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MOTHER NATURE: COMPANION, REFUGE, OR RESOURCE?
A STUDY OF GIRLS' AND BOYS' STORIES ABOUT NATURE

A Thesis

Presented to

The Faculty of the Speech Communication Department
San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

Thesis Advisor – Dr. Dennis Jaehne

by Marianne Neuwirth

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ABSTRACT

MOTHER NATURE: COMPANION, REFUGE, OR RESOURCE? A STUDY OF GIRLS' AND BOYS' STORIES ABOUT NATURE

by Marianne Neuwirth

This thesis investigates girls' and boys' stories about the natural world of the present and of the future. Thirteen children were interviewed, and the stories they told about three images of nature were analyzed for their themes, and then for their gender distinctions as they correlated to the worldviews of patriarchy and ecofeminism.

The results revealed noticeable gender differences in the stories about the present natural world. The girls generally described their characters as connected and sharing a reciprocal relationship with nature. The boys generally described their characters as feeling afraid or anxious in nature, or demonstrating persistent self-sufficiency in the face of nature as an adversary. The children's stories about the future revealed no gender differences, and generally were pessimistic about the survival of nature into the future, unless humans intervened on its behalf.

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CHAPTER I

Description of the Problem and Literature Review

Introduction

One summer afternoon while hiking at a state park, I came upon a young boy who was whipping a tree with a stick. The leaves were shredded and the lower branches were cracked. I was shocked, and told him to stop immediately. He turned to me and looked surprised: "It's just a tree," he said. Later in the week when I returned home from work, a young girl in my neighborhood greeted me with a handful of flowers she had picked, and gave them to me with a smile. The contrast between her way of treating a natural part of the world and the young boy's was striking to me; they each changed it in some way, but with different assumptions and actions.

There are many different ways of perceiving and thus reacting to the world, and these differences are influenced by several factors, such as gender, education, socioeconomic status, ethnicity, and personal and family background. According to Lloyd (1987), the most central of these differences are age and gender: "Age and sex [gender] are fundamental categories in the organization of social life in all human societies. Each of us on a first meeting of a stranger mentally classifies that individual as a man or woman" (p. 147). Stemming from this classification are multiple attitudes and assumptions about the relevant and appropriate roles for each gender, and about an individual's place in the world. Lloyd (1987) informs us that by 3 1/2 years of age, children are able to correctly use gender differentiated nouns, and that "the behavior of 3 1/2 year-olds offers . . . consistent evidence of the construction of adult-like social representations of gender" (p. 156). Thus, by a very early age we are prepared to view and interpret the world through a specific set of "gendered lenses."

Do girls and boys tend to view nature in different ways? According to Gilligan (1988), they do tend to offer different solutions to social problems. She states:

In the fall of this year, a woman . . . sent me a letter with a newspaper clipping. Children had been asked to write essays on how to improve their city, and the journalist noticed a difference between essays written by boys and by girls. To the boys, improving the city meant urban renewal as we generally conceive it: more parks, new buildings, renovations, better streets, more lighting. Girls, however, wrote about improving the city in a way the reporter found surprising. They suggested strengthening relationships between people: responding to people in need and taking action to help them. (p. i)

These differences between girls' and boys' suggestions for improving the city are significant, and if each were carried out they would have different results. These different perspectives are facilitated by the socialization process, and govern the ways we discern, talk about, and behave in relationships with other people as well as the world around us. Since girls and boys reported different ways to deal with the city, it seems likely they would also report different ways to deal with the natural world. Moreover, if their written essays reflect gender differences, it seems likely that their oral communication would also reflect differences. I undertook this study to discern if indeed there are differences in girls' and boys' descriptions of the natural world, and then analyzed these differences as they emerged in their discourse.

The reason communication about the natural world is significant requires some background explanation. Pearce (1989), among other theorists, explains that rather than being a vehicle for transporting ideas or thoughts, communication itself constitutes and creates our world. In other words, our communication constructs what we perceive to be reality, and literally creates the world we live in. He goes on to explain that we employ particular components of communication to create a fabric of meaning around ourselves. He uses the term "resources" to denote the raw materials we use to make our world coherent; they include such elements as our stories, concepts, perceptions, and memories. We incorporate these elements into our daily "practices," which are

expressions of our resources. These expressions include both our language and nonverbal communication, and can evolve into more elaborate forms of communication such as public and economic policy, judicial proceedings, and military decisions. Expressing our resources repeatedly transforms them into practices, and thus a cycle is created in that the source becomes the end and then becomes the source again.

Pearce (1989) says this repetition of our resources and practices is a process whereby our worldview is continually "(re)constructed." This pattern promotes an illusion of permanence, from which emerges our individual and social worldviews. Thus, the present worldviews under which we operate are continually being reconstructed by our communication practices. Therefore, how we communicate about the natural world creates our perception of it, and this in turn influences our behavior towards it. This theory suggests that the world is socially constructed, and can therefore be "reconstructed." I will return to this idea in the latter part of this study.

With this model in mind, our communication about the natural world takes on a new level of importance. Scientists, marine biologists, governmental agencies, educators, and even some politicians are recognizing that the earth's climate, ecosystems, atmosphere, and overall regeneration ability are all declining and deteriorating. In 1994 there was a worldwide conference regarding environmental issues in Rio de Janeiro, and there have been several reports on the eroding ozone layer, the continued decimation of the rainforests, the continued loss of unique species and ecosystems, and the increasing number of human illnesses related to pollution, contaminated water, and the thinning ozone layer. The deterioration of the natural world is a crisis of a proportion the human race has never encountered before, and no other crisis compares with it in magnitude and potential ramifications. If our communication does indeed constitute our world, then we certainly should pay attention to how we communicate about the natural world.

Girls and boys are raised differently, and I am assuming it is our upbringing which largely molds our perceptions of the world; studying the early development of any significant process often reveals useful insights. Elliott (1991), who is a specialist in children's communication, observed that the developmental perspective used by most linguists "seems founded on the belief that complex adult phenomena are better understood in the context of their growth" (p. 105). This supports the notion that the foundations of our communication skills are initiated when we are children, that they build upon one another, and that these skills affect our overall communication ability. Deloache and Brown (1987) assert that "certainly the precursors of active and systematic problem-setting and problem-solving emerge early in the child's life" (p. 120). Understanding the early development of basic skills can facilitate a better understanding of their form in adulthood.

Investigating children's communication about the natural world seems important because children are the future caretakers of our planet, of each other, and of generations to come. They will be faced with the problems looming on the horizon, and will have to find solutions to predicaments we are baffled by, such as the impending population crisis and how to accommodate the plethora of people predicted to inhabit the earth in the next few decades. Even though children think differently than adults do, their lessons, the way they solve problems, and their decisions about life have a profound impact on them as adults, and directly influence their behavior and communication later in life. Generally, gender differences observed in children extend into adulthood and impact adults' behavior in the world. I set out to investigate if girls and boys communicate differently about the natural world because I believe differences in their stories could have implications for the future.

Set-Up of This Study

As mentioned, the differential treatment of males and females from very early on orients them in different directions with different perspectives of the world. I became interested in exploring their perspectives on nature, and wanted to see if girls' and boys' tell different kinds of stories about the natural world. I wanted to know if, for example, they described the natural world as a playground, as a refuge, as a source of money, or as something scary that needs to be mastered. I also wanted to know how they described themselves in relation to nature, for example, did they see themselves as a caretaker, observer, master, or friend. These categories emerged as I observed children in my neighborhood play in the nearby orchard and park. They assumed different roles and characters in their games, and there were consistent differences between the girls and boys. Sometimes the boys wanted to build forts with the fallen tree limbs, and the girls wanted to sit on the grass and have a picnic. The results of their games had differing impacts on the area, and I began to wonder if these small games might reflect concepts which are discussed in several bodies of literature which explore gender differences. I was also interested in how girls' and boys' described the future of the natural world, because we are inundated with images of space and space exploration as our future destiny.

The rest of this chapter consists of four main sections. The first section discusses aspects of the development of children's communication competence, addressing some of the issues raised above. The second section describes differences in how males and females are socialized, and points out the impact of these differences in girls' and boys' perspectives, communication, and conceivable conduct towards others and towards nature itself while in the natural world. Describing how gender differences are manifested and fostered within our society's general concepts and norms helps to explain how gender differences may emerge in reference to nature.

The third section describes differences in girls' and boys' moral development. Moral development is important to understand because it guides the decisions we make which directly affect others. How we make moral decisions illuminates our basic assumptions about human nature, and our relationship to the people and world around us. Attitudes toward the natural world constitute a moral issue because how a person behaves in the natural world can have a profound impact on many other people as well as on future generations, not to mention wildlife, plant life, and entire ecosystems.

The fourth section addresses masculine and feminine distinctions and worldviews as they relate to assumptions about the natural world. These worldviews are termed patriarchy and ecofeminism, and they have different effects on the individuals who subscribe to each of them. Patriarchy tends to assume dominance, control, and objectification, and ecofeminism tends to assume relationship, connectedness, and personal affiliation. These two worldviews have distinct effects on individuals who subscribe to them, and can lead to divergent kinds of behavior that have different consequences for the natural world.

This first section discusses children's communication development, and expands and clarifies the ideas discussed above.

Children's Communication Development

Vygotsky (1962) carefully studied how language influences and shapes a child's development. Central to his theory is the principle that concepts are first acquired by the child "externally," in dialogue, and then become internalized to elaborate and differentiate thought (Bruner & Haste, 1987, p. 17). Vygotsky (1962) stated, "the true direction of the development of thinking is not from the individual to the socialized, but from the social to the individual" (p. 20). This "moving inward of speech" is "scaffolded" by an individual who already "knows" the concept to be passed on to another.

and helps her or him to internalize the structure (Rieber & Carton, 1987, p. 4).

Vygotsky (1962) believed that the instruments of language and culture promote the growth of individual mental structures, and that social interaction reflects and generates a framework within which individual experience is interpreted. So, a child comes to know the world through the language used by those around her/him.

Sapir and Whorf were two theorists who claimed that in addition to shaping individuals, the structure of a language shapes culture itself. They developed the Sapir-Whorf hypothesis, or principle of linguistic relativity. This hypothesis claims that labels put on objects and activities determine how people perceive and understand those objects and activities, and tend to link linguistic differences with behavioral differences in various cultures (Ellis, 1992). In the context of this study, the implication would be that the language used to describe nature influences a culture's portrayal and treatment of nature. For example, some Native American tribes refer to nature as "holy," and look to cycles of nature as a way to better understand cycles of their own lives. The Greeks personified nature, and referred to various aspects of it with particular names. They told elaborate stories and myths about its origins and meaning, creating a different kind of relationship to it than many Native Americans have.

Geertz (1973) also discusses the relationship between language and culture. He proposes that the systems of meaning and interpretation in a culture influence individuals' core intellectual processes and are essentially responsible for their nature. In other words, an individual's cognitive powers are absorbed from outside her or himself. Behavioral scientist Nancy Much (1992) extends this notion, stating, "the meaning systems that organize our psyche are largely cultural products: They are shared symbol systems that existed before we as individuals did, and they were taught to us in various ways as we grew up" (p. 54). So according to Geertz (1973) and Much (1992), individual development is essentially determined by one's culture of origin,

and individual meaning can only be interpreted in relation to it. Tannen (1989) adds to this argument by pointing out that meaning cannot be the sole work of an individual, but that an individual jumps into a "stream of meaning" already flowing in society.

Language can be described as cyclical or reflexive, in that it influences individuals who then create culture through their words and expressions. In turn, those who are a part of that culture are shaped by the language that created it. Wherever one dips his or her finger in this eddy, it seems evident that language is influential. This particular point is salient in terms of the use of language in relation to the natural world, and how this may influence children's conceptual schemas regarding the natural world. The way individuals talk about nature and the way one's culture depicts nature determine children's understanding of what the term "nature" means.

For example, many people refer to various aspects of nature as "resources," and at the boundary of many national parks and forests, there are signs that say, "Welcome to X National Forest: Land of Many Uses." These simple words connote that nature is a consumable item, or a commodity, which influences people to behave towards it as though its purpose were for humans' use only. Nature is also depicted as a deterrent to human progress. The city council of Redwood City, California, voted to have 13 redwood trees cut down in order to give downtown shops greater visibility, and to make way for a future plaza. One of the shop owners said, "Now you can see El Camino again. This is progress" (Woolfolk, 1995, p. 2B). If this kind of progress continues, the city may need to find a new name for itself.

References to the natural world imbue our daily language, and affect our sense of relation to it. Cars are named after various wild animals, such as the Jaguar, Mustang, Pinto, and Bronco which make associations with their speed and power; sports teams such as the Miami Dolphins, Chicago Bears, and St. Louis Cardinals allude to these animals agility, aggression, and swiftness which are desirable qualities in an athlete.

Advertising employs natural images as well in order to increase a product's desirability, and religion refers to natural metaphors in reference to images of purity. In daily conversations children hear adults use such phrases as "the grass is always greener on the other side," "strong as an ox," "old as the hills," "light as a feather," "hard as a rock," "quiet as a mouse," "swift as an eagle," "happy as a lark," "busy as a bee," "as wise as an owl," and so on. Images of nature are imbedded in the structure of our language itself, but they have become abstracted and detached from their source. Children may form unrealistic ideas about the natural world because the language used in reference to it often means something else or refers to something else.

Vygotsky (1962) believed words influence our thoughts and our thoughts influence our words:

The relation between thought and word is a living process; thought is born through words. A word devoid of thought is a dead thing, and a thought unembodied in words remains a shadow. The connection between them, however, is not a preformed and constant one. It emerges in the course of development, and itself evolves . . . Words play a central part not only in the development of thought, but in the historical growth of consciousness as a whole. A word is a microcosm of human consciousness. (p. 153)

If words really do reflect human consciousness, then studying the words that are used in reference to the natural world can reveal concepts associated with it. The degree of significance children ascribe to the natural world is largely influenced by how others talk about it, and how others subsequently behave toward or with it.

The Swiss linguist de Saussure further developed the relationship between conceptualization and actualization of communication by developing the concepts of *langue* and *parole*. *Langue* is a cognitive or abstract system that all of us have in common which enables us to communicate and make sense to one another. *Parole* is the way we actually speak--our vocabulary, accent, and syntactic forms. de Saussure used the analogy of chess to explain these two concepts. He explained that the game of chess is constituted by a system of rules and conventions that exist beyond the actual games

played. There are an infinite number of possible games of chess that can be played, and these are generated by the finite set of rules and conventions (Ellis, 1992). This is also similar to music, in that a finite set of notes and rhythms (*langue*) create an infinite and varied multitude of songs (*parole*).

These distinctions point out that even though language is guided by overarching principles, it is malleable; it shapes, and can be shaped. Social changes and movements have influenced our language, as evidenced in the more inclusive use of he/she, the use of "mail carrier" rather than postman, the use of "police officer" rather than "policeman," the use of "chairperson" rather than "chairman," the use of "flight attendant" rather than "stewardess," and so on. Hearing words that describe an individual's job in a gender neutral fashion influences the hearer's assumptions about who is appropriate to fill those jobs. This means that terms used in reference to the natural world may be candidates for reform as well.

In the next section I discuss more fully the influence of society on children's development, and the central role of communication in the socialization process. I will focus particularly on differences in how girls and boys are raised, and how this orients them to have different perspectives on the world around them.

Children's Social Development

Sociologist and anthropologist Bram (1955) observed that "the child must travel a long way before it [sic] acquires all the physical, intellectual, and social skills which are expected of every full-fledged member of a human group" (p. 19). The interplay between the formative influences of society and the "native endowment" of the developing person is referred to as "socialization" (Bram, 1955).

Piaget (1959) was the first to claim that the child's mind is not the mind of an adult on a small scale. He believed that children have a particular way of thinking, and

that they have inherent cognitive structures which are awakened by their environment. He also claimed that these cognitive structures mature and change as they develop, and that they precede linguistic development. Piaget divided children's language development into two categories: egocentric and socialized. He explained that egocentric speech focuses on the self, and includes self-talk during solitary play. He claimed this subsides by seven or eight, when children take a more sociable approach to playing, and attempt to initiate meaningful social interchange with others.

Piaget assumed children's internal cognitive frameworks are elaborated on through their motoric, perceptual and sensory activity in the world (Butterworth, 1987). Vygotsky (1962) was among the first to challenge this notion, believing instead that children's development is mediated first through social interaction with others and that as their conversational ability expands, so does their understanding of the world. Rather than being simply sensory-based, Vygotsky (1962) believed understanding expands through discursive interchange. Vygotsky's (1978) theory points out that internal cognitive frameworks arise from interpersonal experiences, allowing for differences between individuals that are not developmental differences, but are instead established through social processes. His theory also supports the notion that different experiences of relationships and discourse within those relationships can lead to different ways of thinking. Vygotsky (1962) believed that as children's conversational ability expands so does their understanding of the world, and according to Haslett (1991), it is "communication that enables us to establish relationships with others, and thus to express our wants and acquire knowledge about the world" (p. 108).

Communication also teaches children what their respective roles are expected to be as they grow up. Bram (1955) comments that "language describes and clarifies the roles which the child will be called upon to identify and enact" (p. 19). Thus, girls and boys

learn what their expected roles are through descriptions given to them by others, such as "boys don't wear dresses," and "little ladies don't get dirty."

Children often learn and practice their social roles in the games they play and in their fantasies. Educator Paley (1984) recorded her observations of her kindergarten classroom, noting the differences between boys' and girls' play at the ages of five and six. It became quite clear that despite her interventions, boys and girls behaved differently and communicated differently throughout the school year. During their play, the boys tended to refer to and use items in an instrumental fashion. By the term instrumental I mean that which can be conceived of as useful, functional, or able to be manipulated. For example, some boys invaded the girls' dollhouse, and one dragged out the oven and declared, "This is the computer terminal." Another picked up a silver slipper and spoke into it, "Pilot to crew, pilot to crew, ready for landing. Snow Planet down below" (p. 8). They transformed the dollhouse itself into a spacecraft.

The girls, on the other hand, tended to use relational communication, meaning they referred to items by virtue of their relationships to one another and themselves. While the boys were transforming their dollhouse, the girls had moved to the block area and were building a zoo. They named the four rubber lions Mother, Father, Sister, and Baby and put them in a two-story house. Paley notes, "girls tame lions by putting them into houses. Boys conquer houses by sending them into space" (p. 9). She noted that "every year, the girls begin with stories of good little families, while the boys bring us a litany of superheroes and bad guys" (p. 3). These two patterns of communication, one emphasizing usefulness and the other emphasizing relationships, persisted throughout the school year. It was clear that through their communication and actions, the boys tended to change their environment, whereas the girls tended to adapt to it.

A pattern similar to these tendencies emerged in a study described by West and Zimmerman. They summarize a study completed by a sociologist who set out to

determine the specific speech acts children use to try and persuade each other. The sociologist observed that the children's play activities "displayed distinctive modes of social organization depending on the gender of the participants" (West & Zimmerman, 1985, p. 113). The boys, for example, engaged in their process in a competitive fashion, with two hierarchially arranged groups vying for control over the process, and competing at every stage for dominant status. They established their positions by issuing directives in the form of explicit commands, thus demonstrating an attempt to change their environment. The girls, on the other hand, formed a more cooperative model, using suggestions and proposals in their interactions with one another, trying to adapt to one another. The sociologist concluded that "different approaches of girls and boys to talk in similar activities are not only indicative but also constitutive of characteristically different social organizations" (West & Zimmerman, 1985, p. 115). Thus, the different ways girls and boys communicate reveals and reinforces their different socialization and also creates a basis for future structures of behavior.

There are several studies which contribute to our understanding of these differences in girls' and boys' communication and behavior. Some literature suggests that differences are fostered or at least accentuated through the socialization which is carried out in daily interactions, and from a very early age. Lloyd and Smith (1987) observed mothers of firstborn 6-month-olds as they played with babies who were systematically presented as either a girl or a boy. Mothers who were presented with babies dressed as boys usually offered them a toy hammer and verbally encouraged them to engage in vigorous action. When the same baby was presented as a girl the mothers showed her a fluffy doll and praised her for being clever and attractive. When a baby presented as a boy displayed gross motor movement, or vigorous and rapid total body movement, mothers tended to respond with similar movement, thus encouraging it. After examining the total amounts of gross motor activity among the babies, Lloyd and

Smith were unable to detect any statistically reliable evidence of sex-related differences in the motor behavior of these 6-month-old infants. Thus, at least at 6 months of age, there were no objective differences in girls' and boys' activity level, but many of the mothers seemed to believe there was. Research done by Smith showed that boys at 13 months of age engaged in more gross motor activity, such as pushing, pulling, and banging objects, and 13-month old girls displayed more fine motor responses, such as carefully placing blocks in particular locations. This lends some support to the belief that language and nonverbal communication can directly shape the behavior and/or views of others.

