifestation of humanity's ability to adapt to time and place.

TIES speaks to us of how we learn, and asks us why we teach, both questions which have become immediate and urgent in the 21st century. What TIES invites us to do is revisit the thinking of Maturana, Varela, and others who have built on their theories, so that we may evaluate the health of human cultural institutions using the laws of nature, and consider how we might align our institutions with the life-affirming patterns of autopoiesis. There is strong evidence that the world we live in today is unbalanced by the activities of one species – ours - but, in a paradoxical twist, we are also the species that possesses the kind of brain that enables us to make choices that might restore our planet to a healthy state. What lessons from nature might we use as guides? Moreover, how do we approach these questions as educators of young children, who inherit the imbalance we have wrought? These are the questions TIES leaves me with, and which have added passion to my study.

The TIES program has several integrated aims. One is to revisit and deeply explore Montessori's vision of education for children. Another is to update her understanding of the story of the universe and life on Earth and reevaluate it in the face of the global environmental degradation. A third is to take an unblinking look at the role of humanity on Earth in social, political,

cultural, economic, and environmental realms. A fourth is to prepare adults to be educators. The program in many ways follows Montessori's approach to education: it is holistic, indirect, individualized while at the same time collaborative, and involves observation and interpretation of observation. In many ways, it also follows the Reggio approach to education. It involves documentation, different languages of expression, is highly creative, and it is based in community. Our research project became an important part of training to be in the classroom or in a school, because we were emulating Montessori, who was herself a researcher. In discussion using the principles of Bohmian dialogue, we examined questions rather than always reaching conclusions. In fact, TIES has made me wonder if education at all levels is less about finding answers than it is about asking questions.

TIES was not, as I first believed it to be, simply about Montessori education-- another training program like so many others that are offered today. Instead, we figuratively joined hands with Montessori and continued in the scholarly pursuit she felt was essential to the understanding of the human child. The preparation she envisioned was complex and gathered information from many sources.

Montessori's aim, from the start, has been to contribute to a comprehensive science of man. This science could not, according to her, be based on any single discipline, but should result from the concerted endeavors of different scientists studying human beings from whatever

angles modern science permitted, and the integration of their findings

into a sufficiently broad and differentiated conceptual matrix. The

integration should not be done in an eclectic manner which would only

confuse the issues, but it should rather be based on a tentative blueprint

encompassing the different branches of science, and the modifications

indicated by an investigation of their interrelationships. (Montessori,

Mario Jr., 1976/2008, p. 5)

Montessori herself was one of the scientists we chose to investigate, and then,

book by book and seminar by seminar, we added the perspectives of voices

from many fields, created an eco-cosmological context for our work and

oriented ourselves to our time and place. From chaos theory, quantum physics,

systems theory, biology and ecology, we developed models and metaphors for

the ways human institutions like schools might function. There was coherence

in their message, each author writing of balance, interrelatedness, creativity,

growth, renewal, and how we humans fit into the natural and socio-cultural

world.

The great naturalist and ecologist Thomas Berry (1999) believed we are

now in a period of upheaval and change across the planet, the likes of which

we have never seen – a period which confronts us with daunting challenges,

and, as I said earlier, "moments of grace." Berry wrote:

So now in this transition period into the twenty-first century, we are

experiencing a moment of grace, but a moment in its significance that is

different from any previous moment. For the first time the planet is being

disturbed by humans in its geological structure and its biological

functioning in a manner like the great cosmic forces that alter the

geological and biological structures of the planet or like the glaciations. .

. . A comprehensive change of consciousness is coming over the human

community, especially in the industrial nations of the world. For the first

time since the industrial age began we have a profound critique of its

devastation, a certain withdrawal in dismay at what is happening, along

with an enticing view of the possibilities before us. (p. 198)

When Berry writes that we must usher in an "Ecozioc Era" (p. 201), he is

taking up what Montessori referred to as "[humanity's] …far deeper

responsibilities to a cosmic task, [our] collaboration with others in work for

[the] environment." (Montessori, 1948/1989. P. 27) Using Montessori's and

Berry's vision, teaching becomes about helping children create connections

with the natural world – it becomes about *relationships*, between the child and

him/herself, between the child and the teacher, and between the child and the

cosmos. Even when a relationship is with oneself, awareness shows us that all

relationships contain an *other*. Speaking metaphorically, we are placing our

attention on the web of connections between autonomous systems that are in

continual autopoietic process.