Dunn (1987) completed a study which further elaborates the influence mothers have on their infants. She observed 43 families, recording mothers' conversations with their 18-month-old infants. She found mothers talked more to 18-month-old daughters about feelings than they did to 18-month-old sons. As a result Dunn (1987) states,

By 24 months the daughters themselves talked more about feeling states than did the sons. With a sample of only forty-three families such gender differences must of course be regarded with caution, however with the recent evidence for differences between women and men in the ways in which they reflect on feelings in relation to moral issues (Gilligan, 1982) the findings do take on some importance. It is of course likely that differences between mothers in their discussion of feeling states with their very young children are linked to other differences in their relationship with their children, and any or all of these differences in maternal behaviour may be important in contributing to the later differences in the children. (p. 37)

Dunn's (1987) reference to Gilligan's work and how their findings seem related supports the notion that patterns which emerge in childhood extend into adulthood, and that studying children can provide important insights for later years in life.

Both verbal and non-verbal communication play important roles in the development and internalization of children's ideas about gender. Lloyd (1987) states, "mothers initially employ their social representations of gender in the regulation of their activity and that of their infants" (Lloyd, 1987, p. 159); so, in their behavior

and language, mothers reveal their own representations of gender. By enacting their personal representations in a variety of ways, the mother shapes the child's interpretation of his or her experience in such a way as to provide a framework in which gender is highly salient, and which ensures that boys have a different framework for interpreting experience than girls do. By 13 months, girls and boys behave differently, showing that to some extent they have integrated different frameworks for understanding their individual roles.

Fathers also influence their children. Greif (1981) observed two to five-year-old children and their parents during play to detect patterns of interruption. Interruptions were coded when one person began to talk while the other person was already speaking. Her results indicated that parents interrupt their children more than children interrupt their parents, that fathers interrupt their children more than mothers do, and that both parents interrupt daughters more than sons. Greif theorizes that fathers interrupt more because they are socialized to be dominant and in control: "By interrupting, one can change topics, introduce new ideas, and so on; that is, one has control" (p. 257). She does not explain why mothers interrupt, but it is notable that both parents show this tendency to interrupt their daughters more.

What message is conveyed to girls by the fact that both parents interrupt them more? Greif (1981) states, "The message to girls is that they are more interruptible, which suggests, in a subtle way, that they are also not very important, or at least less so than boys" (p. 257). Children learn from their experiences and observations, and may learn about their overall status or roles from the way they are treated. Thus, based on their early socialization, girls may infer they are inferior to boys, and that they are allowed to be more emotional than boys, leading to the formation of different kinds of relationships than males. Males, on the other hand, may infer they are superior to

females, but are not allowed to express their emotional sides. These two different approaches to relationships contribute to differences in male and female worldviews, which have significant implications for later behavior.

Chodorow (1974,1978) offers a theoretical explanation for gender differences which arise from a relatively early age. She specifically addresses the fact that most infants are raised primarily by females. Her essential argument is that because girls are raised by women, they develop an affectual and intimate relationship with a personal "role model" for their place in the world. They have other female personal role models to interact with consistently as well, such as teachers, mother's friends, friend's mothers, and so on, and because of this on-going personal interaction, they learn their role in life through everyday experience and develop a personal affinity with significant others.

Boys, on the other hand, who are also primarily raised by females, seek to differentiate themselves from their mother because she is the "other." Boys desire to identify with their father, but fathers are absent in many homes, so boys often learn to be masculine in the absence of a continuous masculine role model. They identify with their father's position in the world, rather than identifying with him as a person, because of most men's lesser availability. Chodorow (1974) states,

A boy's father is relatively more remote than his mother. . . . [and] he rarely plays a major caretaking role. . . . He is, then, often relatively inaccessible to his son, and performs his male role activities away from where the son spends most of his life. As a result, a boy's male gender identification often becomes a 'positional' identification, with aspects of his father's clearly or not-so-clearly defined male role, rather than a more generalized 'personal' identification – a diffuse identification with his father's personality, values, and behavioral traits – that could grow out of a real relationship to his father. (p. 49)

This has consequences for boys' view of themselves in relation to others; if they consider themselves in terms of their position rather than their relationship to others, it enables

them to be objective, distant, and remote, which allows them to depersonalize and objectify what they consider to be "other."

Without their father's presence and influence, and with their resistance to identifying with their mothers, boys develop a sense of what it is to be masculine through identifying with cultural images of masculinity and men chosen, mostly by mainstream media, as masculine role models. Boys identify with a fantasized masculine role, because the reality constraint that contact with their actual father would provide is missing. In our culture these models include Superman, the Power Rangers, John Wayne, Arnold Schwarzenegger, Sylvester Stallone, the Ninja Turtles, Michael Jordan, Steve Young, and so on. These characters all demonstrate the common traits of power, strength, independence, control, and mastery. This tendency of boys to relate to and imitate culturally defined masculine models is supported by the observations of Paley (1984), who noted that the majority of boys' play was dominated by their imitation of "Superheroes," who are masculine characters depicted on television and in comic strips. Girls' play, on the other hand, was dominated by playing out affective relationships between themselves and their families, their playmates, their stuffed toys, and the dollhouse characters they enacted. A study which looks at children raised solely by men would be an interesting addition to this body of literature, but no such studies were available at the time of this literature review.

Since boys notice masculine activities and identification are located outside of the home, they seek separation from their mother, their family and their home in order to establish their masculinity. Chodorow (1974) states,

A boy, in his attempt to gain an elusive masculine identification, often comes to define this masculinity largely in negative terms, as that which is not feminine or involved with women . . . Internally, the boy tries to reject his mother and deny his attachment to her and the strong dependence upon her that he still feels. He also tries to deny the deep personal identification with her that has developed during his early years. He does this by repressing whatever he takes to be

feminine inside himself, and more importantly by denigrating and devaluing whatever he considers to be feminine in the outside world. (p. 50)

Many males' tendency to repress connection with others and that which they consider feminine has been shown to affect their communication and relationship with the natural world as well. Nature is usually associated with feminine qualities and characteristics, (i.e. Mother Nature), so if boys are likely to disassociate from all that is feminine inside and outside themselves, then this would mean they would likely disassociate from the natural world as well. Kheel (1990) states that a boy's "self-identity is founded not only upon the notion of not being female but upon the notion of not being nature as well" (p. 131). This sense of separation influences many boys' self-images, as well as the kinds of words they use and stories they tell about the natural world.

Males are socialized to believe that in order to be truly and respectably masculine, they need to stand on their own. They are also socialized to believe that in order to be truly and respectably masculine, they need to have relationships with women. This tension can create tremendous conflict within men, who feel dependent on women for their masculine identity, and yet also believe it necessary to remain separate from them. Men who do not have relationships with women may be characterized as homosexual, an epithet which many men fiercely seek to avoid.

Chodorow (1978) states that the assertion of male superiority is built into the definition of masculinity itself; men, and women, are socialized to believe that women are inferior to men. If women are inferior to men, and yet men need to be with women in order to establish their identity as properly masculine, then a double-bind is created, where men need the very thing they seek to separate from. Many men's solution to this dilemma is to have distant and impersonal relationships with women. This leads directly to frustration for women, who are socialized to establish their sense of identity through affective relationships with others. Chodorow (1978) summarizes these thoughts by

stating, "Feminine identification processes are relational, masculine identification processes tend to deny relationships" (p. 176).

Tannen (1990) also detects differences in male/female interaction patterns, and concludes that:

There are gender differences in ways of speaking, and we need to identify and understand them . . . the sociolinguistic approach I take . . . shows that many frictions arise because boys and girls grow up in what are essentially different cultures, so talk between women and men is cross-cultural communication. (pp. 17-18)

Tannen (1990) goes on and delineates several areas where males and females differ, the primary difference being in interpretation of intent of the speaker. Males tend to presume an adversarial or competitive intent from others during conversations, based on their assumption that the world is founded on a hierarchy, whereas females tend to presume others desire either information or intimacy, based on their assumption that people are connected. She states that for men, "Life...is a contest, a struggle to preserve independence and avoid failure," and for women, "Life...is a community, a struggle to preserve intimacy and avoid isolation" (p. 25). I analyzed my data with these differences in mind to see if they emerged in girls' and boys' discourse about the natural world.

Males are socialized in a system which emphasizes status and rank, where their position defines their value and identity. Females, on the other hand, acquire their identity through affiliation with their mothers, and are raised in an environment which emphasizes relationships and connections. Women in most societies are defined relationally; a woman is often referred to as her husband's wife, her son's mother, her parent's daughter, the boss's secretary, and even a nun becomes a "Bride of Christ" (Chodorow, 1974). These different orientations to the world influence the way women and men communicate and understand communication in everyday contexts and situations. In turn, these women and men influence children's ideas about what it means to be male

or female in their particular culture. Their different worldviews develop in childhood as they generally identify with their same-sex parent, and per Vygotsky (1962), are scaffolded in their growth through dialogues and interactions with the adults around them. The different social spheres of girls and boys generate different frameworks for interpreting experience, and it seems likely, for interpreting and expressing views of nature as well. These frameworks for interpreting experiences of the natural world are part of the communication process, and they reveal individuals' viewpoints as they are expressed.

Thus far I have laid out a pattern which identifies separation, individuation, and autonomy as a predominantly masculine mode of operating in and perceiving the world, and connection, relation, and interpersonal interaction as a predominantly female mode of operating in and perceiving the world. How these differences emerge in moral development, and how this influences the ways girls and boys make decisions which affect others, are addressed in the next section.

Children's Moral Development

As mentioned previously, moral development is important to understand because it guides the decisions we make which directly affect others, and that how we make moral decisions illuminates our basic assumptions about human nature and our relationship to the people and world around us. Attitudes toward and decisions about the natural world constitute a moral issue because how a person behaves in the natural world can have a profound impact on many other people and future generations, as well as wildlife, plant life, and entire ecosystems. A fuller discussion in this section illustrates the potential ramifications different moral stances have in relation to treatment of the natural world.

Haste (1987) identifies three ways morality can be constructed. The first is based on prescriptive rules, which guide one's behavior and actions by identifying

consequences as encouragement or as a deterrent, and the consequences which count depend on the culture one belongs to, or the worldview one subscribes to. The second and third constructions of morality are founded on descriptive and evaluative rules.

Descriptive rules function through their descriptions of individuals' behavior in the world, e. g., "we go camping every summer," "we put the trash out every Friday," and so on. Evaluative rules mark boundaries between right and wrong based on determined values, e. g., "boys don't wear dresses," "girls have good manners," and "parents should be good role models for their kids." These rules are a grammar for making order, and establishing predictability. They are meant to bridge the gap between "ought" and "is," implying there is an ideal state to aspire to. The question Carol Gilligan (1982, 1988) asks is: who gets to decide what the ideal state is? These rules are largely determined by those who are dominant in a culture, and in a position to describe how the world is, based on their perspective.

Gilligan (1982) observed that the major studies previously done on development in general and on moral development in particular, (e. g., by Freud, Kohlberg, and Erikson), were all based on male standards. They each used only boys in their studies on moral development, yet the results of these studies were assumed to account for both males and females, even though no females were studied from whom to draw conclusions. These researchers used male responses, tendencies, and patterns as the norm and standard for general "proper" moral and personal development. Gilligan (1982) notes that Freud considered females' "different development" to be responsible for what he saw as "women's developmental failure" (Gilligan, 1982, p. 7). She also notes that "despite Erikson's observation of sex differences, his chart of life-cycle changes remains unchanged . . . as male experience continues to define his life-cycle conception" (p. 12). So those in positions of influence have largely been males, and their standards and conclusions have influenced what is considered to be the norm. These assumptions are

well-documented, but in social transmission they are rarely directly spoken. Instead, they are inferred from observed behavior, non-verbal communication, attitudes, symbols, metaphors, and patterns of activity.

Gilligan (1982) and her colleagues were interested in studying differences in how girls and boys construct morality. She and her colleagues replicated one of the studies done by Kohlberg, but they interviewed both girls and boys and compared and contrasted their responses. Gilligan and her colleagues asked girls and boys questions regarding a moral dilemma involving a man named Heinz, who was depicted as a character whose wife had a serious disease, requiring a specific drug. If she did not get this drug, she would soon die. Only one pharmacist in town had this drug, and he charged Heinz a price that he could not afford. The question put to the children was, "Should Heinz steal the drug?" Kohlberg used this same question, and ranked moral maturity based on the responses of the boys in his study. Both Kohlberg and Gilligan noted that the boys responded by clearly stating that of course Heinz should steal the drug, because life is more important than money. Kohlberg categorized this clearly defined response as highly sophisticated and mature (Kohlberg, Levine, & Hower, 1983).

Gilligan (1982) looked at the responses of the girls and boys in her study, and noticed that the girls considered the whole context of the situation. One girl in particular observed that if Heinz stole the drug, he might be put in jail, and then the wife would not only be sick with no way to get more of the drug she needs, but then she would be lonely, too, without her husband. The girl suggested that Heinz talk with the pharmacist about the situation, to see if something could be negotiated. Because her answer was not clearly defined, she would be considered morally inferior on Kohlberg's scale of moral development (Kohlberg, Levine, & Hower, 1983). According to Gilligan (1982), however, the girl's response indicated a different kind of moral reasoning. Her depiction of the problem involved the preservation of relationships rather than the

enactment of "what is right." The girl's response, rather than being based on universal principles of right or wrong, was based instead on an assumption that people are interconnected and interdependent, and that the pharmacist had a moral obligation to respond to Heinz and his wife simply because they were in need.

Noddings (1984) addressed this issue of responding to those in need, and wrote an entire book about the importance of caring. For her, caring begins with a "longing for goodness" (p. 2), and arises out of the feminine qualities of receptivity, relatedness, and responsiveness. She questions the kind of morality espoused by Kohlberg and others, claiming that operating out of principles can lead to depersonalization and abstraction. Rarely do we see someone as caring who merely operates or acts out of obligation or rules. We may see them as principled or ethical, but not necessarily caring. Noddings (1984) claims that principles are ambiguous and unstable, and they serve to separate us from one another.

According to Noddings (1984), caring is the foundation of, and not a mere manifestation of, morality; that decisions are right or wrong based on how faithfully they are rooted in caring. True caring is not defined by principles, but an ethic that molds itself in particular situations; those operating under an ethic of caring assess the concrete actuality of a situation, rather than an abstract proposition of how it ought to be. When a sense of caring arises, Noddings (1984) claims that it always begins with a feeling rather than a logical assessment of the situation, and that out of this arises concern for another and the sense that "I must do something." Moral behavior based on caring is influenced by the intensity, proximity, and particular conditions of the situation. One who cares is focused not on particular acts, but on the context and unique individual or individuals. Moral behavior based on caring is coherent, although it may defy description in terms of systematic consistency. Noddings (1984) believes that

rather than being faithful to rules and principles, we need to be faithful to the fundamental relatedness that induces caring.

Noddings (1984) acknowledges that we cannot care for everyone, but we can maintain an internal state of readiness to try and care for whoever crosses our path. In other words, we need to direct our efforts to maintaining conditions that will permit caring to flourish. She states that women "prefer to establish a climate of cooperative 'we-ness' so that rules and penalties might be kept to a minimum" (p. 44). This is similar to the study mentioned earlier that was conducted by a sociologist on how children cooperate during play; the boys tended to establish hierarchies, whereas the girls sought to cooperate. The one caring prefers prevention over cure; she, or he, is focused on the "pre-act consciousness" (Noddings, 1984, p. 28) of their action, or on their attitude of care rather than on their principles. She or he would prefer creating a caring climate instead of a climate infused with shoulds and do-nots.

Noddings (1984) does not rule out the value of the intellect in moral behavior, however. She states that once we have committed to doing something, we can use our reasoning powers to figure out what to do. But once we convert the other's situation or dilemma as a problem to be solved, we move away from the other. This is acceptable as long as we move back to the personal sphere of the other; if this does not happen the other's reality becomes data, and we come to care about a problem instead of a person. We formulate rules, and variation in response to the cared-for decreases. We focus on satisfying the formulated requirements and fail to be present in our interactions with the cared-for, so caring disappears and only its illusion remains. Rules can be helpful guiding forces, but they cannot guide us infallibly through situations of conflict.

Gilligan (1982, 1988) and her associates studied these two approaches to morality, the one of rationality and the one of caring or relatedness, and they identified two different moral "voices." Each voice reflects a different approach to concepts of self.

others, and the relationship between them. One voice emphasizes fairness and reciprocity, balance, and respect: this voice she called the "justice perspective." The other voice emphasizes concerns regarding disconnection with others, and is alarmed by issues of detachment and separation. Individuals practicing this form of morality are seeking and valuing care and connection, and thus it is called the "care perspective," echoing Noddings' (1984) description. Lyons (1988) describes these two perspectives quite clearly: those with a justice perspective experience relationships in terms of reciprocity between separate individuals who consider each other as they would like to be considered, with objectivity and fairness. These relationships are mediated through rules and are grounded in roles which come from duties of obligation and commitment. Those with a care perspective experience relationships as a response to others in their terms, with concern for their good and the alleviation of their burdens, hurt, or suffering. These relationships are mediated through the activity of care, which maintains and sustains caring and connection in relationships, and are grounded in interdependence which comes from recognizing the interconnection of people. Consistent with the findings presented so far, Gilligan (1982, 1988) and Lyons (1988) found that the justice perspective was more often expressed by those with a more masculine perspective, and the care perspective was more often expressed by those with a more feminine perspective.

Gilligan (1988) wants to make it clear that these two "voices" are not necessarily opposites or mirror images of each other, with "justice uncaring and caring unjust" (p. xxi). Rather, they are different ways of organizing a problem that lead to different reasoning strategies, or different ways of thinking about what is happening and what to do. Detachment and separation arise from assumptions that make justice and fairness desirable, but they can also create the conditions for practices which lead to carelessness or violation; they can lead to violence toward others or toward oneself.

Assumptions that uphold the value of connection and caring facilitate practices which can lead to enhanced relationships between people, but they can also lead to a lack of self-definition and an over-reliance on others (Gilligan, 1982).

Gilligan's (1982, 1988) description of different moral perspectives is identifiable in Piaget's (1965) work on morality as well. In his earlier work on moral development he also noted the presence of "two voices." He and his collaborators identified these two "voices" as a morality of constraint and autonomy, and a morality of cooperation and heteronomy. He stated that the second is

much more difficult to study; for while the first can be formulated in rules and thus lends itself to interrogation, the second must be sought chiefly among the more intimate impulses of the mind or in social attitudes that do not easily admit of definition in conversations held with the children. (p. 197)

The first "voice" seems congruent with Gilligan's (1982, 1988) definition of the justice perspective, and the second, which revealed a way of thinking that did not lend itself as easily to standard forms of measurement and categorization, resembles Gilligan's (1982, 1988) description of the care perspective. In his conclusion, Piaget (1965) states,

Society is the sum of social relations, and among these relations we can distinguish two extreme types: relations of constraint, whose characteristic is to impose upon the individual from outside a system of rules with obligatory content, and relations of cooperation whose characteristic is to create within people's minds the characteristic most of the features of society as it exists [now]. . . .(p. 395).

Piaget (1965) points out that "the relations of constraint [Gilligan's justice perspective] . . . characterize most of the features of society as it exists . . ." In other words, there is one "voice" which is dominant, and this voice, according to Gilligan (1982, 1988), is predominantly masculine. This "voice" of constraint or external authority solves dilemmas based primarily on principles, which facilitates a sense of separation and detachment, as mentioned. It is from this kind of detachment that many policies about the natural world are made, and the consequences of such decisions are

often not considered. For example, many cargo ships which transport oil do not have reinforced bulkheads because these are expensive to install. The focus of oil company owners and the focus of owners of the ships they hire are on the particular aspect of saving money, rather than on the potential problems this lack of reinforcement may cause. As a result disasters occur, such as the Exxon Valdez oil spill in 1989.

It is actually rather surprising how many researchers identified the distinctions of separation and connection in their various studies of males and females. Lyons (1988) completed a study with young teens and observed that when these adolescents were asked "How would you describe yourself to yourself?" the boys defined themselves in terms of their abilities, and the girls defined themselves in terms of their surroundings (p. 25). Anastasi (cited in Bakan, 1966), who collected data on interests, preferences, and attitudes of each gender concluded that there is a "greater *social orientation* of women" (p. 116 – italics in original), and that during play, girls played more with family figures and preferred stories of love and romance, whereas boys played with vehicles and blocks, and preferred stories of adventure and travel. Findings similar to these were described by Paley (1984), whose observations of children at play were discussed earlier.

The sense of separation that can arise from following principles rather than feelings and a sense of relation to others is apparent in many stories related in the Bible. The Judeo-Christian ethic is rooted in the masculine worldview of principles and detachment, and therefore is reflected in many of its aspects. This ethic has influenced our culture heavily, so images and moral imperatives presented there direct our perceptions of how things ought to be. A particularly captivating story which illustrates these notions of separation and principle is the account of Abraham and Issac. In Genesis, Abraham demonstrates a willingness to sacrifice his son in order to obey God's request that he do so. When Abraham proves his willingness to kill his own son, God praises him

for his faith and blind obedience, and states, "I will indeed bless you, and I will make your offspring as numerous as the stars of heaven and as the sand that is on the seashore . . . and by your offspring shall all the nations of the earth gain blessing for themselves, because you have obeyed my voice" (Genesis 22: 9, 10). Noddings (1984) responds,

For the mother, this is horrendous . . . Abraham's decision is not only ethically unjustifiable but it is in basest violation of the supra-ethical. . . . the mother in Abraham's position would respond to the fear and trust of her child – not to the voice of abstraction. . . . everything that is built on this sacrificial impulse is an anathema to woman. Here, says woman, is my child. I will not sacrifice him for God, or for the greatest good, or for these ten others. Let us find some other way. (pp. 43-44)

Noddings (1984) states that the father might sacrifice his child in fulfilling a principle, and the mother might sacrifice any principle to preserve her child. She points out that women can arrange principles hierarchically and derive conclusions logically, but that they see this process as peripheral or alien to many problems of moral action. They see that a rational framework simply cannot be broadly applied in the actual world. Noddings (1984) consistently emphasizes the importance of the specific and concrete in a feminine ethic of morality, and points out the dangers inherent in the masculine tendency toward abstraction, impersonalization, and separation. Making decisions out of an abstract notion of the ideal can lead to outcomes which are incongruous with the highest good of those involved. I was curious to see if boys described nature in abstract and impersonal terms, and offered solutions to problems we are encountering in the natural world out of this notion of principles.

Noddings (1984) claims that studying morality as if it were a set of rules and principles gives us impoverished and one-sided moral guidance, and Gilligan (1988) points out that what we have missed by not studying girls' moral discourse is the emphasis on relationship and care between people. Morality based on detachment, objectivity, and universal principles leaves morality which is based on finely-tuned perceptions undeveloped. By equating development with separation and maturity with

independence, and by seeing self-sufficiency as the hallmark of adulthood, Gilligan (1988) claims we have developed a view of adult life that is at odds with the reality of our interconnectedness. She states that this denial has had serious consequences, such as the devaluing of other human beings.

A very significant point that Noddings (1984) discusses is that a sense of caring and morality arise out of feelings and memories of being cared for. She quotes an author in a teacher's education journal who states that "in order to develop, a child needs the enduring, irrational involvement of one or more adults in . . . joint activities" (p. 61). In other words, "somebody has got to be crazy about that kid!" (p. 61). It is essential for children to develop meaningful relationships with others in order to develop a sense of morality.

When children do not develop meaningful relationships with others, specifically adults, or when they do not have a sense of being loved and cared for, their moral development is stunted. Studies done with juvenile delinquent youth show they develop attitudes which cause them to see themselves as unimportant to society and to the general system, and to develop a general disregard for others (Gelernter, 1994). Children who grow up without an ability to form meaningful relationships develop a sense of hopelessness and despair; they have no sense of connection with society. If they have not had consistent, nurturing relationships with adults, children "do not get the kind of repetitive, but loving, 'you shouldn't's' that cause moral values to stick" (Gelernter, 1994, p. 7C). So, it seems a healthy connection with other people is a prerequisite to the development of a healthy morality. If an individual feels cut off from others, it is likely that she or he will perceive a distinction between "self" and "not-self," and will put others in the "not-self" category, thus creating a fragmented sense of the world she or he lives in. If one feels no or very little genuine connection with other people, it

makes sense that one would feel very little if any emotional affiliation with one's surroundings, thus allowing for feelings of disassociation.

If I view people as being very different and distinct from myself, I may tend to believe that what affects them does not affect me, and what I feel is not what they feel. From this supposition of difference, I may conclude that people who are different from me are fascinating, frightening, bothersome, strange, and so on, and depending on my conclusion, I may decide to study them, incarcerate them, or disregard them. The dichotomy of viewing the world from a "self" and "not-self" perspective can lead to treating anyone or anything that is "not-me" as here for my benefit, which justifies me doing what I please if I have the means to do so.

On the other hand, if I view others as connected and integral to myself, it occurs to me that their well-being affects my well-being, and I will be certain they are healthy and secure. I will assume that what affects me affects them, and vice versa. An example is the relationship between a nursing mother and her baby; what goes into the mother's system directly affects the baby, so she must be healthy in order for the baby to be healthy. If the baby is healthy the mother will experience greater peace of mind, and perhaps more restful nights. Another connection is recognizing the interconnectedness and network of people who bring food to my table: the farmer, the field workers who pick and pack the food, the truck drivers who deliver the food, the grocery store owner who determines the price and display of the food, my employer who gives me money in exchange for my work so I can go buy this food, and the person who made my stove so I could cook this food. There are numerous people involved in my ability to acquire and eat one potato. If I recognize the connection between myself and others, and see others as an extension of myself, then it is likely I will see the environment around me as an extension of myself as well. I will not view the world in terms of "self" and "not-self," but rather as "self" and "extension-of and connected-to-myself." Viewing the world in

this way would have dramatically different consequences than if I assume and behave as if anything and everything around me is separate and distinct from me.

It seems that one's sense of connection to others makes a difference in how one feels in relation to the natural world, and if one categorizes things as separate from the self, then one is likely to put the natural world in the category of "not-self" as well. It also seems that a lack of feeling individually treasured, connected, and related to another person might lead to feelings of disregard for the natural world. If this proves to be the case it would be interesting to ascertain if these descriptions of differing moralities for males and females have any bearing on views of the natural world. These are the areas I will turn to in the next section as I discuss general worldviews based on the distinctions I have been discussing up to this point, and how they have revealed themselves in discourse about the natural world.

The Development of Feminine and Masculine Distinctions in Patriarchy and Ecofeminism

Bakan (1966) introduces an interesting vocabulary to describe differences between femininity and masculinity as they express themselves in the world. He terms these two different styles of interaction as "agency" and "communion," and describes them as follows:

Agency manifests itself in self-protection, self-assertion, and self-expansion; communion manifests itself as being at one with other organisms. Agency manifests itself in the formation of separations; communion in the lack of separations. Agency manifests itself in isolation, alienation, and aloneness; communion in contact, openness, and union. Agency manifests in the urge to master; communion in noncontractual cooperation. Agency manifests itself in the repression of thought, feeling, and impulse, communion in the lack and removal of repression. (p. 15)

Each category represents different perspectives and behaviors, and he describes the agentic as "more characteristically masculine," and communion as "more

characteristically feminine" (p. 110). Bakan (1966) states that "the distinction between male and female as a simple dichotomy prevails in all cultures and plays an important role in the psychological life of all individuals" (p. 107), and that these distinctions imbue nearly every aspect of our lives. These aspects include our cosmological, theological, and philosophical views, as well as our views of the natural world, as represented in the male-sun, female-moon distinction, the male-sky, female-earth distinction, the Yin-Yang distinction in Eastern philosophy, and even the anima and animus principles in Jungian psychology.

Bakan (1966) believes there is a "certain truth" associated with the male and female distinctions, but insists that we must heed the fact that these characteristics exist in different ratios in each gender (p. 108). This is a significant point he makes, that feminine and masculine qualities exist in each gender; he does not preclude the possibility or probability that a male may have elements of a feminine perspective and a female may have elements of a masculine perspective, or that an individual may have views which lie somewhere on a continuum between these two extremes. Patriarchy and ecofeminism seem to be the social outcome of Bakan's (1966) descriptions of agency and communion. He uses the term "unmitigated agency" to refer to the unfettered drive toward mastery and control, and this seems to be a succinct description of patriarchy.

The Patriarchal Worldview

Patriarchy is described as the collective prevalence of masculine perspectives, values, attitudes, beliefs and behaviors in each realm of society, and the assumption that this masculine perspective is the norm. It includes the already-discussed assumptions of separation and distinction, concepts which were first put forth by René Descartes in the seventeenth century; he, along with Newton, Locke, and Bacon, conceived of the world as made up of distinct parts which operate together like a machine. They assumed that

almost anything could be known by breaking it down into its smallest components. These views were incorporated into the philosophy of logical positivism, which assumes there is a separation between the knower and the known, that reality is directly observable, and that only those things which are directly observable and measurable are worth pursuing. The supposition of separation between ourselves and the world around us often carries with it the implicit notion that we are superior to that which is studied, experimented on, or made, and that we can ascertain its worth. These perspectives on the world influenced the development of modern science and the industrial revolution, which assume the world is here at our disposal, and is simply an inert form to be manipulated and changed as we see fit. Modern science, which claims objectivity or impartiality, actually perceives things partially, in pieces. Swimme (1990), a physicist, makes the conclusion that "our insistence on analysis, on computation, on categorization has blinded us to the reality of the whole" (p. 16). Boundaries, categories, individual identities, and distinct aspects of nature and our environment are clearly demarcated and taken for granted in Western culture.

Chodorow (1978) points out that mothering and women in general are associated with the private sphere of the home, and the more public sphere which deals with social and cultural matters is dominated by men. She goes on to point out that culture, or the public sphere, which consists of "intended, constructed forms and ideas that take humanity beyond nature and biology," dominates the private sphere, and defines it (p. 9). Thus, by virtue of their position in society, men dominate women. Chodorow states "men's location in the public sphere . . . defines society itself as masculine. It gives men power to create and enforce institutions of social and political control . . . " (p. 9), and

Given that men control not only major social institutions but the very definition and constitution of society and culture, they have the power and ideological means to enforce these perceptions as more general norms, and to hold each other accountable for their enforcement. (. . . Since these norms define men as

superior, men gain something by maintaining them). (p. 185 - parenthesis in original)

Thus, the "reconstitution" of resources, as described by Pearce (1989), can be seen in the perpetuation of patriarchy and its norms by those who are in power to continue "practicing" this set of assumptions.

Another realm that reflects patriarchal values and denies feminine ones is the world of sports. In football, players are referred to as "weapons," strategies of play are called "plans of attack," and players are traded like merchandise. Stanford's women's basketball coach, Tara VanDerveer, said "feminine traits are not valued in sports" (Meacham, Nov. 29, 1994, p. 5C), and Meacham (Nov. 29, 1994) observes that "There is a belief that women don't bring a toughness and aggressiveness to sports that athletics — at least for men — are supposed to be about" (p. 5C).

Our language itself reflects an emphasis on masculinity. It has been argued that the word "Man" is independent of gender, that it refers to all members of the human species, and that "it is just an etymological coincidence that the form for the species is the same as that for the male members of the species" (Frank & Anshen, 1983, p. 71). Using the same form for the entire species and for half the species creates the possibility of confusion, however, as is depicted by Graham:

If a woman is swept off a ship into the water, the cry is 'Man overboard!' If she is killed by a hit-and-run driver, the charge is 'manslaughter.' If she is injured on the job, the coverage is 'workman's compensation.' But if she arrives at a threshold marked 'Men Only,' she knows the admonition is not intended to bar animals or plants or inanimate objects. It is meant for her. (Frank & Anshen, 1983, p. 71-72)

According to Simone de Beauvoir (1957), women's secondary status in our culture is not imposed of necessity by natural "feminine" characteristics but rather by strong environmental forces of educational and social tradition under the purposeful control and dominance of men and masculine perspectives. The means by which this dominance occurs can be deceptively subtle at times, as when degrading jokes about

women are told, or someone's tone of voice indicates approval or disapproval of another's opinion about an issue being discussed, or when a male continually interrupts a woman during a meeting or conversation.

Patriarchy as a worldview generally does not value femininity in women or in other males. From a very early age boys learn to ridicule and devalue girls and feminine characteristics. Chodorow (1978) cites psychoanalyst Brunswick who says that as boys mature, they develop "the normal male contempt for women" (p. 113). It is alarming that males develop contempt for females at all, and it is even more frightening that this contempt is seen as normal. Patriarchy's devaluation of women is seen as normal because it is so prevalent. This devaluation imbues our language and vocabulary as mentioned above. Kramarae (1981) supports this observation in her description of a study done in 1977 which identified 220 terms which demeaned women and put them in opposition to men. Frank and Anshen (1983) refer to a study in which a researcher identified over one thousand words and phrases which referred to women in an insulting manner. No such lists were cited for men; although negative terms for men certainly exist, they do not seem as varied and abundant as degrading terms for women.

The devaluation of women is also apparent in the fact that it is considered an insult for a male to be equated with being feminine. Haste (1987) noticed that children "ridicule boys by ascribing to them the attributes of girls" (p. 166). Whenever a boy is called a "sissy," or he is told he is "acting like a girl," it is considered a paramount insult. Many males do anything they can to prove they are not feminine, and this may explain some of the intensity behind homophobia. Any display of affection or sensitivity between men might suggest femininity, and this is quickly ridiculed in our Western society. As a result, the tenderness and security women experience through affection with each other is not experienced by many men. Chodorow (1974) states, "women's sense of relation and connection and their embeddedness in social life provide them with

a kind of security that men lack" (p. 62). This lack of a sense of "embeddedness" with others and the pursuit to be as independent as possible reinforce men's sense of separation from others. This emphasis on individuality and separateness is reinforced through many areas in our society. Our culture idealizes the person who can "make it on his/her own", and steadfastly defends an individual's right to free speech and expression above and beyond public offense. Even the iconography of our money depicts individual figures we deem heroic in some way.

Patriarchy dominates our view of history, where mostly men and their achievements are highlighted and reviewed, and it dominates many of the world religions which have a male god as the primary deity. A patriarchal perspective also dominates the prevailing medical model, which sees the human body as a machine made up of distinct parts and pieces which may be in need of repair. In the work world, status, hierarchy, competition and production are emphasized, rather than cooperation and relationships. There are many areas that are influenced by patriarchy, but it has some general key characteristics that form its basic structure and assumptions. These characteristics will be discussed in the following paragraphs because they will later inform the establishment of categories for comparison and contrast during the analysis of children's descriptions of the natural world.

One of the vehicles of patriarchy is disassociation, achieved by the practice of separation from and objectification of others. This objectification can lead to the simplification of complex matters, and to the denial of the subjective experience of who, or what, is objectified. This point is illustrated insightfully by Garb (1990), who completed a visual rhetorical analysis of the popular whole earth image captured by a photograph from space. He states, "One of the most important features of the whole Earth image is the vantage point from which it is obtained: from the outside" (p. 265). He claims this outside perspective gives rise to a sense of separateness and detachment,

because it relies solely on our vision, a sense which functions better with distance than with proximity.

The tendency toward distance can lead men, or women with a masculine perspective, to objectify others. This objectification becomes serious when it crosses into the realm of sexualized violence; it is what enables men to rape, beat, and humiliate women, and it is what enables women to compare each other on the basis of physical attributes only, and to develop serious beliefs of inadequacy and inferiority which can lead to self-abuse.

Pornography is based on the objectification of women. Denton (1990), a women's studies scholar, observes, ". . . perpetrators [of violent pornography] can numb their awareness to the point that they may actually believe that real women want to be hurt. The implications for said 'real women' are enormous, to which crime reports in this country attest" (pp. 201-202). Domestic violence is another result of the objectification of women. Pam Cooper-White, a former director of the Midpenninsula Support Network for Battered Women, explains that violence occurs at precisely that moment when the perpetrator objectifies the victim:

There is . . . a moment of decision, when the man consciously crosses the line and hits (or kicks, or chokes, or whatever he does in that moment). And in that moment, he calls her a name, "You . . . "
He makes a critical shift in perspective, in which he exchanges his version of the woman as a human being, equally precious as himself, for an object . . . He has transformed her in his own eyes into an It. (Denton, 1990, pp. 121-122)

This is where it is clear that objectification denies the subjective experience of the person that is objectified. Objectification which opens the path to abuse begins in the formation of the belief that one is separate from those around her or him.

Another serious consequence of the disassociation that patriarchy fosters is the fact that it allows us to develop the capacity to separate ourselves from our feelings. This creates the avenue for abuse and destruction to be carried out without remorse or

regret, because the channels to our reservoirs of human responsiveness, our emotions, have been cut off. Even when pricked with a twinge of awareness, those who are ruled by, or are operating under, patriarchal notions quickly return to disassociation and denial. An example of this is provided by ecofeminist writer Griffin (1990), who gives an account regarding Heinrich Himmler, the man in charge of all the Nazi concentration camps. His neat, paper-planned executions of the Jews were shocking to him upon his actual observation of them. He was told that the soldiers carrying out the killings were also quite shaken by it, so he ordered gas chambers to be installed on the back of trucks so the men could be distanced from what they were actually doing. This distancing had profound consequences; it allowed the soldiers to continue what they were doing, dousing their internal sensibility of connection and empathy. It allowed the atrocities to occur and to continue occurring, until an outside force intervened and "woke them up," and woke the world up to what was happening.

This disassociation from one's feelings and the loss of a sense of responsibility toward others occurs in some corporate practices as well. Some corporations are executing neatly outlined plans of profit in regions where harm or destruction of the natural world is deemed necessary for the success of their companies and the production of profits. Very few, if any, ever witness first-hand the effects of their decisions, and those that do, deny the extent of the problem. For example, after the Exxon Valdez oil spill, Exxon continually denied the seriousness of the spill. And when George Bush was asked about how he felt about oil drilling in the Arctic National Wildlife Refuge in light of the oil spill, he "subverted the environmental focus, saying, 'I see no connection...they've been shipping oil out of here for a long, long time and never had anything of this magnitude or this concern. So the big thing is to correct it'" (Daley & O'Neill, 1991, p. 49). The focus on small, isolated solutions to apparently small,

isolated problems is another characteristic of patriarchy; it rarely considers the whole context of a problem.

The area of patriarchy that relates most directly to this study is its similar treatment of women and the natural world. A young male's tendency to separate from the feminine within himself may encourage him to separate from nature as well. As previously mentioned, Kheel (1990) reiterates what Chodorow (1978) discussed about boys' tendency to deny all that is female within themselves: "since a child's self-identity is originally viewed as indistinct from the surrounding world, later self-identity is founded not only upon the notion of not being female but upon the notion of *not being nature as well*" (p. 131 – italics added). Not only are boys encouraged to disengage from part of themselves, but by virtue of doing this they are taught to distance themselves and subjugate that which they consider to be feminine wherever they may find it, including in the natural world. Women's identities, in contrast to boys, "have not been established through their elevation over the natural world" (Kheel, 1990, p. 129), but instead, women have often been identified with nature, and the two have been treated similarly, which will be discussed further in the ensuing paragraphs.

Patriarchal Perspectives in Relation to the Natural World

Objectification is a powerful tool in patriarchy's treatment of nature. The book of Genesis in the Bible states "Man has dominion over the world . . ." and this perspective has led to the transformation of many wild natural places into parking lots, shopping malls, housing tracts, and country clubs. Denton (1990) observes,

The concept of "the Other" has been projected onto the environment. Wherever it has stood in the way of progress, convenience or speculation (i.e. condominium complex, shopping mall, parking lot, resort, oil drilling operation, or high tech business park), nature has been subdued and/or eradicated . . . (p. 200)

McEvoy III (1972) supports this description of our present behavior towards the natural world:

If we have a population of persons whose beliefs about the environment are governed by a transformational orientation to it, we can then expect little resistance to large-scale environmental alterations such as those produced by massive water storage and diversion projects, electrical transmission systems, extensive forest utilization and mining. (p. 215)

This view of "Other," which allows for the objectification of women, men, and the natural world, appears to stem from the incessant socialization we receive regarding the importance of individuality and the desirability of personal distinction.

Patriarchal thinking has made various connections between women and nature. Griffin (1978) describes several of these connections, and her descriptions are both insightful and disturbing. In one of her comparisons she relates a section from "Dairy Cattle Selection and Feeding," a farm manual, which states that a cow must

have an absence of tendency to lay on fat. She should be in good flesh but not beefy . . . her hips prominent and firm, muzzle large . . . head erect, neck slender, her eyes alert and placid . . . her rump long and wide and level. . . . the udder should be held snugly to the body and be of good texture. (pp. 67-69)

This description parallels one which might describe a woman. Griffin (1978) draws another parallel between descriptions of show horses and females. From a book on etiquette she quotes Rousseau who states:

Girls ought to be active and diligent; nor is that all; they should be early subjected to restraint. This misfortune, if it really is one, is inseparable from their sex . . . they must be subject all their lives, to the most constant and severe restraint . . . it is, therefore, necessary to accustom them early to such confinement . . . that they may readily submit to the will of others (p. 79).