A moment of grace. When I was a child, my family sang an American

Negro spiritual that created images in my mind so glorious and mysterious that

whenever I sing the song today, as an adult, the images I saw as a child are still there. Part of the mystery lay in words and names I did not understand. I had no context for them except that they belonged somehow to my family, but much of the mystery simply lay in images of giant wheels which created themselves in my mind, as sparkly as Ferris wheels, the smaller one nested within the larger, a wheel in a wheel, slowly spinning against an endless black sky.

> Ezekiel saw a wheel,
>
> way up in the middle of the air.
>
> Ezekiel saw a wheel,
>
> way in the middle of the air.

> Big wheel run by faith,
>
> little wheel run by the grace of God.
>
> A wheel in a wheel,
>
> way in the middle of the air.

> (American Negro Spiritual, as sung by the Gann family and remembered by me)

During the months of the TIES program, sometimes those big wheels would appear again, this time representing, metaphorically, the networked systems that are described by autopoiesis, always moving, autonomous, but

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always existing within a network. Within the wheels, I imagined a place for each of us as individuals, always moving, autonomous, but always networked. The wheels came to mean the whole, the understanding of which must come first, according to Montessori. Capra (1996) agrees, writing,

> The first and most general, criterion is the shift from the parts to the whole. Living systems are integrated wholes whose properties cannot be reduced to those of smaller parts. . . .The properties of the parts are not intrinsic properties but can be understood only within the context of the larger whole. (p. 37)

Each of us has a place and a role, and as Capra and Berry tell us, in this moment of grace we must be attentive and aware. Now is the time for action.

A pause in the journey - TIES; Montessori; Reggio. At the end of this period of study, generally about the relationship of human species to the cosmos, and more specifically for me, about the Montessori and Reggio educational approaches, in spite of my interest in the Reggio educational approach, I cannot imagine stepping away from the brilliance of Montessori's Cosmic Plan. Those of us who explore the field of Montessori education are supported by a worldview developed by the Maria and Mario Montessori, and further evolved by teachers and children - a context for her educational approach which Montessori (1948/1989) described as "a central idea, of greatly ennobling

inspiration – the Cosmic Plan in which all, consciously or unconsciously, serve the great Purpose of Life." (p. 1) Angeline Lillard (2005) wrote:

> Cosmic Education is a way to show the child how everything in the universe is interrelated and interdependent, no matter whether it is the tiniest molecule or the largest organism ever created. Every single thing has a part to play, a contribution to make to the maintenance of harmony in the whole. In understanding this network of relationships, the child finds that he or she also is a part of the whole, and has a part to play, a contribution to make.

Predating decades of research that supports the unity of the universe, Montessori (1948/1989) wrote: "We shall walk together on this path of life, for all things are part of the universe, and are connected with each other to form one whole unity". (p. 6) She viewed human society as: "slowly organizing itself towards unity, just as, in the individual human being, organs are built around separate centres of interest, to be later connected by the blood-circulatory system and the nerves into an integrated human organism". (p. 2)

Believing that the "fundamental principle in education is correlation of all subjects, and their centralization in the cosmic plan," she placed humankind in a lofty position, writing that "[humanity] is God's chief agent on earth for creation". She did not mean, however, that humans could simply enjoy that position – they have "far deeper responsibilities to a cosmic task, [their] collaboration with others in work for [the] environment." (p. 45) She hoped,

through education, to ready children to assume their "cosmic task" - that of furthering cosmic evolution, which she believed could be also described as "the process of self-perfecting." (p. 19)

As Montessori (1948/1989) wrote about the "correlation of all subjects and centralization around a cosmic plan" (p. 55), she gives us the context within which Montessori educators work, and she was not alone in her embrace of cosmology as a way to give education a central meaning. In the notes preceding her book *EarthDance: Living Systems in Evolution,* (1996), eco-philosopher Elisabet Sahtouris describes friends and colleagues questioning her about the depth and breadth of her study: "My answer is that context is what gives meaning, and a serious search of context is an ever-expanding process leading inevitably to the grandest context of all: the whole cosmos." (p. ii)

Montessori's Cosmic Education is not only about *how* to teach, but also *about what.* As for the how, much of what she encouraged her followers to do is much like what scientists do – question, experiment, observe, document, and then begin again. As part of the questioning, experimenting, observing and documenting she encouraged, it is my belief that the Reggio Emilia philosophy is a valid and worthwhile area of study.