This summary is followed by guidelines about horse training by Podhajsky:

The teacher should insist that the horse stand still and on all four legs during the process of mounting and until asked to move on by the rider. Fidgeting on the spot or moving on without command must not be tolerated (p. 79)

So girls need to be restrained, and horses should not fidget; control at all times is the ideal. There is a strong desire in those subscribing to the patriarchal worldview to tame

and mold that which is wild into their liking. The art of crafting Bonsai trees can be said to show this tendency, as described by Marge Piercy (1994) in her poem "A Work of Artifice:"

The bonsai tree
in the attractive pot
could have grown eighty feet tall
on the side of a mountain
till split by lightning.
But a gardner
carefully pruned it.
It is nine inches high.
Everyday as he
whittles back the branches
the gardner croons,
It is your nature
to be small and cozy,
domestic and weak;
how lucky, little tree,
to have a pot to grow in.
With living creatures
one must begin very early
to dwarf their growth:
the bound feet,
the crippled brain,
the hair in curlers,
the hands you
love to touch. (p. 75)

This prosaic way of illuminating the similar treatment of women and nature is rather painful; it reflects historical realities of expectations and procedures done to women's bodies to make them fit the particular idea of beauty at the time of the culture she belongs in. Although growing Bonsai trees can certainly be an impressive art form, this particular poem shows that the relationship between particular specifications of beauty and conformity have been demanded of women and some aspects of nature as well.

Ecofeminist writer Todd (1981) offers more specific evidence of the patriarchal connection of women and nature by showing how women and the earth were associated in sixteenth century views of the New World. Explorers sent back descriptions of this lush new land, enticing settlers to come and take from the bounties of the vast "virgin"

territory. Todd (1981) states that the analogy between mining Mother Earth's body and sexual intercourse with a woman was made often during the sixteenth and seventeenth centuries. She refers to Merchant's citing of John Donne's Elegie XIX, "Going to Bed" which describes men's attitudes toward the new American sources of wealth:

License my roaving hands, and let them go,
Before, behind, between, above, below.
O my America! my new-found-land,
My Kingdome, safelist [sic] when with one man man'd
My Myne of precious stones, My Emperie,
How blest am I in this discovering thee! (p. 432)

Another account which is similar to the above is written in the Faust drama, where one of the characters is describing his "conquest" of a lover:

Here I drag the sturdy maiden
Hither to enforced enjoyment;
For my rapture, for my zest,
I press her resisting breast,
Kiss her lips reluctant still,
Showing thus my strength and will. (Bakan, 1966, p. 71)

A theme common to both of these passages is the perceived passivity of the one being acted upon, and the exertion of individual will upon a silent and unwitting partner. This theme can also be seen in the account of an event observed by a visitor while at the home of John Audubon:

For weeks and weeks he observed the habits of this bird . . . he could predict every movement of the bird. . . he had planned this event. He had disturbed the nest of this eagle since he knew then that the bird would stay there, surveying the extent of the damage, and protecting what was his. . . So the painter did not hurry as he went to find his gun . . . then he sequestered himself in the weeds about the tree and aimed slowly and carefully . . . The artist, holding the dying bird in his hands, expressed his wonderment at the expression of the eagles's eyes . . . Now he was excited. He spent the next hours preparing the bird, stuffing him, mounting him . . . He used wires to pierce and hold together the body of the bird in the posture he desired and the result of his efforts created an effect whose grace and naturalness were later said to have rivaled life. The next morning . . . he sawed off the limb on which the eagle had once rested. This then he attached the eagle to, perching in all his grandeur, an emblem, it was said of freedom and glory. Finally he would capture the eagle on paper . . . and painted (it) with great accuracy . . . so great was his love for his subject. And in this way, he preserved the birds of America. (Griffin, 1978, pp. 113-114)

The observer claims that Audubon's carefulness stems from his love of the bird. But it seems he was responding more to his ideal of the bird. If he truly loved the bird, it seems he would have chosen to let it live and be free, because he would have considered its nature. He did not appear to have empathy for this bird, but seemed to be only thinking of his desire to recreate it to his own specifications. This reflects the ideas put forward by Noddings (1984), who pointed out that caring stems from feelings of connection and empathy, and principles stem from concepts and ideas. Audubon likely felt justified in his actions, thinking that killing the bird and recreating it was somehow preserving it. This kind of thinking reflects the practice of razing an area of land and trees, and then placing trees back in specific locations in pots and buckets to suit the desires of the particular developer or owner. This practice reveals a sense of possession on the part of the developers, and the tendency of patriarchal thinking to claim ownership of both land and women. This is illustrated in the first piece of written history, Homer's *Illiad*. The plot of the *Illiad* begins to unfold when the king, Agammemnon, steals Achilles' "slave girl." The fact that he could steal her points to the assumption that she was seen as property, rather than as a free human being. Achilles does not grieve over the loss of someone he loves: rather, he is infuriated that something he owns is taken from him. It seems significant that the plot of the first written record of history turns on the notion that women, like land or animals, are to be treated as property which is rightfully owned by men.

Ecofeminism

The field of study that researches the relationship between the treatment of women and the treatment of the earth is known as ecofeminism, and it challenges the assumptions of the masculine worldview. It is a relatively new area of research, which consists of three main suppositions: 1) our present worldview is dominated by an

imbalanced male perspective, 2) this imbalance has led to the degradation of women because femaleness has been deemed "evil," "inferior," and "threatening," and 3) this imbalance has directly led us to our present crises in nature and our environment, because the feminine and the natural have usually been associated with each other and both have been mistreated.

The term "ecofeminism" was coined by the French writer Francoise d'Eaubonne in 1974 to symbolize the potential of the feminine perspective to bring about an ecological revolution. Ecofeminism emerged from radical feminism, which critiques the effects of patriarchy on women and nature, and claims the entire system we presently operate under needs to be transformed. Ecofeminist scholar Starhawk (1990) states, "ecofeminism's . . . goal is not just to change who wields power, but to transform the structure of power itself" (p.76). The reason this movement is called ecofeminism rather than "ecopeopleism" is because "ecofeminism in essence is saying that traditionally female values are our best shot at changing consciousness – and saving the world" (Van Gelder, 1989, p. 61). These "traditionally female values" include the concept of communion discussed by Bakan (1966), and Gilligan's (1982, 1988) and other researchers' descriptions of females' tendency to make moral decisions from a perspective of connection and relationship. A person who assumes she or he is connected with others will likely see themselves as intimately linked with the natural world as well. Zimmerman (1990) states, "the discovery that all things are internally related would lead us to treat each other as well as the nonhuman world with profound respect instead of merely as raw material to enhance human power" (p.141). This perspective would likely shift our communication and descriptions of the natural world from those of utility to those of relatedness and affinity.

Frost (1992) supports the notion of the significance of the ecofeminist paradigm by stating, ". . . if we are to survive, let alone evolve toward a new vision of humanness,

'womanly times' — times of care, of a compelling sense of connectedness, of a renewed commitment to our interrelatedness with each other and with all beings — must supplant the 'manly times'"(p. 15). In other words, our worldviews generate justification for our actions, and if our actions are ultimately harmful to ourselves and others, then the worldview informing our behavior needs to be questioned. The role of ecofeminism is to challenge and question the assumptions of patriarchy, and offer another way of thinking and communicating.

Patriarchy resists challenges to its assumptions and rules, and instead strives for unity and coherency in its systems. Deloache and Brown (1987) state ". . . it is not surprising that the child and the scientist often refuse counterexamples since they complicate the unification [or simplification] process" (p. 119). They each instead need to find a unifying principle to cover counterexamples. Donaldson (1987) points out that we prefer to slot a problem into a setting with which we are familiar, in which we feel we know the rules. If the setting we provide is appropriate to the problem, then all goes well. But if the setting is inappropriate, (as patriarchy seems to be in response to our environmental problems regarding the natural world), or if it does not fit and we need to alter the problem slightly to make it fit our framework, then we are in trouble. Sometimes we are unable to identify the existence of other viewpoints because we are so embedded in our own (Butterworth, 1987). Our perspective may need to be revised, or expanded. This concept is discussed by Kuhn (1970) who addressed the process of paradigm shifts in the scientific community.

The theme throughout Kuhn's book is the development, application, refinement and evolution of paradigms. He describes a paradigm as that system which binds any particular community together. It is a set of assumptions, rules, concepts, and practices which define what are considered problems, and determines the standards by which these problems will be investigated. A paradigm's concepts and methods determine what one

should expect to find and how one should go about finding it. In different paradigms, data for one group may not be considered data by another group, or the same data can be interpreted completely differently. For example, in some fundamentalist Christian groups, the problems with pollution, wildlife extinction, overpopulation, and ozone depletion, are seen as confirmations that indeed, the Second Coming of Christ is at hand (Scheinin, 1994, Feb. 12), and the apocalyptic end of the world is near.

Environmentalists, on the other hand, see this same information and respond to it as severe indications of the need to act quickly to help the earth, before it is too late.

Ecofeminists, who see a connection between how women are treated and how the earth is treated, would see this data as confirmation of the effects of the reign of patriarchy and the lack of reverence for that which is feminine (Keller, 1990). In these three examples, the same data is perceived and responded to differently by each of the groups, depending on their paradigms.

A physical metaphor to differentiate the models of patriarchy versus ecofeminism is the experience of walking in the woods. If I have a patriarchal worldview, I would wear heavy hiking boots which demand the earth below me to conform to my foot, and the boots I wear would shield me from feeling that which I was walking on, be it thorns or velvet grass, and I would insist that the environment adapt to me. On the other hand, if I have an ecofeminist perspective I may walk in the woods with bare feet, adapting myself to the terrain I was on, and immediately be in touch, literally, with the earth below me. The bare foot is like the feminine perspective, which expects itself to yield to the dirt (i. e. women expect themselves to adapt to their environment). A "middle ground" seems best, where an individual wears an in-between shoe, like a moccasin, which allows for the foot to be sensitive to and respond to the earth beneath it, but also allows the foot to distinguish itself from the earth below it, and to protect itself from harm. This way both the individual and the earth are respected. Bakan (1966)

suggests our task is to strive for the integration of masculine and feminine worldviews, which would transform our way of viewing and treating each other and the world around us.

The above descriptions, of course, follow in line with the preceeding framework that has identified the masculine as that which emphasizes separation, and the feminine as that which emphasizes connection. Both are important aspects of being human. It is important to acknowledge that males and females do generally have different ways of communicating, and that there has been an overemphasis on the masculine way of communicating for quite some time, and the feminine way of communicating has been silenced or muted. For purposes of this study it is important that both voices be heard, explored, and understood. They each have varying styles, and I am interested in studying how these styles reveal themselves in children's discourse, and the implications this might have for the natural world.

Social constructionist theorists claim we create our world with our communication. If this is true, then how we communicate about the natural world and about environmental issues is of the utmost significance. In her classroom observations, Paley (1984) noticed that the absence of a permanent home was one of the biggest differences in girls' and boys' play. The boys were continually building, destroying and rebuilding their "home" structures, whereas the girls consistently returned to the dollhouse corner to enact their dramas. I wanted to know if these differences were apparent in children's discourse about the natural world: I wondered if boys would describe themselves or characters in their stories as wanting to change, tear down and rebuild natural areas, and if girls have a sense of nature as being "home. " In the next section I outline my research questions and describe a previous study which influenced them.

Research Questions and Description of Previous Study

The literature review indicates that there are differences in boys' and girls' socialization, communication patterns, and moral development. It seems likely that their descriptions of nature will be different as well. There have been numerous studies on social and linguistic differences between girls and boys, and a few studies on differences in their moral development. As far as I know, there have been no studies completed on whether or not there are differences in girls' and boys' communication about nature. Based on the material reviewed above, I assumed that girls would describe the natural world with themes and comments which highlight a relationship or a connection with nature, whereas boys would objectify nature, describing it in more instrumental terms which denote separateness and distinction. My specific research questions were:

- 1) What themes emerge as girls and boys describe the natural world in their stories about specific images of nature?
- 2) Do their descriptions reflect the categories of connection, and/or separation, and if so how, and to what extent?
- 3) If these differences emerge, are they demarcated along gender lines?
- 4) How do girls and boys describe the future of the natural world?

This last question came from my observation that most depictions of the future involve space exploration, construction of living facilities on space stations, and even recreational opportunities in space (Davis, 1996, April). There are so many images of the future existing in space, I wondered if the children would assume that that is where the future will be. Another reason I was interested in this area is based on a study completed by Mallinson, Keilhofner, and Mattingly (1996, May); they analyzed the narratives told by several individuals who had suffered some sort of crisis in their life. The researchers noticed that the majority of tellers lived the narratives they told. The tellers of the stories projected into the future, and follow-up studies revealed that their

predictions occurred. It seems important to assess how children see the the future and how they see themselves fitting into it based on the results of this study. So, I asked a specific question regarding their perceptions about the future of the images they saw. I wanted to investigate if the children described the future natural world as replaced by urban sprawl, or as changed by pollution, or as remaining relatively the same, and their individual roles in the outcomes they described. I also wanted to see if there were gender differences in their descriptions of the future natural world.

My present research questions were informed and influenced by a pilot study that I completed for this project. I interviewed three girls and three boys about their opinions, ideas, and stories about three different pictures of natural areas. The children were from 5 to 11 years old, and were of various ethnic backgrounds, including Filipino, Vietnamese, Hispanic, African-American, and European-American. The pictures shown to them depicted a redwood grove, an arid region with cactuses and rocks in the background , and a mountain meadow. I assumed that the boys would use more instrumental terms for describing nature than the girls would, and that the girls would use more relational terms for describing nature than the boys would. "Instrumental" was operationalized as descriptions or phrases used by the tellers of the story which indicated usefulness, functionality, or the ability to manipulate an object, place, or life form. "Relational" was operationalized as descriptions or phrases which denote relationships among objects, places, and/or life forms, and/or the verbalizing of emotions, feelings, or perceived personal affiliation with an object, place, or life form. For example, a child exhibiting instrumental communication about a tree would say, "That could be a rocket, and take me to the moon!" or "I could tear those branches off that tree and make them into swords!" A child exhibiting relational communication would say, "I would like to be in that tree to sway in the wind and be rocked to sleep" or "That tree is so beautiful! I want to play under it and have a picnic." The units of analyses

were the children's responses to the questions as they related to these two categories. The children were asked four basic questions about each picture: 1) "What would it be like to be here?" 2) "Would you bring anyone or anything with you, and if so, who or what?" 3) "What would you do while you were here?" and 4) "If you could make up a story about this picture, what would it be?"

The results of the study were rather surprising. Both the girls and boys used instrumental terms in reference to the pictures, but the girls transformed aspects of nature into gifts for others in order to establish a connection (i.e., picking flowers to give to their moms, or "making a book and gluing a flower on it"), or into items of play which could be engaged in by those present, or using the objects for self-adornment (i.e., putting flowers in their hair). Their interest in these objects was not to make them into something else, but to appreciate them for what they were. Boys also described the desire to offer flowers as gifts, but two of them used instrumental terms to describe the building of functional objects, such as a cabin.

Each gender also used relational terms in response to the pictures, but the kinds of relationships they described were decidedly different. All of the boys described some sense of apprehension while in the natural world, or caused apprehension to animals they encountered. The oldest boy said while in the redwood grove he would look for animals, such as raccoons, squirrels, and birds, and then chase them or scare them away "by yelling." In his next description of the desert he described "all kinds of wild animals" chasing him. Another boy described a man burning down the forest because "he did not like the trees," and then setting fire to it which "made all the people run." The youngest boy said the squirrels in the redwood forest would not play with him but would "run away up their tree." Two of the boys also described nature as being dangerous: the oldest boy said a poisonous plant in the mountain meadow killed the main character in his story; the youngest boy emphasized twice the need to avoid the "sticky things" on the

cactuses, and he implied feeling fear at the thought of encountering bears in the desert which would "bite you."

The girls, on the other hand, described a relationship with nature which implied a sense of connection, playfulness, and ease. One girl mentioned she liked an opening in one of the redwood trees "because it looks good for a home." She went on to say this place looks "fun," and that she would climb on the trees and would "wear brown and green" so she would "blend in better" with the trees. She described swinging her arms around the trees, "playing with them," suggesting a friendship with them. She would bring a backpack with food and drinks, and she and her friends would go in a little tent and eat, and "have a party." Then they would get a whole bunch of flowers in their arms and shout "hooray!" She also described befriending a fox and naming her "Julie." The oldest girl imagined the desert hills arising from deceased ancestors, (implying a direct relationship between people and the natural world), and the youngest girl wanted to bring a bird home.

Another interesting finding was the fact that the girls consistently brought people with them into their adventures, whereas two out of the three boys described being alone. The oldest boy told three out of three stories where the main character was alone; in the first story a boy was abducted by aliens, in the second a boy was stranded in the desert, in the third a boy was killed by a poisonous plant. He himself chose to be alone in two of the three settings. Another boy told a story about a man alone up on a hill "talking to the people," telling them to bring him food, which he ate alone, because he "wanted to be by himself." The youngest boy said he would run to his family if he encountered a bear or a snake, implying he would encounter them while he was alone, and that he would be fearful of them. The consistency of the boys' depictions of themselves or their characters as alone strongly reflects the premise of separation. Their descriptions of their anxiety and of their characters as being harmed by elements of nature reveals that

they feel vulnerable in the context of the natural world. There is not the sense of ease that many of the girls described.

The people involved in the girls' stories were all familiar or friendly characters. They included a group of friends having a party in a tent, a group of friends having a food fight, a group climbing a mountain and going under a rock together, a girl befriending a wild fox, and a girl savoring aspects of the natural world by bringing them home. There was no sense of danger in the girls' stories and descriptions; on the contrary, one of them even picked flowers right off of the cactus in the desert scene. There was a sense of playfulness and peacefulness to the girls' descriptions, which contrasted noticeably with the boys' descriptions which described characters as frightened and alone.

The above results coincide strongly with the studies describing girls as more tuned into connection and caring for others, and boys as more tuned into individual distinction and separation. It seems the difference between communication which implies separation from nature versus connection with nature is similar to differences between instrumental and relational communication regarding nature. Studying communication which describes separation or connection or uses instrumental versus relational communication seems useful for this present study. With this in mind, I developed the research questions presented above.

Since such a small sample of interviews yielded such suggestive results, it seemed fitting that further research be done in this area. I designed a study similar to the pilot study just described, utilizing some of the same methods and ideas, and modifying other areas to better answer my present research questions. In the next chapter I will describe my method of analysis and the process I followed in completing my research. I chose to use discourse analysis again as my primary tool, and I begin the next chapter by describing this particular approach more thoroughly.

CHAPTER TWO

The Analysis of Girls' and Boys' Descriptions of the Natural World

Discourse Analysis

In order to interpret the underlying meaning of spoken words in a useful way, it is necessary to identify a procedure which allows the complexity of discourse to be uncovered and made explicit and comprehensible in terms of one's investigation. This is why I have chosen to use discourse analysis; it is a qualitative approach which allows for the examination of the categories and logic by which individuals construct reality (Waitzkin, 1993). van Dijk (1985b) points out that discourses do not simply "have" meanings, but that such meanings are assigned to them by those speaking as well as those interpreting. He says the interpretation of discourse is something people "do" cognitively and socially, so in essence this is a critical-interpretive study.

Discourse analysis focuses on meaning which emerges from the text. van Dijk (1983) points out that researchers probe language for its underlying layers of meaning, and that meanings are produced and understood as indications about characteristics of the speaker. Much (1992) supports the notion that "discourse carries tacit information about individual meaning systems" (p. 52). In other words, what people say generally reflects their individual worldviews, so girls' and boys' discourse about the natural world will likely reflect their experiences and upbringing thus far. My role in this study is to interpret the meaning behind various children's discourse about the natural world, specifically in response to particular images of nature that I presented to them.

The frameworks I used to help me analyze the children's discourse include the differences in male/female socialization and communication patterns, and the influence

of patriarchy in the development of boys' and girls' worldviews. My assumption was that the overriding dominance of patriarchy influences boys specifically to view the world and themselves as separate and distinct from one another, and that as boys learn to communicate, they "create" a world of separation and individualism with their discourse. I assumed that girls, on the other hand, come to see themselves and the world as intimately connected because they are raised by females and identify with females.

I investigated if this distinction in worldviews reflects itself in the discourse of pre-adolescent children who are 7 to 11 years old. I chose this particular age group because in my pilot study, the children younger than seven gave limited responses to the questions asked. They had difficulty elaborating on the stories they told, requiring prompting which may have influenced their responses. The 7 to 11-year-old children, on the other hand, gave vivid and varied narratives describing the images presented to them. Shaffer (1930) completed a study of children's ability to interpret cartoons, and he noted in their discourse that from approximately 7 to 11 years of age, children were able to give concrete interpretations of the cartoons presented. From these various interpretations he was able to ascertain their individual understanding of the cartoons presented.