I believe Montessori's view of a Cosmic Plan, which was the basis of her educational approach, is essentially a description of Earth systems as scientists who have developed the Gaia Theory now describe them. In the last

pages of *To Educate the Human Potential,* she describes a "significant unity" in natural systems, observing that nature "follows a plan which is the same for atom as for planet." (p. 76). Her understanding of Earth systems sounds much like the Gaia hypothesis developed by James Lovelock and Lynn Margulis, "the theory that our planet and its creatures constitute a single self-regulating system that is in fact a great living being, or organism…" (Sahtouris, 1995, p. i) It tells us that everything is interrelated in some way, and that it is not possible to describe any one part of a system without knowing something about the whole in which exists, as Capra (1996) reminds us, "systems thinking is contextual" (p. 30) If one part of a system changes, so do other parts. Sahtouris writes of this when she says: "Our universe, or cosmos, has always been a dance of interactions among the large and small moving patterns, each contributing to the other's formation." (p. 1)

Montessori was somehow able to intuit processes decades before others, and her Cosmic Education is an example of her ability to frame her ideas so they maintain their relevance. Much of the reading we did during the first semester of our studies further develops her notion of the cosmos and humanity's place in it. I found myself, as the months of went by, metaphorically whizzing through space like one of the flashes of light from an exploding star to land – clunk – squarely within the ethics of deep ecology described by Fritjof Capra, and, unbelievably, by Maria and Mario Montessori decades earlier.

At the end of this study within TIES, I am left with the sense that, in light of the crises facing our ecosystem, and the negative impact the human species has had on natural systems, Montessori's ideas have more urgency today than in 1948. In that year, shortly after the ending of World War II, Montessori (1948/1989) sounded alarms about the need to educate children because of "world-shaking forces [which are] now making the realization of human unity an urgent necessity." (p. 77). Today, not only are there wars and violence, there is also an environmental crisis which imperils our entire planet, so there is an even more compelling need for education which prepares children to assume an effective stewardship of our planet, a responsibility Montessori described as humanity's Cosmic Task. Montessori may have had premonitions of our environmental crisis, describing the Earth as a "living organism" (p. 50), just as Elisabet Sahtouris (1995) did many years later in *EarthDance,* when she wrote that Earth is "a live planet rather than a planet with life upon it" (p. 3).

When I was in Reggio Emilia, I observed a small group of children doing a color study of the greens they had found in their garden in early spring. As I watched and listened, I remembered a comparison one of my teachers had made between Montessori and Reggio. She said Montessori teachers were interested in children knowing the parts of a tree, whereas Reggio teachers were more curious about how children might know the soul of the tree. (personal conversation, Jamie Boes, 2008) As I listened to these Italian

preschoolers naming colors they had mixed, using a language I was able to understand just a bit, I wondered - why not both? Why not use Reggio ideas within our Montessori schools to let the children explore trees in all their glory – both their parts and their leafy "souls"? What would that do to our context for observation?

In his book *The Universe in a Single Atom: the Convergence of Science and Spirituality* the Dalai Lama (2005), wrote, "I believe that spirituality and science are different but complementary investigative approaches with the same greater goal, of seeing the truth." (p. 4) We humans are spiritual creatures, each one searching for meaning in our lives, a yearning which Victor Frankl (1946/1984) saw as the "primary motivation in his life and not a "secondary rationalization" of instinctual drives". (p. 121) Brian Swimme (1996) says essentially the same thing when he writes of humanity's "single unifying concern: 'What does it mean to exist, as a human, in this vast unfolding universe? What is our role here? What is our destiny?' " (p. x) Roger Fouts (1997) wrote about our experimentation with and treatment of chimpanzees: "Good science must be conducted with the head and the heart." (p. 373) As Montessori teachers, guided by the work of Maria and Mario Montessori, we are daily surrounded by young people, and each of us has a profound responsibility to chart a course not by spirituality or science alone, because each of those, unbalanced by the other, can lead toward extremism or

insensitivity. When a tree is seen as a system, no part is complete when separated from its whole – and within the whole is perhaps its soul.

> The aim is not to eliminate one way of knowing in favor of another; the aim in an ultimate sense is an integral understanding of the universe grounded in both the scientific empirical detail and in our primordial poetic visions of the cosmos. (Swimme, B., 1996, p. 77)

I am an educator, a mother, a grandmother, and a citizen of the world. My story is personal, but my place on this earth, and in the cosmos, is universal. I am here to help. My encounters with Maria Montessori, Loris Malaguzzi and TIES have helped me define who I am. This is who I am, I can say. They have all helped me see that what I am and who I am is always defined in *relationship.* Like Malaguzzi, I can be a teacher who is an audience for children when necessary, and like Montessori, I can observe without disturbing. I can see the cosmos and sense how it works.

I have learned from Montessori a relationship of reverence for the child, and from Malaguzzi a relationship of active connection with the child. I have learned from TIES a sense of perspective and of wholeness that has allowed me to see that Montessori and Malaguzzi are talking about the same child. Their descriptions, although focusing on different parts of the whole, describe the same child, and studying both descriptions enables us to serve children better. Reading the work of Montessori and Malaguzzi has also painted colorful pictures in my mind of two powerful individuals who saw the world, as we all

do, as individuals, infusing what they saw with who they were. Again, I appreciate TIES because it has given me the gift of distance, and reminded me that I am not Maria Montessori, nor am I Loris Malaguzzi.

Montessori's message to educators was that each child has a potential which is unknown and precious, and that our role as educators is to protect the wide-open space into which that child might grow, and in no way to limit potential. When Malaguzzi wrote of scaffolding so that a child might grow within the zone-of-proximal-development, his message was the same. The difference between the two appears to me to be one of focus within the autopoietic field of growth and learning that includes the individual organism, the child, who exists within a complex interrelated series of systems with which he or she engages. Each of us exists and learns within the unfathomable complexity of the world, which is itself learning. Using Reggio terminology, we co-learn. That is also the message of TIES – we co-learn. We exist within a cosmic network that contains us all, and by strengthening the connections between us, we compound our strength.

> Even though we understand who we are, we have to see what we are. Are we separate from the grasses, trees, or birds? No, we are grasses and trees, snowstorms and fine days. So we have to learn what the storm is, what winter is, what spring is. We have to understand everything in our whole life. So accept that life is just a continuation of learning. Day after day, life after life, we just have to learn constantly. That's enough.

(Katagiri,D., (2008). *Each Moment is the Universe.* Boston: Shambhala

Publications. May 31, 2009 Tricycle's Daily Dharma)

Appendix I:

No way. The hundred is there.

 The child is made of one hundred.

The child has a hundred languages

A hundred hands

A hundred thoughts

A hundred ways of thinking

Of playing, of speaking.

 A hundred always a hundred

Ways of listening

Of marveling, of loving

A hundred joys

For singing and understanding

A hundred worlds to discover

A hundred worlds to invent

A hundred worlds to dream.

 The child has a hundred languages

(and a hundred hundred hundred more)

but they steal ninety-nine.

 The school and the culture

 Separate the head from the body.

They tell the child:

To think without hands

To do without head

To listen and not to speak

To understand without joy

To love and to marvel

Only at Easter and Christmas.

They tell the child:

To discover the world already there

And of the hundred

They steal the ninety-nine.

They tell the child:

That work and play

Reality and fantasy

Science and imagination

Sky and earth

Reason and dream

Are things that do not belong together.

And thus they tell the child

That the hundred is not there.

The child says:

No way. The hundred is there.

By Loris Malaguzzi translated by Lella Gandini (Malaguzzi, 1990)