There are two levels of interpretation that van Dijk (1985a) points out are integral to the process of discourse analysis; these include the focus on the expression of subjective, personal worldviews or values, and also the disclosure of values of a culture. As was mentioned in the literature review for this study, Vygotsky (1962), Geertz (1973), and Much (1992) pointed out that values of a culture are reflected in the language of members of that culture. I am interested in the manifestation of "different cultures" among males and females, and how these differences are communicated in reference to the natural world. I designed this study to find out if distinctions in

feminine and masculine worldviews reflect themselves in the discourse of children who are able to form coherent narratives of the world around them.

Focusing on certain discourse types or genres of discourse facilitates more meaningful and in-depth analysis. These certain genres include daily conversations, textbooks, proverbs, advertisements, stories, and so on (van Dijk, 1983). The genre of discourse that I chose to study is stories. Paley (1984) noticed that inviting children to enter into a world of "pretending" freed them to explore heroic possibilities and situations which were free from daily constraints of "reality." This freedom precludes self-censoring, and allows for self-revelation that may be more insightful than a question-answer format. So I decided to use stories as my "tool" for eliciting and later interpreting the texts of children's communication.

Tannen (1989) believes that the emotional and meaning-making power in all discourse derives from personal narrative. Bruner (1987) also expresses this notion, and extends it:

Insofar as we account for our own actions and for the human events that occur around us principally in terms of narrative, story, drama, it is conceivable that our sensitivity to narrative provides the major link between our own sense of self and our sense of others in the social world around us. (p. 94)

Therefore, the link between children's stories and their understanding of their world can be revealed in the stories they tell. Stories reveal a set of parameters about characters, settings, and actions that the teller expects in a particular context, and carry with them the idea that such parameters are those which are possible and comprehensible or even desirable for the individual and/or for the culture (Bruner, 1987; Bruner & Haste, 1987).

A story consists of events that took (take, or will take) place in specific circumstances involving specific characters and give rise to compelling states of affairs. Johnson (1985) describes the specific elements within a story: it begins with a

setting, which introduces the protagonist, or main character, the location, and the episode, which is/are the key idea(s) around which the story evolves. The episode is developed, which describes the protagonist's goals and internal and external responses to the episode. The story concludes with an ending, which reveals the final response of the protagonist, and the outcome or resolution of the episode. I was interested in looking at differences or similarities in girl's and boy's protagonists. For example, I wondered if they would present their protagonists as passive, active, in control, out of control, or simply observing the circumstances around them. I was also curious to see the characteristics of the episodes they each described, as well as how they portrayed nature, (e. g. as a character, or only as background). Gülich and Quasthoff (1985) point out that a story is often told as if it occurred in the past, and this is important to note because I am interested in ascertaining not only how children perceive the natural world now, but also how they perceive it in the future, as mentioned previously.

The main point of a story is also known as the theme, which may be identified in a number of ways. Halliday (1985) says that the particular word on which the "tonic accent falls" carries the information focus, and can be identified as the key word in the theme of a story (p. 39). van Dijk (1977) agrees with this, stating that the words with stress on them equal the topic, or theme, of discourse. He also states a discourse's theme is what brings overall unity to a discourse. It is what is emphasized or included when one summarizes the story (van Dijk, 1985, Vol. 2). Peterson et al. (1994) defined themes as concepts that provide patterns of discourse with both a focus, or nucleus around which informants explain the essence of their topic, and boundaries, or perimeters beyond which they do not venture. The theme in any narrative can be identified by what is prominent for the speaker, as evidenced by what the listener is invited to attend to in the dialogue.

Owen (1984) states that the theme in any discourse emerges when three criteria are present: recurrence, repetition, and forcefulness. Recurrence occurs when at least two parts of a report have the same thread of meaning, even though different wording may be used within each part. Repetition is defined as the reiteration of key words, phrases, or sentences. This criterion differs from the first in that it is an explicit repeated use of the same wording, versus the same meaning using different discourse. Owen's third criterion, forcefulness, refers to vocal inflection, volume, or dramatic pauses which serve to stress previous or subsequent utterances. This idea is similar to Halliday's (1985) statement of the importance of the "tonic accent" which can help identify key ideas or themes.

The theme of a story, as described above, seems to be the "glue" holding a story together, causing it to "cohere." The importance of coherency is discussed by van Dijk (1985b), who describes discourse as an ordered sequence of sentences that create meaning and unity. He states that in order for a text to cohere, each sentence must be interpreted relative to the interpretation of other sentences. For my purpose, I interpreted key ideas that followed each other in the children's stories. For example, if a child talked about bears and followed this idea with a description of fearfulness, I paid attention to this relationship. I looked at individual ideas, but also considered them within the whole context of the children's narratives.

"Local coherence" is the meaningful relationship between subsequent clauses and sentences, and "global coherence" is that which the local clauses and sentences describe when taken as a whole. These clauses may be about persons, objects, properties, actions, events, and so on (van Dijk, 1983). The children's texts, when taken as a whole, were about a lot more than just the natural world, as I will soon discuss. This process of looking at sentences relative to each other and in relation to the total text revealed a collage of meanings that I will identify in the next chapter.

I gathered my data by doing face-to-face interviews with each child, with an emphasis on eliciting stories. Peterson et al. (1994) state that "the face-to-face interview provides one of the most powerful methods for understanding how people order and assess their everyday world" (p. 20). The full process of data collection is described in the next section.

Process of Data Collection

The Respondents

I interviewed 13 children, 7 girls and 6 boys, with the goal of interviewing a relatively even number of girls and boys between the ages of 7 and 11. Six of the children were associated with a gradeschool in Palo Alto, CA., and the other seven were children of friends and coworkers of mine. There was one set of sisters, two sets of brother/sister, one set of girl/boy best friends, one set of boy/boy best friends, and one set of triplets. Among the girls there was one 7-year-old, three 8-year-olds, one 9-year old, and two 11-year-olds. Among the boys, there was one 7-year-old, two 8-year-olds, one 9-year-old, and two 10-year-olds. (Please see Appendix A). The children's ethnic backgrounds included Vietnamese, European-American, and Jewish. They were all from a middle-class social strata. Ten of the children lived in households with two parents present, one had a single mother, and two lived with their mother and grandmother.

Conducting the Interviews

All of the children's parents were contacted by phone and appointments were set up with them and their children. Twelve of the interviews were conducted in the children's homes, one in a park near the child's house. None of the parents were in the room at the time of the interviews in order to decrease outside influences on the

children's responses. I conducted all of the interviews personally, and tape-recorded and transcribed them verbatim. The length of each interview depended on the verbosity of the child, and ranged from 15 minutes to 30 minutes. The children were told ahead of time by their parents that I was coming to talk with them about their ideas of nature, so each child was aware ahead of time that they were going to be interviewed and what she or he was to be interviewed about. Three children were so enthusiastic that one wrote a poem about nature and two made up stories about nature prior to the interview.

Once the child and I were comfortably situated either in the child's bedroom, living room, or in the park, I presented three scenes of nature to her or him. These pictures were in full color, and were approximately 10 inches by 10 inches. These scenes included a redwood grove, an ocean beach, and a field of flowers in a mountain meadow. (See Appendix B for photocopies of the pictures). No people were present in these pictures, and there was no evidence of human presence or influence. I chose these images in order to provide the children with scenes they were likely to be familiar with. All of the children live in California, and all of these pictures were places that one could see while living here. Due to this familiarity, I assumed the children might be better able to picture themselves in these scenes if they chose to do so.

I used a framework of four questions to structure each interview. For each scene I first requested, "Tell me a story about this picture," and then I let them think and speak for as long as they chose to. When they stopped speaking, I asked, "Anything else?" and sometimes they would add more, or they would say "No." When they were finished with this first part, I asked "What would you do if you were here?" and followed the same procedure as above, and then I asked "What do you think this scene will look like in one hundred years?" When they finished their responses to this question, I asked them, "Out of all these pictures, which is your favorite?" This was a way to allow them to

summarize, which many children did. At the end of each interview I asked again, "Anything else?" and when they finally said "No," I thanked them and ended our session.

I asked each child each question in the same order. van Dijk (1985a) points out that "speakers in a conversation plan their next turn in talk on the basis of their understanding of what has been said by the previous speaker, and on the basis of their cognitive representation of the whole social situation" (p. 5). Based on this I limited my conversation with the children, to allow for their voices to be as uninfluenced as possible by mine. Scherer and Wallbott (1985) point out that a speaker may change, elaborate, justify, or adapt an utterance in response to non-verbal cues of the listener. For this reason I was as neutral as possible in my non-verbal and verbal responses to the children as they spoke or prepared to speak. I did provide prompts or follow-up questions as necessary, such as repeating key phrases the children uttered in order to encourage them to continue without introducing any new ideas, and asking clarification questions such as "what do you mean by___?" For each scene there were at least five children who could not come up with a story, so I asked them instead what they would do if they were there. I kept the questions as open-ended as possible to allow the children's themes to emerge in their own words.

Analyzing the Data

Once transcribed, the data amounted to 82 pages of text. Exact verbatim transcription was initially done, but as presented here the spelling and grammar have been corrected, unless it is relevant to keep it in its original form, because it is the content of the children's stories which is relevant, not their pronunciation or styles of speaking. The words which were emphasized by the children were kept and identified with underlining to enable the consideration of Owen's (1984) criteria of forcefulness. There were a total of 39 stories about the present natural world; the girls had a total of

21 stories, (seven girls telling three stories each) and the boys had a total of 18 stories (six boys telling three stories each). In addition to these stories, each child described her or his view of the future of each picture, which was an additional 13 descriptions.

I set out immediately to answer my first research question, which was: "What themes emerge as girls and boys describe the natural world in their stories about specific images of nature?" In order to do this I began with a thematic analysis of each of the stories. This process included using four of the six steps used by Peterson et al. (1994) in their study:

1. Search for individual themes in the transcripts – using procedure described above;
2. Search for groupings and thematic hierarchies – identify themes with similar meanings which emerged for both genders, and of those identified which seemed the most prominent;
3. Develop each of the prominent themes identified in step two – by supplementing with examples from the transcribed text;
4. Determine relative significance of prominent themes – relative significance to the child, by observing how often the child repeated words or ideas, and the forcefulness they used with particular words or ideas.

In my initial analysis, I went through each story sentence by sentence and idea by idea using an open coding process (Strauss & Corbin, 1990). I used this process to identify words, sentences and phrases which reflected Owen's (1984) three criteria of repetition, recurrence, and forcefulness; this last criterion is a component of non-verbal behavior, and according to Scherer and Wallbott (1985) nonverbal cues can amplify, contradict, or modify the meaning of a word or phrase. The tonal changes of the children's voices helped me identify particular meanings. Taken together, these criteria helped me identify individual themes; I carefully looked at the importance of each theme to each child by virtue of how often they repeated central concepts or words, either directly or indirectly, and/or the forcefulness with which they expressed them.

I initially identified three themes, which were: the inclusion of families in the children's stories; separation or reunion of protagonists with their significant others; the distinction between self-sufficiency and accepting assistance from outside sources. My attention had immediately gone to the relationships established among the characters in the stories, and I wondered if this was due to my being a female with feminine tendencies toward relationships and connections. There was not enough emphasis on the role of nature itself in these initial themes, so I switched my focus to the children's depiction of nature itself in their stories. At this point three new themes emerged which were more directly related to the place of nature in children's discourse, and the organization of the themes was easier and made more sense at this point.

The stories with similar themes were grouped together, and these themes were then further developed and substantiated by specific examples from the transcribed data, coinciding with steps two and three mentioned above. After the themes were identified and elaborated on with specific examples from the text, I analyzed the protagonist and how this protagonist related to the identified themes (Johnson, 1985). From this analysis emerged relevant features of the children's discourse that were not themes themselves, but were meaningful in terms of the concepts discussed in chapter one and in relation to the rest of this study. They were identified by the frequency of their appearance in some of the children's discourse, and by the emphasis the children used on certain words and ideas. This coincides with step number four above.

My first research question was an inductive one, in that I was looking for meaning to emerge from my data. I combed through my data several times to identify consistencies in the stories, and described what I discovered. In contrast, my second and third questions were deductive in that I approached my data with pre-determined categories wanting to see if my data conformed to them. My second and third research questions were: "Do girls' and boys' descriptions reflect the categories of connection,

and/or separation, and if so how, and to what extent?" and "If these differences emerge, are they demarcated along gender lines?" In order to answer these questions I looked more carefully at the themes and relevant features which emerged in the process of theme identification, and noticed these categories were evident. I went through my data once again to identify if there were any other features or elements in the children's discourse which revealed these distinctions, and identified these as well. I then investigated if there was a correlation between the categories and the children's genders, and described this relationship by using the fifth step identified in Peterson's et al.

(1994) study:

5. Search for coherency in the themes – identified ideas which occurred in conjunction with each other or which clustered together in each gender's stories, and how these clusters differentiated these ideas or elements for each gender.

I noticed that there were salient gender differences within the categories that were evident in the themes and features of discourse. These are described and discussed in the next chapter after the identification of themes.

In the final step of my analysis, I studied the children's responses regarding the future, in order to answer my final research question which was: "How do girls and boys describe the future of the natural world?" I repeated steps one through five to identify themes and categories, and to determine if there were gender differences in the children's descriptions of the future. I then used the final step described in Peterson's et al. (1994) study:

6. Search for oppositions among the prominent themes – identify themes which seem to contradict each other, and potential significance of this for this study.

I used this last step as a way to help organize some of the features which emerged in the children's descriptions of the future. Four themes emerged in my analysis, and these are

elaborated on with excerpts from the children's discourse. The implications of these findings are discussed in the final chapter.

I identified the teller of each story by placing a letter and number in parentheses following each story. Appendix A lists each child according to gender and age, and identifies relationships between children if there were any.

CHAPTER THREE

Thematic Differences in Girls' and Boys' Stories About Nature

General Findings

In the children's 39 stories, nature played four basic roles: it was depicted as a companion, an agent of harm, danger, or disruption, a resource for human use, or a context for various relationships. The first three roles emerged as themes, whereas the last emerged more as feature of the discourse rather than a theme, per se. The relationships within the context of nature came in the form of connection with others, and self-sufficiency versus accepting or receiving assistance, where there were clear gender distinctions evident. There were two other elements in the children's discourse which did not relate directly to nature, but did reflect several of the observations made by Gilligan (1982; 1988), Chodorow (1974; 1978), and Noddings (1984). These were the importance of context for girls, and the salience of categorization for boys. I will discuss these two areas after I discuss the themes relating directly to nature.

Another area of interest was the fact that in most of the stories, the tellers presented the protagonists as themselves or as other children. This implies that narratives do closely reflect their tellers, and that by paying attention to stories that others tell we can learn at least some aspects of their personal ideas and perspectives.

The description of the primary themes which emerged from the data answer my first research question, and are described in the following paragraphs.

Themes

Nature As Companion

When a child described nature as a companion, nature was neither foregrounded or backgrounded, but rather described as a partner, or comrade. There was often the sense that nature was a refuge, a resting place, a restorative place. There were a total of eight stories depicting nature in this way; six of them were told by four girls, and two of them were told by the same boy. The girls described nature as a place they or their protagonist had a sense of discovery and wonder, and felt at ease or had a sense of heightened awareness while they were there. Examples of some of their stories follow:

If I was there I would probably sit under a tree and read a book and just maybe draw a picture or write something about the wilderness . . . because I love nature and I like having something there to remind me of the place so that's what I probably would do. (G3)

I'd explore the island to see what it was like and . . . I would do research on the island . . . I would look around and discover new things, like new kinds of animals and new kinds of plants, and I would maybe draw a map of what the island looked like . . . so that I could go there again and do more research and see how it's changed. (G3)

If I could I would climb the tree . . . it looks like it's kind of easy to get up . . . (I would) look around. (G5)

It looks like a place where someone might just go to be alone . . . like a . . . girl, she might be like seventeen or something, and kind of just walk along the beach if she was . . . really sad or something. Then she would just look at the waves and hear them and the same rhythm . . . it's very soothing there . . . this might be her special place that no one else really knows about . . . no one else is there when she goes – she just goes there to be alone. (G2)

Once upon a time there was a girl and her father; they lived on the beach. And one day the little girl wanted to go in the sea. . . (G4)

All of the girls' stories reflect a sense of appreciation, curiosity, contemplation, ease and even comfort while in the natural world. They use words like, "love," "explore," "discover," "look around," and "wanted to go." These terms are also used when someone is referring to a friend or partner.

The first two stories by the same girl are narratives about herself in the natural world, and what she would do if she were there. She describes herself as contentedly alone in each of the scenes, resting there in a sense of peacefulness. She also displays a curiosity in her stories, saying she would "explore," "do research," "look around and discover new things." The third story is again a narrative about what the girl would do if she was there among the redwoods, and there is the theme of curiosity and engagement with the natural world on its own terms; she would simply climb a tree, and look around. She also frames her character as being alone in this setting, but feeling secure and at ease. The fourth story depicts nature as a personified friend; the teller describes her protagonist's feelings of being soothed or comforted by nature. There is a feeling of calm in this story, and nature is embraced on its own terms, as it gives her comfort and solace.

The last story fragment is only part of a story told by one girl. In her story the protagonist, a little girl, was curious and interested in exploring nature, but she was stopped by her father, a secondary character in her story, who viewed nature as an agent of potential harm. This particular story will be discussed further in the next section.

The boy who told the two stories that suggested nature as a companion mentioned ideas that were similar to the girls' ideas. His stories also reflect a sense of ease, relaxation, and rejuvenation. His stories are:

If I was there I would probably, when I've been in woods before . . . what I like to do is just relax and just think about what I like . . . I just like to relax and just think about stuff. (B4)

If I was there? Well that looks like another good place to relax and just think, and . . . it looks like there's a lot of flowers and it would be nice to just run around and . . . pick flowers and play and go exploring. (B4)

These stories are comparable to the girl's stories in that they have the feeling of acceptance and ease within the natural world; his prior experience seems to foster his sense of contentment there, as well as his sense of familiarity with a place like this.

Nature as Agent of Harm, Danger, or Disruption

In sharp contrast to the image or feeling of nature as a companion was the depiction by some children of nature as something to be feared or even avoided. There were 11 such stories; 8 of them were told by five boys, and 3 of them were told by two girls. In contrast to the girls' and one boy's stories with a sense of calm, curiosity, and ease in the wilderness, these stories involved feelings or experiences of displeasure, adversity, tension, and/or anxiety. Here are excerpts from the boys' stories:

Well from that picture I would probably think of somebody lost in a forest or some . . . place with a lot of trees . . . there's a whole lot of trees and it looks like somebody could get lost in them. . . (If I were there) I would be, like, scared because I mean there's nobody around and . . . it's hard to find where you're going . . . (B3)

If I were to do a story about that (mountain meadow) it would probably be about someone living in the mountains and . . . they get lost and can't find their house. (B3)

(I would not like to go to the woods) because there might be bears. (B5)

Once upon a time there was a wolf, trying to get a girl. . . (B6)

(I wouldn't want to be in the valley because) I might step on a slug . . . they feel yucky. (B5)

Once upon a time there was an African family that lived in the jungle. One day the man and the child went out to sea . . . and then it got really dark and stormy. There were big waves, and they got pushed off the boat and were wounded. . . (B1)

Once upon a time there was a bear that lived in a big cave . . . and the second day of spring there was a big tornado, and it wrecked all the rocks that were in his cave . . . (B1)

What comes to mind is a story about a turtle who . . . got separated from his parents in a storm and he has to try to find his way back . . . (B4)

The teller of the first two stories describes his protagonists as being lost and frightened. Instead of seeing a playground or resting place, he sees a place of danger and absence: "there's a whole lot of trees and it looks like somebody could get lost in them,"

and "there's nobody around." In addition to these feelings of anxiety and aloneness, he presumably has a destination in mind, because he states, ". . . it's hard to find where you're going." The trees become an obstacle to some other place, and actually get in his way.

In the third story, the boy also explicitly states that he would be scared in a setting like the one pictured, because of the possibility of harm from bears. He describes nature as potentially threatening rather than benign or friendly. The excerpt from the fourth story also depicts nature as potentially threatening, echoing the theme in "Little Red Riding Hood," where a "wild animal" is attempting to harm a vulnerable human. The next story describes an aspect of nature as unpleasant; the boy states that he would not want to go into the valley because of the unpleasant prospect of stepping on a slug. He does not necessarily perceive or project danger into the scene, but projects displeasure and unpleasantness; he describes at least part of the natural world as unpleasant and to be avoided if at all possible.

The last three stories all describe problems caused to protagonists due to storms. In the sixth story about the African family, big waves push the man and his son off the boat and they are wounded. The next story describes a bear who encounters hardship at the hands of a tornado that ransacks his home, and the last story describes a turtle who is separated from his parents due to a storm.

In all of these boys' stories nature is depicted as anxiety-provoking, potentially dangerous or unpleasant, harmful, disruptive, and as an obstacle to progress toward a destination. The girls' stories which depict nature as a harmful or disruptive agent have a different twist to them. Although nature may be disruptive and sometimes harmful, it does not always harm, and if it does there are others immediately available to assist the protagonist. Here are excerpts from the girls' stories:

Once upon a time there was a boy and his father. . . looking for a town way far away on a different island . . . to get some more supplies for their house. And while they were gone a big storm came, and they were blown out of direction and headed towards this island . . . they cut through the thick brush and they found some palm trees and they were very hungry because they've been on the boat for a really long time, and so, they climbed up a coconut tree and cut down some coconuts, and they, ate it! And then they lived there for awhile . . . (G3)

Once upon a time there were three people, a dad, a mom, and a child who used to ride their horses down there (to the beach). And then one day the kid went down there by theirself [sic] because she want, he wanted to see what it. . . looked like, and . . . step in the water, and he did and he got hurt . . . He went out too far and a big wave went on him and he couldn't get up. . . but there were lifeguards out there still (and they saved him). . . (G7)

Once upon a time there lived a woman in a cottage where their family lived. And she would always come over there to pick some flowers for their family . . . and one day they were playing, she was playing around, and . . . she tripped over a rock and skinned her knee, but then she was alright because they took care of her and put a washcloth on it. (G7)

Once upon a time there was a girl and her father (and) they lived on the beach. And one day the little girl wanted to go in the sea. But her father thought it was too cold. . . and he was scared that she would drown. . . (G4)

In the first girl's story, there is also a boy and his father who are blown off course in a storm, but the girl makes no mention of them being wounded. They were side-tracked, but not harmed, and the island they found provided food in the form of coconuts. The second story does mention that a character was wounded by nature, but he was assisted by lifeguards, so there is the sense of care in the midst of the harm. The protagonist in this story also initially approached nature with a sense of openness and curiosity, similar to the protagonists who approached nature as a companion. When he was unexpectedly wounded others were immediately available to help. This is also the case in the third story, where the protagonist trips over a rock and hurts her knee, but others are there to help her and "put a washcloth on it." In the last story there are two views of nature by the two characters. The little girl appears to perceive nature as a companion in that she shows no fear and wants to explore the sea, but her father sees the sea as a

potentially harmful agent. He fears it will be "too cold" for her, and that she might drown in it.

Similar to the image of nature as a harmful or disruptive agent is the image of nature as a resource, because both images construe nature as something separate and objectified. In the next section I will discuss the stories that depicted nature as a resource.

Nature as Resource

There were nine stories told about nature as a resource for human use; six of them were told by four different boys, and three of them were told by three different girls. In the boys' stories there is little sense of affiliation between the humans or human-like creatures and the natural world around them. Instead, there is a very utilitarian and matter-of-fact approach to nature. Here are excerpts from some of the boys' stories:

That looks like elf houses . . . (and they would be) working, living. . . they would chop down trees and make stuff for their houses . . . like a chair or something. . . (B2)

That looks like the beach . . . and there'd be all these homes up here, there'd be like a motel, and people would come down in the day and surf and boogie board . . . (If I were there) I would probably build a house, and every day I would go to the beach and surf and boogie board and I would buy a boat, and I would go sailing and fishing. (B2)

Once upon a time there was a desert island, and in the middle of the island was a forest, and in the forest lived some pioneers and their friends . . . It'd be a story about the Swiss Family Robinson . . . they had to try to survive because their boat crashed and they make all this neat stuff, and tree forts. . . and finally a boat comes and rescues them, I guess. Or they make their own boat. (B4)

This reminds me of like, a John Wayne story . . . it's a little town, and people would live over here and they would go out in the meadows and chop down trees . . . (B2)

In these stories nature is something used for human ends. These ends include shelter, travel, and pleasure, as in a resort-like setting on the beach. Nature is not necessarily disliked; rather, it is not even considered. It is just there to be used or enjoyed; there is no sense of connection with it. In contrast, the girls' stories show a sense of connection to nature, even as their protagonists use it:

Well, I can kind of imagine little elves or something that would . . . live inside the trees because they could climb the trees and go in the top; it looks very mysterious and magical. . . and maybe they would eat the moss on the trees, that would be how they live so they never become extinct because there's so much moss, and they're very friendly and they don't hurt anyone. (G2)

It kind of reminds me of like, all these little fairies living in the flowers . . . they'd probably fly around, looking for, well, right here it looks like a fairy town, and they would go out with little grass baskets and (go) to the town looking for petals to make . . . food and soup . . . and to make more baskets and little hats (they would look for) special kinds of leaves and flowers (and) make clothes . . . (G3)

Once upon a time there was a man and he was in the tree right there, and every day he would come out and chop some trees to make a fire and cook . . . and then one day the trees were all gone, and then he prayed and then the next morning the trees grew a little bit taller, and every day he came out and they reached taller and taller and taller, and then he decided to chop down no more trees, and that he would go out and find some food for himself. The end. (G4)

In the first two stories the girls describe their protagonists as gentle beings, harmless and friendly, who adapt themselves to the environment rather than changing it significantly to suit them. They would prepare and eat food using the resources around them, without changing nature's ability to rejuvenate itself. Impairing nature's ability to renew itself means that eventually, nature would not even be available as a resource.

This is exactly what happens in the girl's last story, which has an interesting twist to it. There is the element of using the environment as a resource, and it is interesting that the teller of this story places a man in the position of altering nature. She describes this man as routinely coming out and chopping down trees in order to "make a fire and cook," until the day his resources are completely gone. He immediately

begins to pray to rectify the situation, and when his prayers are answered, he has something like a conversion experience, in that he decides "to chop down no more trees." When asked why he decided to stop chopping down the trees, the teller of the story responded, "Because the trees give oxygen to breathe for you." The protagonist comes to see how he is dependent on the health of nature for his own survival.

In contrast to the boys' stories, the characters in the girls' stories seem to feel an affiliation with the natural world around them. In the first two stories the characters have no intent, indeed no need, to drastically change or harm the environment. In the last story, the character experiences a profound recognition of his connection with the world around him, and decides to completely change his behavior in relation to it.

The Emergence of Connection and Separation and Their Relationship to Gender

My second and third research questions asked if the categories of connection and separation were relevant in the children's stories, and if there was a correlation between them and the children's genders. I went through the themes again and investigated if these categories were evident with a gender correlation. These categories and a strong gender correlation among them were evident, and they followed many of the findings described by the researchers in chapter one.

There were eight stories that described nature as a companion, and they each implied a sense of connection and relationship between the protagonists and nature. Out of these eight stories, 75% were told by girls. Six of the seven girls mentioned this theme, whereas only one boy did, so there is clearly a strong relationship between perceptions of connection and females in this theme.

In the stories which described nature as an agent of harm, danger, or disruption, there was the sense of separation and feelings of anxiety which accompanied it. Out of 11

stories with this theme, 8 were told by five of the six boys. This means that 73% of stories with this theme of separation were told by most of the boys. In addition to this, six of the eight stories told by the boys described their protagonists as being alone. This relates back to the discussion on the tendency of males to emphasize separation and autonomy, although for these boys the separation seemed to cause anxiety rather than evoke a sense of strength or mastery.

There were nine stories that described nature as a resource, and out of these, 67% were told by four of the six boys. The boys had a different perspective on nature as resource than the girls did. They described nature as something which is useful and helpful to and for humans, such as providing the materials for building boats and forts. This perspective implies a sense of objectification and distance, whereas the girls' described their protagonists as having a sense of affinity with the natural world around them. They used it but did not impair its ability to regenerate and renew itself. There seemed to be a reciprocal relationship between the girls' characters and their surroundings, or one was recognized, as in the story about the man who prayed for the revival of the trees he had cut down. So even within this one theme, the distinctions of connection and separation and their relationship to males and females is evident.

There were other features of the children's discourse that revealed these categories and their relationship to gender. They included the occurrence of connections in the context of nature within most of the girls' stories, the distinction between how girls and boys solve problems encountered in the natural world, and the emergence of the importance of context for some of the girls and the tendency towards role categorization for some of the boys. Each of these findings will be discussed in turn.

Nature as Context for Connections With Others

There were 14 stories in which characters were actively involved with one another in the context of the natural world; 11 of them were told by six different girls, and 3 of them were told by three different boys. This means that of all the stories implying connection with others in the context of the natural world, nearly 80% were told by girls. This relates directly back to Chodorow's (1974,1978), Gilligan's (1982, 1988), and Nodding's (1984) findings that girls tend to look at the world in terms of relationships. Only 21% of the stories which described nature as a setting for relationships with others were told by boys. In many of these stories, nature was the location where happy experiences with others took place; it reminded or prompted the children to tell stories of times they had gone to places like those pictured, or to tell stories about wanting to go to places like that with other people. Here are excerpts from some of the girls' stories:

Somebody was hiking, and they're with their family, and then going out on a path and seeing lots of trees . . . and they're like going to a hut . . . and then (they) stay there for maybe the weekend and then come back. (G1)

Once upon a time there was a forest with cottages all around. . . and there was a family. . . and they always used to go out to eat some lunch. . . (G7)

Me and my mom? We went camping at Sunset Beach . . . (and) it was fun. (G5)

Your family and you are going out on a trip just for (the) fun of it, going to the beach, and you have some friends along with you. . . . and you have a picnic there because it's nice and you're gonna play in the bushes a lot; just play in the water and sand. (G1)

I went to my Gramma's house and we went (to). . . the beach and we played in the water and we found some crabs and seashells . . . with my cousin and my aunt. . . and we saw a seal. . . (G6)

It's like you're on a field trip with your whole class, and you're studying plants and so you went to a place that's like, that's really nature, and not a lot of buildings, or anything, and (you are) walking around and looking at all the plants and writing notes about them. (G1)

I can imagine lots of people meeting here and having a picnic or something because it looks so green. (G2)

(I'd be there with) my cousins, and my friends, and my mom . . . and grandma would definitely want to come . . . with my mom, we might climb the mountains . . . (G5)

I've been in snow . . . (my family and I) went to . . . Wyoming to see some of my friends . . . and we went up in the mountains and went sliding down the mountains with a sled. . . and one time, my dad and (my sister), my dad, he was so heavy on the back . . . they went like that and then they flipped over on the back! (Laughter). (G6)

Each of these stories demonstrates a sense of connection through aspects of learning, sharing, playing, and generally enjoying the company of others. It is not so much what the families or friends do together that seems important, but the fact that they are automatically part of the story and the plot revolves around their presence.

There were three boys who also told stories reflecting the theme of connection within the natural world. Their stories included elements which were similar to the girls in that they included people playing, sharing, and just being together:

Thinking of a story it'd be . . . some story like going to the beach and having fun. . . . like making sand castles or playing in the water . . . it'd be pretty fun, actually. . . I'd be there with adults. (B3)

One time I went to the beach at Half Moon Bay . . . (and) we tried to go out far where you could only stand on tippy toes, and then the waves would come washing and we'd jump up, and they would hit us and make us go underwater . . . when we were like at a camp, camping . . . (B6)

If I was there . . . I'd probably go there with a friend . . . and run around and play and go exploring. (B4)

These stories are not that different from the girls'; they also have happy themes, with the sense that these children have been to places like this before. The beach scene evoked the most stories about connections with others, and each child who told a story with such a theme had been to the beach before. It did seem that prior experience influenced the children's perceptions and communication about the scene they were describing, and those with prior experience generally discussed nature as a comfortable place to be.

However, there were two times as many girls than boys who told stories that depicted a connection with nature, following the general tendencies described in chapter one.

Nature as Context for Accepting or Receiving Assistance Versus Demonstrating Self-Sufficiency When Separated From Others

The distinction between connection and separation and their relationship to gender emerged in another element of nature as context for relationships. In this element or feature of the children's discourse there was a difference in the ways girls and boys described their protagonists as solving problems they were faced with, primarily the problem of being separated from significant others. There was a fairly even split between the numbers of girls and boys who told stories with this theme; what is significant is how the reunions occurred. For purposes of this analysis there will be a repetition of some of the stories just discussed, but they will be expanded and different aspects will be emphasized. Here are the girls' stories:

Once upon a time there was a girl and her father (and) they lived on the beach. And one day the little girl wanted to go in the sea. But her father thought it was too cold. . . and he was scared that she would drown. And then the next morning her father let her (go in) and he watched her. When he called her he couldn't see her . . . then the father cried and the next morning she was back . . . And then they found the girl's mom and her sister and brother. And they live happily ever after. The end. (G4)

Once upon a time there were three people, a dad, a mom, and a child who used to ride their horses down (to the beach). And then one day the kid went down there by theirself [sic] because she want, he wanted to see what it. . . looked like, and step in the water, and he did and he got hurt . . . he went out too far, and a big wave went on him and then he couldn't get up. . . there were lifeguards out there (who saved him). . . but he had to go to the hospital and then her mom and dad, his mom and dad picked him up. (G7)

Once upon a time there was a little teeny girl and her name was Pauline. Her father and mother were lost out somewhere in the mountains. . . she went to look for them, and then a bird swooped down and grabbed her and took her up in the air and then put her on the mountain. And then (she) found her mommy and daddy and went back where they live and had . . . some food and ate and then they had another baby and they lived happily ever after, and . . . Pauline liked her little brother. The end. (G4)

Throughout the girls' stories, the theme of connection is consistent: the girl in the first story returns after her dad cries for her; the hurt child is cared for in the hospital and is picked up by her/his parents; the lost "teeny girl" is returned safely to her parents by a part of nature, a swooping, benevolent bird.

In the first story the child is curious; she wants to go in the sea to explore, but the father resists because he is concerned about her, and cares about her; after he gives in and lets her go explore, she returns of her own accord in response to his tears and concern, not out of fear or obedience. In addition, when they are reunited, they find her mother and brothers and sisters, too. So, responding out of care and connection breeds more care and connection.

The separation in the second story also occurs as a result of the child's curiosity: he "wanted to see what it (the sea). . . looked like." The child gets hurt but he gets out of the predicament through the assistance of others, (e. g. the lifeguard, the hospital staff, and his parents). In the third story the protagonist is assisted by a bird, a helpful benevolent aspect of nature. The bird's assistance enables the girl to reunite with her parents.

In contrast to the girls' stories, the boys' stories involving separation and reunion demonstrate the theme of self-sufficiency; when a character or family is faced with a problem, he or they solve it on their own. Here are the boys' stories:

Once upon a time there was a African family that lived in the jungle. They had a house made of bamboo sticks, and they made a boat out of wood. They were really happy, they had one kid . . . and then one day the man and the child went out to sea, and they were catching some fish, and then it got really dark and stormy. There were big waves, and they got pushed off the boat and were wounded, and then one day they reached an island that they had never seen in their whole entire life. It was all filled with oak trees and pretty bushes and flowers. They saw lots of redwoods and lots of mountains and they had never seen this world (before). And then they made a boat out of redwoods and sailed back to home. Then they took all their stuff and a wife, and they went to that land and lived, and made a little house, and they lived happily ever after. (B1)

Once upon a time there was a desert island, and in the middle of the island was a forest, and in the forest lived some pioneers and their friends . . . It'd be a story about the Swiss Family Robinson . . . they had to try to survive because their boat crashed, and they make all this neat stuff, and tree forts. . . and finally a boat comes and rescues them, I guess. Or they make their own boat. (B4)

What comes to mind is a story about a turtle who . . . got separated from his parents in a storm and he has to try to find his way back . . . at the end he does. It takes a long time, but he makes it afterwards. (B4)

In these stories a problem is presented (i. e., life on an island, being stranded, being lost), and the protagonists solve the dilemma. The lost boy and his father make a boat "out of redwoods and sail back to home," rather than waiting to be rescued or simply staying and living there; the stranded family "make all this neat stuff" and "make their own boat" to return home; the turtle is on his own when finding his way back home.

In the first story, the protagonists get out of their predicament not by being rescued, but by rescuing themselves, and finding their way to an island. They continue their self-sufficiency by making a boat, and returning to their home and taking their "stuff and a wife" to the land they had found, where they eventually build a home. In this story the natural world is altered towards useful ends by the making of two boats and a home. It is interesting to note that in this story the teller clumps together "a wife" with "their stuff," indicating they are on the same level of importance or significance. In chapter one I discussed how in the masculine worldview females are often objectified, and this seems to be the case in this brief but telling moment in this boy's story.

The second story, which borrows characters and ideas from mainstream media, has a very similar set of circumstances to the first story. The characters are again stranded because their boat crashed, presumably due to a storm, and they are again self-sufficient and clever, and ultimately rescue themselves. In analyzing this particular story, Halliday's (1985) study on non-verbal markers is useful. She states the particular word on which the "tonic accent falls" carries the information focus, and can

be identified as the key word in a theme of a story (p. 39). In this particular story, the boy telling the story orally emphasizes the word "make." His description of the characters making a boat clearly overrides his previous suggestion that they were rescued. He uses this word twice, in reference to "tree forts" and to a boat. The previous boy also uses the word "make" twice, in reference to his characters building a boat and later, a house. The word "make" certainly implies action and self-sufficiency. In these two stories alone "make" is said six times, and this word is never mentioned in any of the girls' stories, indicating a different focus for each gender. The boys focus on resourcefulness whereas the girls accept help from others, trusting in their goodwill.

The third story also mentions that the protagonist is separated as a result of a storm. Again, this separation is not chosen by the turtle, but he takes matters into his own "claws" and finds his way back without any outside assistance. The theme of self-sufficiency is repeated, with the teller stating that the turtle eventually finds his way back to his parents, even though, admittedly, it takes him a long time.

This theme of self-sufficiency is reflected in two other stories told by one boy, although their themes are not specifically about separation and reunion. The second story has already been mentioned, but with a different emphasis. Here are the stories:

Once upon a time there lived a man and a woman living in a tree stump. They were very happy but the only thing that they weren't happy about was that they had no children and they couldn't afford to adopt one; so they made a stuffed animal . . . and it made them really happy except whenever it was winter then they, it, this child got sicker and sicker. And then one day in winter she felt better than all the other days, and she was happy for the rest of her life. (B1)

Once upon a time there was a bear that lived in a big cave . . . and it was collecting up fish and food for the winter. And it finally became winter and he slept and ate, slept and ate . . . until winter was done and then he woke up and he ate some more fish . . . and the second day of spring there was a big tornado, and it wrecked all the rocks that were in his cave . . . And then he made a new cave, but it was hard to find food. He finally found so much food that couldn't eat (all) of it. And then he lived like that for the rest of his life. (B1)

In the first story, the main characters desire a child in order to feel fulfilled, and they initially go through the standard problem-solving procedure of attempting to adopt a child. Practically they cannot afford to do this, so they make a child. There is the element of magic in this story in that the created stuffed animal inexplicably transforms into a little girl within one sentence, and after she overcomes sickness in the wintertime, she is "happy for the rest of her life." Thus, the industrious parents were also self-sufficient, ultimately successful in their problem-solving, with a little help from invisible forces.

In the second story we revisit the bear who encountered hardship at the hands of nature, when a tornado upset his home and he was forced to find a new one. This industrious bear does indeed find one, and after overcoming the difficulty of not finding food, he eventually finds more than he needs. He overcomes adversity through persistence, and lives in abundance for the "rest of his life."

In summary, the male tellers describe their protagonists as generally self-sufficient, finding their way back to their homes or significant others on their own. The boys' protagonists overcame problems that nature caused them through their own ingenuity, and by utilizing available resources to maneuver their way out of their particular situations. The girls, on the other hand, describe their protagonists as accepting or receiving assistance from outside sources, or reconnecting with other characters because of an emotional affiliation with them. Their protagonists tended to adapt to the environment around them rather than changing it. These qualities of the girls' and boys' stories are for the most part consistent with the findings of the various researchers described in chapter one, that girls tend to look at the world through the assumptions of connection and caring, and boys tend to look at the world through the assumptions of independence, autonomy, and self-reliance.