Appendix II: Montessori/Reggio mind map
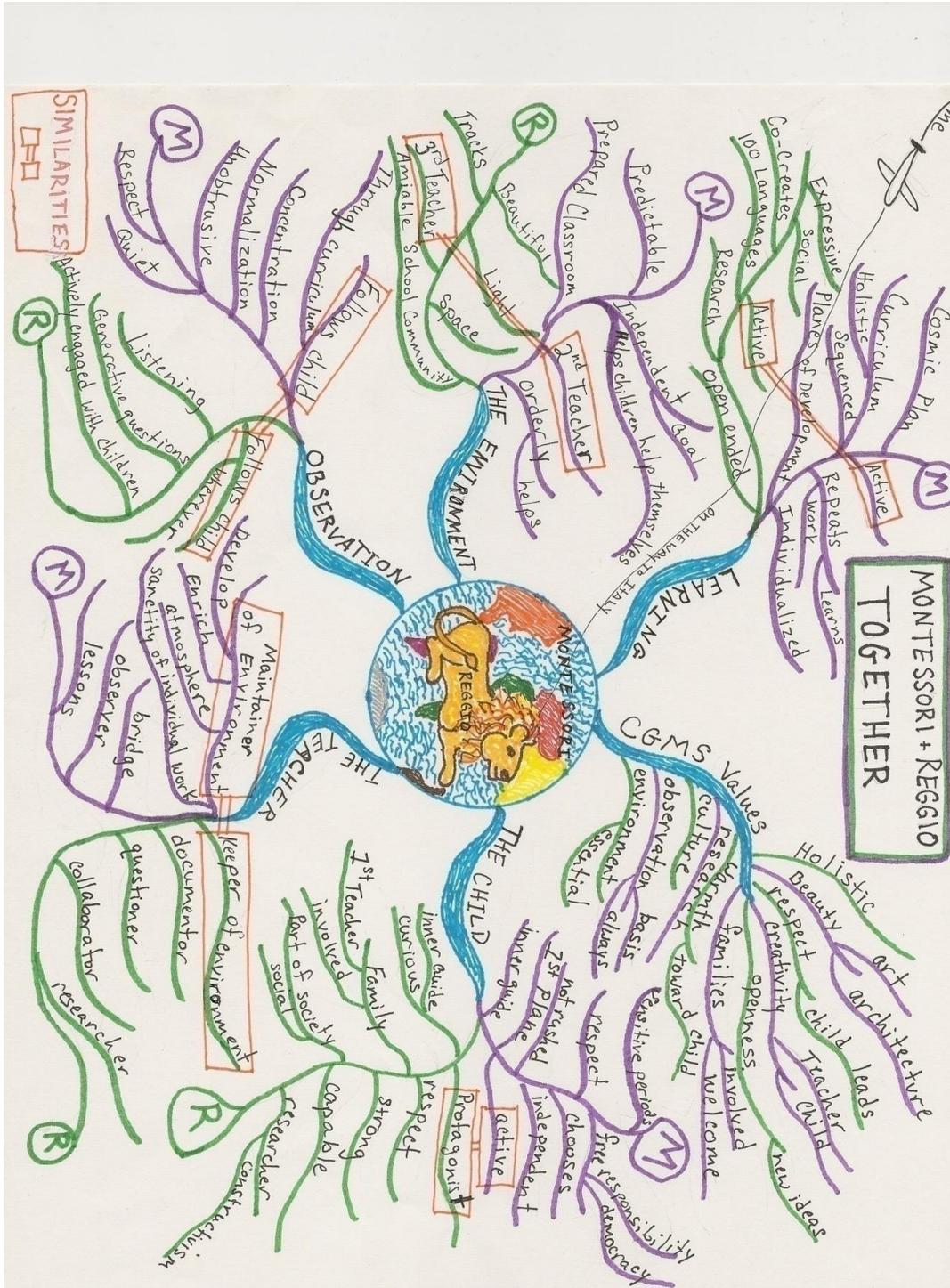
Appendix III: Reggio-Style Documentation within a Montessori Setting: Teacher Questionnaire for TIES Research Project

The following questions arise from two sources: my original question for my research paper, and your own comments in our February 4th staff meeting. More than simply looking at how Montessori and Reggio might work together, because of our commitment to Children's Garden, some of the questions are specific to our program. I do not expect you to write the answers unless you want to, but would greatly appreciate you giving the questions some thought so we can discuss them in our next staff meeting. Thank you so much for all your help! I appreciate it so much.

(1) My original research question: Can the incorporation of Reggio-like documentation techniques deepen the observational practice of Montessori teachers?

(2) What is your definition of Reggio documentation, and what do you see as its purpose?

(3) What is your definition of Montessori record keeping, and what do you see as its purpose?

I believe one of the reasons we chose to approach our study of the Reggio through documentation is that, like the Montessori approach, it is a response to observation. However, my sense is that Montessori teachers and Reggio teachers may value, and thus observe and document, different aspects of a child's behavior.

(4)As a Montessori teacher, what kinds of things are you looking for when you observe? What are you watching for?

(5) Most of us are relatively new to this practice and are still learning, but as a newish practitioner of Reggio documentation, what kinds of things do you look for?

(6) In the book *Bambini*, Carlina Renaldi describes the primary purpose of documentation as being: "to get closer to the child." One of you described documentation as allowing you to "get to know them", while someone else described feeling like documentation makes it difficult to "be there in the moment for the kids." What was your experience?

(7) Many of you described frustration about the pace of our program and expressed how hard it was to follow "emergent interests" which come from the children. If you feel this way, do you have ideas about how to change this? Is slowing our program's pace something to consider?

(8) One of you wrote: "As soon as I get up [to document] it changes the dynamic." Montessori teachers and Reggio teachers may have very different views of how much to be involved in the children's learning processes, and the level of involvement may change the dynamic. How do you feel about that? Did the process of documentation sometimes diminish the quality of your work with the children?

(9) No change in a practice is without challenges, and I believe many of us experienced some frustration with our experience of documentation. Was it

worth it? Why?

(10) How could we make our use of documentation more effective, practical, or valuable to our program? In other words, what did you learn?

(11) My original question (somewhat restated) As Montessori trained teachers, do you believe the incorporation of Reggio-like documentation techniques, as we understood them this year, deepen your observational practice?

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