Girls' Emphasis on Context and Boys' Emphasis on Categories and Roles

The gender distinctions just described revealed themselves in two other areas in some of the children's discourse, but they are not directly related to nature. These aspects include some girls' consideration of context in their stories, and some boys' use of particular categories regarding males and females in their stories. These distinctions reflect the observations of Gilligan (1982; 1988), Chodorow (1974; 1978), and Noddings (1984) that girls generally consider the context of a situation in their decision-making, and boys generally consider principles and categories in their decision-making. For example, Gilligan (1982) pointed out that in the Heinz study about moral development, the girls responded to the dilemma of whether or not Heinz should steal the drug for his wife by first considering the consequences of such an action. They struggled with the larger overriding possibility that Heinz might be arrested and then his wife would be seriously stranded. When presented with a hypothetical situation, many girls usually ask for more details and concrete information to help them formulate their response (Noddings, 1984). So, generally, females tend to look at the specifics of a situation, consider it in context, and consider it circumstantially.

On the other hand, Gilligan (1982; 1988), Chodorow (1974; 1978), and Noddings (1984) observed that males tend to look at the world categorically, looking at experiences as snapshots rather than as a progression of events. In the Heinz study, Gilligan (1982) noted that the boys quickly reasoned that Heinz should indeed steal the drug because in principle it was more important for the wife to have the drug than for the Heinz to obey the law. They were considering the individual situation, which, granted, was what was presented to them. Gilligan (1982, 1988) and Noddings (1984) concluded that generally, males tend to look at events in isolation and in principle.

I encountered these same distinctions in the some of the children's stories. They were each presented with the same pictures, but some girls told stories or made mention

of the need and importance of context, whereas no boys made mention of this. Similarly, some boys spoke very categorically about the roles of males and females, whereas no girls made this distinction. These are the two areas I will be addressing in the following subsections.

The Consideration of Context by Girls

There were two girls who made specific mention of the importance of context or acknowledged it indirectly in their discourse. This first excerpt is from a girl's description of the ocean beach, which she assumed was an island:

It's kind of hard (to tell a story) because I don't know what the rest of the island looks like . . . It's a lot easier for me if I can go to that place, and then I can write a story about it because I know what it's like, if it's cold, or if it's hot, or . . . what it looks like and what kind of animals they have there, and so it's a lot easier for me. If I just see a picture of it I don't know what the rest of it looks like.
(G3)

This particular girl is describing how seeing the "bigger picture" helps her make decisions and judgments in describing her stories. She points out that knowing the terrain, the climate, the different forms of life and how this island fits into a larger context affects how she views it.

The second girl shows her awareness of the context around her and her tendency to focus on relationships through several elements in her discourse. The following is an excerpt from our conversation:

G6: Have you been to (the) redwoods, forest?

M: Yeah, I have been – have you?

G6: Uh-huh.

M: When?

G6: Um, a long time ago.

M: Yeah? What did you do when you were there?

G6: We went to go see the trees, and looked around, and we, have you been under the um, tree that we went under?

M: Yeah . . . What do you think of the redwood forest?

G6: It's pretty, it's fun. And we also got some postcards for our camp teachers, and stuff.

In the first part of this text she asks me about my experiences in the forest; she did not let her herself be the sole center of the conversation, or the only person involved in this experience. She asked me if I had been to such a place, and if I had experienced what she had (i.e., the cut-out tree). She acknowledges that perhaps my experience was different from hers. In the latter part of her discourse she included the fact that they had gotten postcards for their camp teachers, a fact she considered important enough to include in her story. The inclusion of others in her awareness and in her actions closely reflects Gilligan's (1982; 1988) Chodorow's (1974; 1978) and Noddings' (1984) observations that girls think in terms of relationships. In this case, the girl is thinking of others in the context of the natural world.

The tendency for this girl to speak and probably think along these lines of connection is further illustrated in her story about the mountain meadow:

Once upon a time . . . I went in a meadow . . . and I played . . . and I picked some flowers for my mom and dad, and . . . they gave me a hug cuz they were proud of me for giving . . . they were happy . . . and they were proud and stuff. (G6)

This girl describes herself in a giving role, which is reinforced by the positive response of her parents; this is in keeping with the above discussion that girls tend to look at the world in terms of connections. Throughout her discourse she includes an awareness of me, others, and her relationship to them.

Categorization of Roles of Males and Females by Boys

The conceptualization of relationships in categorical ways was reflected by two boys' explicit descriptions of the expected roles of males and females. One boy was very

clear about his ideas of male and female roles. He described elves living in the redwood grove, who would "chop down trees and make stuff . . . for their houses." When I asked him what else they might do, the following dialogue ensued:

B2: They would do work, they would have jobs as, one of them would be a doctor, and he would . . . he helps animals and he works, ah, chops down trees, does stuff like that.

M: What other kinds of jobs would they have?

B2: Carpenter, they would make bird houses, and make furniture, and where they got their food was they . . . would have like this garden. The women would have a little garden, and they'd have carrots and vegetables.

M: What would you do if you were there?

B2: I would probably build a house there, and make a garden, . . . get a stove . . my job would be carving stuff, like birdhouses, chairs, couches. And the women, they would have their jobs, they would like, sew pillows, and dresses and clothes.

M: Anything else? Would they do anything else?

B2: Ugh-ugh. (No).

In this dialogue this boy turns immediately to the industriousness of the elves, and what they would do; the first thing he says is, "they would do work . . ." What they would make, and what he would make if he were there, are each emphasized with words like "make," "build," and "carve." He depicts the doctor, the mill workers, and the carpenters as male characters, and the gardeners as specifically female, until he describes himself as starting a garden if he lived in such a place. Interestingly, he states that "the women would have a little garden" whereas he would "make a garden," again suggesting self-sufficiency and industriousness for himself as a male and a more passive role for the females who would simply have a garden; gardening is not necessarily something they would do but something they would have. He depicts the women's only active role as a stereotypical one of sewing.

In another story he told about the mountain meadow he states, ". . . people would live over here and they would go out in the meadows and chop down trees and . . . a woman would pick flowers . . ." Again, the roles are clearly defined, with women having a more passive and relatively unimportant role. He states that women do have their work, but it is very limited: they would sew pillows, dresses and clothes, and they would "have" a garden, and/or pick flowers. So in this nine-year-old's discourse, women and men have different but rather stereotypical roles.

There is another story told by a boy which seems to indicate his view of the place of women. It is the story about the African father and son who get caught in a storm at sea and end up on an island. After making a boat, they return home and take "all their stuff and a wife" and return to the island. The fact that he groups the wife with "all their stuff" implies she is in the same category as their possessions, as briefly discussed previously. In Western culture women are often portrayed as objects or possessions, (especially in advertising), and the pervasiveness of this kind of thinking is revealed in this seven-year-old boy's incorporation of that kind of role in his story about this family.

It seems that these stories did indeed reflect the themes identified in chapter one, that girls tend to consider the whole picture or context of a situation, and that they tend to automatically assume connection and relationship between people, and that boys tend to assume separation and self-reliance.

The final step in my data analysis was the examination of the children's descriptions of the future, which answers my final research question. The themes that emerged in this area were very different from those which I just discussed, and these results are described in the following section.

Analysis of Descriptions of the Future

It is evident from the results of this data that many of the children feel a sense of dismay at the problems we are encountering with our treatment of the natural world; their descriptions of the future were both intriguing and disturbing. Out of a total of 39 descriptions of the future natural world, 26 described it as dead or drastically altered. In other words, 67% of the stories have bleak outlooks on the future of the natural world. The sheer number of descriptions and the consistency of the descriptions which mention the demise of nature is staggering, considering the total number of descriptions and the number of children who mention it. Somehow nature shifts into a wholly passive role in the future according to many of these children. Interestingly, some of the children whose stories had protagonists that significantly changed the natural world told the most bleak stories about the future.

Overall, four main themes emerged in reference to the future of the natural world: Nature as the same; nature as dead or terribly polluted; nature replaced by houses, buildings, offices, or factories; and the role of people in relation to the natural world of the future. There were two ways that the children described the influence of people: One way involved nature being worse as a result of their presence and better because they are absent, and nature surviving explicitly due to the presence of people.

Surprisingly, there were no significant gender differences in any of the descriptions. I suspected there would be considering the differences that emerged in the stories about the present natural world. Instead, there were many similarities between the girls and boys descriptions about the future and the place of people in the degradation and/or repair of the problems they described.

There were only a handful of children who felt either neutral or optimistic about the future. I will discuss their descriptions first.

Nature as the Same

There were 10 descriptions that depict nature as unchanging or even improving. These were told by two girls and two boys, so only 31% of the children interviewed had a hopeful outlook on the future. These descriptions are simple and straightforward for the most part, offering a view that the natural world of the future will continue evolving:

(There will be) more trees, maybe, and animals . . . (G5)

Um, it could be all mountains, and a lot of baby trees . . . (B1)

(It will look) very old. They will be the same, that will be the same picture . . . but they'd be kind of wrinkly. (B6).

(It will look) the same. (G4)

(It will look) probably just the same . . . maybe more plants. (G5)

(It will have) more flowers, more clouds . . . more trees, and animals. (G5)

Well, I think there will be, a lot of big trees are gone now, (but there will be a) lot of baby trees, and I guess the mountains, some of the mountains would be different, and there'll be more flowers than there used to be, and I guess there'll be more animals . . . (B1)

These children seem to recognize that nature regenerates itself; many of them mention there will be "more" of it. The boy who told the last description acknowledges that "a lot of the big trees are gone now," but he seems unconcerned about this and describes baby trees replacing them. It is unclear what inspired these children to describe the future differently from their peers; their sisters, cousin, or friend told bleak stories about the future, even though they shared the same environment.

Nature as Dead or Terribly Polluted

In contrast to the reports of nature as continuing unchanged, there were a total of 13 stories which described the future natural world as dead or terribly polluted. Seven of these narratives were told by girls, and six were told by boys. There is a certain feeling of despondency in these portrayals:

(It will be) maybe dead grass, and all just like, logs, all over the place, and stumps. (G1)

(It would be) dead . . . (all of it would be) dead . . . (it would look) dead. (B5)

Well, I think the ocean will still be there, but maybe it will be dirtier, and these plants won't be . . . as healthy or they might not be there at all . . . (G2)

. . . maybe those plants would be dry and maybe they wouldn't be there no more . . . (it would be) all dry, and stuff. (G4)

. . . I think it will be kind of all sand, since like there would be like a storm, and the waves might get . . . really big and go really high and wash all of the palm trees and land off. (B1)

(It would be) dirty, (and the plants would be) dead. (Everything would be dead and the ocean would be dirty). (B5)

Well, the mountains will still be there, but I think that . . . the flowers won't be there . . . and maybe there will be . . . like a marsh or something there, and it will be really ugly . . . (G2)

The, maybe the flowers would kinda almost everything, the flowers would be dead . . . and the grass would probably be down too. (G6)

Of course the flowers will be dead and new ones will bloom the same . . . the snow will go away . . . (and the mountains would be) hot . . . in a hundred years the snow will go away and it will be hot. (B5)

These comments all reflect the notion that nature succumbs to the deterioration that can occur with time. Some of the stories suggest that nature changes itself, such as B1's description of the beach becoming all sand due to a storm, and the other children's descriptions of everything being dry. There are two descriptions that indirectly imply human's presence; these are G2's and B5's mention of the ocean being dirtier. There is only one story that implies regeneration, and that is the last story in which teller briefly states "Of course the flowers will be dead and new ones will bloom just the same." He goes on, however, to describe rising temperatures overall, which implies he may have been exposed to conversations about global warming and the thinning ozone layer.

Nature as Replaced With Houses, Buildings, and Factories

The next cluster of descriptions which formed a theme regarding the future was that describing the natural world as replaced with houses, buildings, offices or factories. There were a total of 13 of these descriptions, six told by girls and seven told by boys. Out of these 13 stories, 7 of them were in reference to the redwood grove; these children all mentioned that the trees would either be gone or burned. There was anger expressed in some of these stories, and a matter-of-factness in others. Here are some examples of their descriptions:

Probably everything will be cut down, and it will be really bare, and ugly, and, I don't want that to happen, but I think it probably will because there's so many loggers and stuff, so, they're gonna hurt the trees, a lot . . . then the elves wouldn't be able to live there . . . Probably there'll be . . . buildings and offices there, and they're gonna have like smoke and stuff coming out of them, and ruining the rest of the world. (G2)

Well, maybe they would, you know how there's a lots of people cutting down trees? I think that some of these trees would be cut down and made for houses and maybe they would plant new trees in it, but I don't really know. (G3)

(It would look) old . . . it might look like, some trees might be cut down . . . to make houses, or cabins. (G6)

(It would look) very old . . . some trees (would be) cut down, and some trees (would) have burns on 'um . . . (from) fire . . . (from) people camping. (G7)

Probably it'll all be houses and stuff . . . they (the trees) would be gone. (B2)

Maybe some kind of construction (would be there) . . . with houses, or torn-down trees. (B3)

Probably a lot of the trees would either be bigger, or not there at all . . . (because) they would get cut down . . . (B4)

I bet it would change a lot, I bet people would probably come there, and make houses, and subdivisions and stuff. I don't think it'd probably stay like that. (G3)

Maybe, like some houses instead of plants because, I mean, people would like to live near the ocean and, in the future there would probably be, there would be more people in the world because they keep on growing. (B3)

It'd probably have, like all the other pictures, probably subdivisions . . . (G3)

Well, like the other two pictures a lot of things would've been dead and grown back . . . I don't know, maybe someone might've built, someone might build a house here . . . if they build like more factories places . . . then this might get kind of polluted so that it might not be as pretty as it is in this picture . . . (B4)

These stories are also rather bleak, describing the clearing away of the trees to make way for human homes, and G7's description mentions the harm through a fire that people can cause through carelessness. In each of these stories, humans are the cause of the harm. These children do not seem to feel that building houses and factories makes things better, but only worse, as in the last boy's comment, "if they like build more factories places . . . then this might get kind of polluted so that it might not be as pretty as it is in this picture." The general feeling in these descriptions is that the demise of nature is inevitable. This same feeling permeates the next set of descriptions as well.

Negative Role of People in the Future Natural World

Several of the descriptions already mentioned suggested or stated that humans were the direct cause of harm to the natural world, but this next set of descriptions explicitly states that the future natural world will be worse with the presence of humans and better without them. There were a total of seven descriptions with this emphasis, with four of them told by girls, and three of them told by boys:

Well, the mountains will still be there, but I think that . . . the flowers won't be there . . . and maybe there will be . . . like a marsh or something there, and it will be really ugly. I keep thinking all of them will be ugly . . . I have negative thoughts about the future . . . because people are like, destroying nature now, and they aren't really thinking about much, I mean . . . it's different to talk about it and to do what you're saying, like some people might say, 'Oh I think it's really great ya know that some people are preserving nature I'm gonna help, ' and they never do, they just talk about it. But, I kind of talk about it but I'm not really old enough to do much about it yet. (G2)

Probably some of this stuff would be like broken . . . because maybe some people have been pulling plants out at the beach . . . some people I see that they've like,

they get one of these long things (seaweed) and then they start playing sword fights with them. (G6)

Probably a lot of the plants would die and new ones would've grown . . . and the island, well, if that is not inhabited, then it probably, in a hundred years probably it would be inhabited . . . (B4)

(It would not look) that good . . . I think all this grass would be gone, and all these mountains would be very ugly . . . because people pollute, and they would rip out all this grass, and they would make all these towns. (B2)

Probably that picture would . . . maybe be a mountain because the mountains are made of, some of the hills are . . . made of like garbage, under them and they put thick layers of dirt, so, it might be a hill in the future. (Garbage would be) in a hill, because they put garbage and then they put dirt over it and then they put grass on it. (B3)

The first story is particularly poignant because the girl feels so clearly pessimistic about the future. She sees the adults around her as hypocrites in that they say one thing but do not follow through, leaving her feeling helpless and powerless because she is "not really old enough to do much about it yet." This same girl described nature as a companion for her protagonist who would walk along the beach to find solace, and would be comforted by the rhythm of the waves.

The girl telling the second story states she has witnessed people being harmful to the plants at the beach, and so she assumes they will harm the beach in the future as well, by breaking some of the plants there. The third description shows the narrator's awareness that the earth's population is growing steadily, and that this will inevitably have an impact on the future natural wild places that presently do not have people. She acknowledges that the increase in the numbers of people in the world may be a concern in and of itself.

The next description characterizes people as harmful agents to the natural world. Ironically, it is told by a boy who consistently described himself and his protagonists as treating the natural world objectively and using it as a resource. When discussing the future he seemed bothered by the ugliness he thought would replace the beauty in the

picture, and earlier he had described himself or his protagonists as doing the very things which would cause nature's demise.

The narrator of the last description not only describes nature as being altered, but as being substituted with garbage, which is hidden inside a pretty facade. He states that "some mountains are made of . . . garbage under them," showing that he has been exposed to landfills.

Some of the other children saw the potential of humans to improve the state of the natural world, and their descriptions are presented in the next section.

Positive Role of People in the Future Natural World

Some of the children described human intervention as the key element in the survival of nature. There were seven such descriptions, with five of them told by three girls and two of them told by two boys. The theme of caring emerges in this set of descriptions, with the children emphasizing the pivotal role humans have in the health of the future natural world. Some of these descriptions overlap with other themes already discussed, because the children would switch the focus of their description midway, stating, for example, that the pictured area may be completely degraded, unless humans intervene. This suggests that these children see nature's future as hanging in the balance, going either in a positive direction or a negative direction, depending on the presence and actions of people.

There were three subthemes included in this larger theme. I grouped these together, and also grouped together the descriptions which were told by the same individual to highlight the similarity of their views and wording. The first subtheme entails what would happen to nature if people do not act on its behalf:

Maybe the water would be worse if people don't help, like it might be dirty, and, if people don't help the plants might not be there. (G1)

Maybe some of the flowers, some of them would be different flowers and if people don't take care of them they might just be dead, and if people do take care of them, there might be really lots more flowers back there and lots of flowers up on the mountain, and lots of trees. (G1)

They (the plants) would die, probably because no one would take care of them. (G7)

Well the flowers would probably be dead, and some of them will (be wilted) . . . because probably no one took care of them. (G7)

These narratives assume that inaction on people's part contributes to or causes nature's deterioration, and these two girls claim that nature's state worsens if people do not intervene. In the second description by the first girl, nature's state actually improves beyond its present plight as a result of people paying attention and taking care. She states in no uncertain terms, "if people don't take care of them they might just be dead, and if people do take care of them there might be really lots more flowers . . . and lots of trees." Thus, people's passivity is harmful, and people's active caretaking is rejuvenating.

The next subtheme specifies that the improvement of the natural world is contingent upon people's positive intervention:

(The trees would not be chopped down) because probably it says 'No chopping trees down' . . . (the sign would be put up by) the rangers, if there are any rangers, who take care of that forest. (G7)

Well, I think the ocean will still be there, but maybe it will be dirtier, and these plants won't be . . . as healthy or they might not be there at all, and maybe . . . it will be like off-limits and people will be trying to conserve it and preserve it, so they wouldn't have people you know, destroy it, come and dump stuff on it. (G2)

All the water would be like, polluted, or something . . . or it would look better and they'd have all these machines and stuff . . . machines that would pull out weeds and clean the beach up . . . like a big broom or something, to just sweep away all the seaweed. (B2)

In the first two portrayals, people take an active role in protecting the natural world, but, ironically, they are protecting it from other people who might harm it. In

the last description the narrator presents technology as the answer for improving nature's state. He starts out by saying the water would be polluted, but when he describes the clean-up process, he describes these machines as cleaning nature itself up, by pulling out weeds and sweeping away all the seaweed. He seems to believe that nature itself is in need of improvement.

The next subtheme describes nature improving if people stop doing what they are doing to harm it.

If they don't cut down the trees the trees would probably be . . . very big and strong . . . (G3)

Well, like the other two pictures a lot of things would've been dead and grown back . . . or if they stop polluting as much it might . . . look even prettier, like have a lot of trees everywhere and stuff. (B4)

These descriptions suggest that if people simply stop their harmful practices, then nature of its own accord will improve and heal. As a whole, these descriptions suggest that people have a big influence on the state of the natural world in the future.

Overall, only a handful of the children saw nature as evolving and regenerating into the future. The other children depict the future natural world as vulnerable, either to the effects of time and aging, or to the harmful effects of people. These harmful effects included simply the presence of people and their concomitant needs, or their directly harmful actions. The children who reported the demise of nature described it as being scarred by logging, construction, careless fires, pollution, or as replaced by buildings. Several children seemed to believe that if humans were "not there" in the natural world, it would be better off with "lots more flowers and trees." Conversely, there were some children who saw people as agents of assistance to nature, protecting it, conserving it, and helping it. This assistance came in the form of either doing something on nature's behalf, or stopping harmful activity so nature could heal itself. Even though many children expressed a sense of anxiety and despair about the future, others

recognized nature's regeneration and healing abilities, thereby showing signs of optimism in the face of others' dismay.

CHAPTER FOUR

Conclusions, Implications, and Suggestions for Future Research

Conclusions and Implications

Throughout the last chapter I addressed each of my research questions, starting with the first one which inquired about the themes that would emerge in the children's stories about the natural world. The three main themes which emerged revealed different roles that nature played according to different narrators.

Implication of the Themes

Nature as Companion

The first theme was that of companion, and portrayed nature as a partner or comrade. In the stories with this theme there was often the sense that nature was a refuge, a resting place, and/or a restorative place. The narrators of these stories described themselves or their protagonists as having a sense of discovery and wonder, and felt at ease or had a sense of heightened awareness while they were in the natural world. They use words like, "love," "explore," "discover," "look around," and "wanted to go." These terms are also used when someone is referring to a friend or partner. When someone feels close to another, she or he is curious about them, wants to "discover" them, and "loves" them. There is a sense of familiarity, openness, and wonder. Someone enamored with another wants to take refuge in them, to rest in them, to turn to them for solace.

One of the girls described herself as contentedly alone in each of the scenes, resting there in a sense of peacefulness. She expressed appreciation of nature by saying, "I love nature and I like having something there to remind me of the place," and "I kind of

like being alone in nature." Just being there is enough for her, just as being with one we love is enough for us. This sense of connection she has with the natural world echoes the sense of connection that Gilligan and her colleagues (1982, 1988) describe girls as having with others in general. This girl also displays a curiosity in her stories, saying she would "explore," "do research," "look around and discover new things." She is "smitten" with nature, enjoying recreating the beauty around her through drawing pictures of the flowers, animals, and trees, and by writing something "about the wilderness." She makes no mention of any plans to impose herself on what she sees, but rather would like to create maps and drawings so she can be reminded of the place and have a way to return to it to watch it change. Again, this is reminiscent of a friend or companion who desires to go through time with their beloved and watch her or him grow and change. There is the feeling of wanting to adapt to nature and accept it on its own terms, as a good friend does with one she or he cares for.

Another girl narrated a story about what she would do if she was there among the redwoods. She also expressed curiosity and engagement with the natural world on its own terms, describing her desire to climb a tree and look around. She related a feeling of ease and relaxation within the natural world, with no need to change anything about it, and this resembles the way an individual interacts with a cherished other, being with them, observing them, and looking at them.

A third girl described her protagonist's feelings of being soothed or comforted by nature: "It looks like a place where someone might just go to be alone . . . and kind of just walk along the beach if she was like . . . really sad or something. Then she would just look at the waves and hear them and kind of, you know, the same rhythm . . . and it's very soothing there . . ." There is a feeling of calm in this story, and nature is again accepted, and even embraced, on its own terms; it gives her comfort, and solace.

The boy who told the two stories that suggested nature as a companion also talked about it in familiar and comfortable terms, stating, "when I've been in the woods before . . . what I like to do is just relax and just think about what I like;" his stories also reflect a sense of ease, relaxation, and rejuvenation with the company of nature. This sense of familiarity can foster feelings of affiliation, leading to feelings of intimacy and camaraderie.

In all these stories the kids are alone, yet describe themselves or their protagonists as feeling secure. When one feels secure or comfortable with their surroundings they are less likely to feel the need to control them. Fear can breed the desire to control, and this has direct negative implications for the natural world if one fears it. There is also a greater sense of loss if one experiences nature as a treasured companion and it is harmed or dramatically changed in some way; when one feels a sense of connection with the natural world recognizing its demise is that much more painful, and one may be more inspired to act on its behalf.

Nature as Agent of Harm, Danger, or Disruption

In the stories which had this theme there was a pervasive sense of unease and anxiety. One of the narrators explicitly states that if he were in the scene of the redwoods he would be scared. Instead of seeing a playground or resting place, he sees a place of danger and absence: "there's a whole lot of trees and it looks like somebody could get lost in them," and "there's nobody around." In addition to these feelings of anxiety and aloneness, he presumably has a destination in mind. Unlike the narrators of the stories that depicted nature as a companion and an end in itself, this narrator states, "it's hard to find where you're going." The trees become an obstacle to some other place, and impede progress. In other words, nature actually gets in his way. This echoes the perceptions of the Redwood City, California, City Council that elected to have several

redwood trees cut down because they were impeding clear views of businesses on a main street. Perceiving nature as "in the way" can lead to its elimination.

In another story with this theme, the narrator also explicitly states that he would be scared in a setting like the one pictured, because of the possibility of harm from bears. Rather than interest or curiosity, and rather than assuming there would be others there to protect him, he projects danger and isolation into the scene. Nature becomes threatening rather than benign. This is similar to findings described by Gilligan and her colleague Pollak (1982) who did a study about male and female responses to pictures of people in various situations. They observed that a disproportionate number of men projected danger and violence into a seemingly tranquil scene of a couple sitting on a bench by a river next to a low bridge. In response to this picture more than 21 percent of the 88 men in the study wrote stories containing incidents of violence and danger. In contrast, none of the 50 women projected any kind of violence or danger into this scene. This also reflects issues brought up by Chodorow (1974; 1978), who noticed that boys are generally raised to experience themselves and the world as separate, and for these little boys this is frightening; they feel alone and vulnerable. They project danger into a scene that girls find tranquil.

There were two stories that described nature as menacing: the one which echoed the theme in "Little Red Riding Hood," where a "wild animal" is attempting to harm a vulnerable human, and the African father and son who are caught in a storm. Again, there is the theme of danger in the natural world, and the described need to protect or take care of oneself in the face of its challenges. This means that if one feels threatened by nature, she or he may feel justified in taking action to protect oneself, such as killing a potential predator, or removing an unpleasant stimulus or unwanted natural element such as the redwood trees in Redwood City, California.

Some of the girls told stories which implied nature was an agent of disruption, but only one of their stories depicted nature as actively harmful. This was the story where the boy was wounded by waves, but he was assisted by lifeguards so there was the sense of care in the midst of the harm. The protagonist in this story also initially approached nature with a sense of openness and curiosity, similar to the protagonists who approached nature as a companion. He did not approach the ocean with a sense of trepidation or dread, and when he was unexpectedly wounded others were immediately available to help. This is also the case in the story where a girl tripped over a rock and hurt her knee, but others were there to help her and "put a washcloth on it." In the story about the father and son who were out getting supplies and were caught in a storm at sea, they may have been side-tracked but they were not harmed, and the island they found provided food for them in the form of coconuts.

In the story about the girl who wanted to explore the sea there were two views of nature by the two characters involved. The girl appeared to perceive nature as a companion in that she showed no fear and wanted to explore it, but her father saw it as a potentially harmful agent. He feared it will be "too cold" for her, and that she might drown in it. This never occurs to the little girl. In all 21 of the stories told by girls, none of them depicted nature as an entity to fear.

It is interesting to note that in both the boys' and girls' stories, all but one of the characters that are harmed actively by nature are male characters. The one exception is the story of Little Red Riding Hood which was recounted by one of the boys, and it was a rendition of a familiar tale already told by someone else. In one of the girl's stories the protagonist starts out as a girl, and the narrator changes it to a boy right before he gets hurt:

Once upon a time there were three people, a dad, a mom, and a child who used to ride their horses down there (to the beach). And then one day the kid went down

there by theirself [sic] because she want, he wanted to see what it. . . looked like, and go and . . . step in the water, and he did and he got hurt . . . (G7)

In the story about the girl tripping over the rock, nature is not an active agent which harms her, but rather is a passive object; the girl hurts herself presumably because she does not see the rock, rather than because the rock does something. In the story with the girl and her father, it is the father, not the girl who fears she may be hurt. It is notable that girls and boys portray mostly boys as harmed by nature, or as worried about being harmed by nature. It is also notable that 73% of the stories told about nature being a dangerous or harmful agent are told by boys. It seems both boys and girls perceive nature as being more malevolent to boys, and the boys see nature as more malevolent in general. This perception can, again, lead to justification to reign in and control nature and keep it tightly scrutinized, or worse, to attempt to eradicate it for one's own sense of protection.

Nature as Resource

In these stories nature was described as something used for human ends, but there was a difference in the way each gender described it being used. One boy described nature being used for pleasure via a resort-like setting on the beach, (i. e., "that looks like the beach . . . and there'd be all these homes up here, there'd be like a motel, and people would come down in the day and surf and boogie board . . . ") The girls described a sense of affiliation between their protagonists and the natural world (i. e., "the elves would eat the moss on the trees, and they would never become extinct because there's so much moss, and they're very friendly and they don't hurt anyone.") The quality of the protagonists' characters matters to the narrator of this last story, as she makes it clear that they are kind and gentle beings, who use aspects of nature for food without changing the forest's basic characteristics. For some of the boys who described nature as a

resource, nature is a means to an end; for some of the girls, it is an integral part of their protagonists' lives. The first perspective leads to treating nature as a commodity which justifies its use and manipulation for profit, and the latter perspective leads to a consideration of one's actions as they affect the very source of one's survival.

Implication of the Categories of Connection and Separation and Their Correlation With Girls and Boys

My second and third research questions asked about the presence of the categories of connection and separation in the children's discourse, and whether or not these correlated with the children's genders. It was fairly evident from the analyses of the children's discourse that there was a pattern that closely resembled gendered patterns of separation and connection as established by previous researchers. Much of the children's discourse resembled and was consistent with Gilligan's (1982; 1988), Chodorow's (1974; 1978) Noddings' (1984), and other researchers' findings that girls have a tendency toward intimacy with others and the world around them, and boys have a tendency toward autonomy, separation, and distance from the world around them. Most of the girls described feeling a sense of connection and relationship with nature, and demonstrated a sense of respect and inclusion of those who were with them while in nature. Most of the boys, on the other hand, generally assumed a position of autonomy and separation from nature, and expressed tendencies toward self-reliance and self-sufficiency.

One of the most unexpected findings in the children's stories was the difference in the overall comfort level each gender seemed to experience while in the natural world. Even though I suspected the girls might feel more connected with nature and the boys might be more objective, I was surprised by how safe and trusting many of the girls described themselves feeling within nature, and how anxious and alone many of the boys

felt or assumed they would be while in nature. For many of the boys, their presumed aloneness in nature evoked feelings of anxiety, fear, and apprehension. In contrast to the boys, some of the girls described finding solace while alone in nature: One girl explained that for the protagonist in her story the beach "might be her special place . . . no one else is there when she goes – she just goes there to be alone," and another girl stated, "I kind of like being alone in nature," and she goes there for creative inspiration to draw, write, and explore. These and other girls automatically assumed nature is an embodiment of something they can connect with and be comforted by. For some of the boys, it was an entity to fear and seek refuge from.

These two perspectives reflect the descriptions of patriarchy and ecofeminism discussed in the opening chapter: A feminine perspective can lead to feelings of kinship and relationship, and a masculine perspective can lead to the need to control. Many of the boys' narratives did not describe nature per se, but described what they would do or imagined being done to nature (e. g., the building of forts, boats, and homes). Obviously, not all communication about or behavior towards the natural is demarcated along gender lines, but there appeared to be tendencies within these stories that fell into the described male and female socialization patterns. One of these patterns, as previously mentioned, is the tendency for males to think and communicate more categorically about the world. One of the boys related a rather stereotypical view of males and females, describing them in different and somewhat inflexible roles. He described the men as being carpenters and doctors, and the women as seamstresses and food producers. Generally, when we view any aspect of stereotypical behavior, we usually deal with it on an automatic level. The structure of interactions between the players is predetermined and unquestioned. If males and females are described as limited to specific ways of being and acting in the world, then perforce masculine and feminine qualities are also predetermined. This means that the status quo continues, and what this implies for the natural world is that if

it is conceptualized as feminine, and males dominate females, then the present state of humanity's domination of the natural world continues. Rigidly defined roles for femininity and masculinity allow little room for innovative ways of being in the world, and innovation is what is needed for creative problem-solving many of our present environmental problems.

Many of the boys did describe themselves and the world as separate and distinct from one another, and this is important to note because as boys communicate they may "create" a world of separation and individualism with their discourse. Consequently, as they become mature actors in our society, this worldview will likely influence and shape their communication and their decisions regarding environmental issues. This tendency is aptly illustrated by Rauber (1996, January/February), who describes some of the conflict that is brewing over the Endangered Species Act. He describes the argument of a coalition of Oregon timber interests known as the Sweet Home Chapter of Communities, who claimed before the U. S. Supreme Court that Endangered Species Act prohibitions on the "take" of endangered creatures did not apply to the destruction of their habitat. In their argument that various species' homes are dispensable, one of their attorneys, John Macleod, said, "when we think of 'thou shalt not kill,' we think of that as 'thou shalt not murder.' We don't think of applying it to accidental death" (p. 32). Obviously Macleod is looking at this problem in a disassociated manner, arguing that it is "accidental death" when species die as a result of losing their habitats. He is using laws prescribed for one area and superimposing them on another area without considering the changes in context, or considering the connection between species and their habitats.

The girls in this study generally described themselves and the world as intimately connected. This in turn will likely influence their future decisions and communication about the world around them, specifically the natural world. A view which assumes connection and relatedness leads to a more comprehensive analysis of

problems, and considers the multiple variables influencing the situation at hand. A person with a more feminine perspective would likely frame the above argument quite differently. For example, she or he would look at the concrete situation itself, and would not apply rules from another arena to this arena, and would likely see the inherent relationship between a species' survival and its surrounding habitat. But females are not in many positions of political influence at this time, and because their voices and their viewpoint are not generally taken into account in mainstream culture, the feminine perspective is less influential in the broader conversation regarding environmental issues.

Evidence is pointing to our need to consider the whole context and the whole picture of the problems we are encountering in our interactions with the natural world. Harvard University biologist E. O. Wilson estimates that, worldwide, more than 50,000 species are dying out each year, and that 10 percent of all species now alive will be extinct within 25 years (Rauber, 1996, January/February). Rauber states "with each extinction, an evolutionary path billions of years old comes to an abrupt dead end . . . and the future becomes a poorer, shrunken place" (pp. 28, 31). The assumption that this is the world's plight can be shifted by listening to and changing the stories that we are telling about the future of the natural world. According to Plant (1990), "the subjugation of women and nature is a social construction, not a biologically determined fact, (so women and nature's) position of inferiority can be changed" (p.157). This view, that women and nature's status can be changed, is supported by Pearce (1989) who asserts that events and objects, and presumably people

do not come 'prepackaged' with their own interpretation, and they are not incorporated into the human world until they are interpreted. Further, interpretation is an act by an interpreter, not an attribute of the event or object (or person) interpreted; as a result, there is no criterion by which one interpretation can be shown to be the 'correct' one. (p. 84)

It is important for scholars, teachers, and researchers to know that alternative worldviews are available. This means that academic efforts can be directed at developing communication, concepts, and stories which depict nature in a way that illuminates its viability. Stories begin with one's imagination, and Rieber & Carton (1987) claim that a child's imagination is linked in an essential way with the child's speech. A child's speech and communication, in turn, are developed through the social interaction and communication with those around her or him, as described by Vygotsky (1962). In addition to this, Bakan (1966) states that "the major device which the healer uses is communication" (p. 99) which is the heart of our field.

Implications of Descriptions of the Future

My last research question addressed how children perceive the future natural world. Many of the children clearly felt pessimistic about the future, whereas others saw people, possibly even themselves, as key elements in the future health of the natural world. There were no discernible gender differences in the children's overall themes about the future natural world, but there was a subtle gender difference in how some of the children described their protagonist's actions, their actions, and the actions of people in the future natural world. One of the girls described herself as exploring the beach or "island" and exploring the mountain meadow with her classmates on a fieldtrip, taking notes and learning all she could. In regards to the future of the beach scene she stated, "maybe the water would be worse if people don't help, like it might be dirty, and, if people don't help the plants might not be there." She believes that nature needs people to help. She seems to recognize the connection between people's actions and nature's health. There is a consistency between her stories of others and her own interest in nature, and the need for people to be actively interested in the health of nature in the future. This is in contrast to the descriptions given by one of the boys.

When looking at the scene of the mountain meadow, he told a story about elves cutting down the trees to make homes and furniture. When I asked him what he would do if he were there, he said without skipping a beat, "probably make a home . . . cut down trees . . . and make chairs and tables . . ." When discussing the future he seemed bothered by the ugliness he thought would replace the beauty in the picture, stating, "(It would not look) that good . . . I think all this grass would be gone, and all these mountains would be very ugly . . . because people pollute, and they would rip out all this grass, and they would make all these towns." He unconsciously described himself as doing the very things which would cause nature to become what he did not want it to be. It seems that if we perceive an aspect of the future to be inevitable, we may unknowingly become an agent in making it a reality.

This possibility is further suggested by the study done by Mallinson, Kielhofner, and Mattingly (1996, May) who examined the narratives shared by certain individuals about their own lives. Follow-up studies by these researchers revealed that the themes and ideas these individuals presented in their narratives came to pass for them in later years; the outcomes that they described in their accounts became the reality that they exhibited in their futures. This suggests that we should at least listen to the stories children and others tell us. Although they are certainly not predictors of certain behavior, they seem to indicate tendencies of future decisions and actions. In a study Gilligan (1988) conducted on the moral development of teenagers, she noticed that "while girls were apt to talk about staying with a problem in relationships and with the people involved, boys were more likely to talk about leaving " (p. xxxvi). If this tendency reveals itself in masculine and feminine approaches to dealing with the problems of the natural world, than we as scholars, teachers, and concerned citizens would be wise to pay attention to them and encourage more balanced perspectives in our responses to environmental problems.

Influence of Past Experiences

I mentioned in chapter three that I had asked each child what her or his favorite picture was as a way to help them summarize their thoughts. Most of the children chose the beach as their favorite place (three girls and four boys), and each one who chose it made mention of being there before. It did seem that prior experience influenced the children's perceptions and communication about the scene they were describing, and those with prior experience generally discussed nature as a comfortable place to be. This speaks to the power of familiarity, and the feeling of security and freedom that can come with positive associations. When the children saw the beach scene they often smiled, and stated, "I've been there before," demonstrating that their previous experiences have been positive ones. There were other stories the children told about experiences they enjoyed while in places similar to the one pictured. Here are some examples:

I've been to this . . . redwood place and it has redwood trees from a really really really long time ago . . . and maybe this would . . . become a national park and they would show people around, (and) have stories for them, because when I went to that redwood national park thing . . . it had like stories from them . . . it had names, like there's this little patch of trees, and there's one really big tree in the middle, and it was the mother, and her kids. (G3)

That's beautiful . . . I saw one of those flowers before . . . I've been in snow. (G6)

Me and my mom, we went camping at sunset beach . . . (G5)

I've been in woods before an' what I like to do is just relax and just think about what I like . . . (B4)

The triplet's positive stories about going to the beach revealed how the experience was shared by each of them. The similarities which surfaced in their separate narratives were remarkably parallel:

G6: I went to my grandma's house, we went camping . . . we went to the beach and we played in the water . . . and we found some crabs, those sand crabs . . . and we went under the waves as they were coming up, and it was fun.

G7: . . . I once went to my grandma's; they . . . drove us to a beach where we were gonna camp . . . and then we always went down to the beach and put our feet in . . .

B6: One time I went to the beach . . . we tried to go out far where you couldn't stand . . . you could only stand on tippy toes . . . and then the waves would come washing up and we (would) jump up and it would hit us and make us go underwater. . . we were like at a camp, camping . . .

All of their stories include the presence of others, and all of them had a positive sense about the beach. Their mother is a co-worker of mine, and she told me they had just taken a family trip to visit their grandmother. The similarity of their stories demonstrates that our experiences can and do reflect themselves in our perceptions and subsequent communication about places which remind us of something we have experienced in the past. Familiarity breeds comfort, and unfamiliarity can breed fear. Bringing children to natural places where they have the security of familiar adults can facilitate their sense of ease in the natural world. If we associate happiness, camaraderie, and rejuvenation with natural places, then perhaps as adults we will be less likely to support practices which develop, degrade, and destroy the natural world. As John Muir said, "We will only preserve that which we love." Offering children chances to know nature on its own terms can help them in forming positive images about it. Tannen (1989) discusses the proposal that falling in love is always a matter of particularity; it stems from sharp perception and appreciation of the beloved's specificity, of associations with particular places and times that "produces a sacred geography of the world" (p. 91). Identifying particular positive experiences within the natural world, and communicating about nature as if it were a revered entity, could increase children's, or anyone's, sense of its uniqueness and sacredness. These same individuals are then less likely to hurt that which they feel is special and meaningful.

The stories that the children told about places they had been to had a sense of lightness and joy about them. Noddings (1984) points out that an important difference

between an ethic of caring and an ethic based on principles is its foundation in relation. The philosopher who begins with the assumption that aloneness and emptiness are at the heart of existence identifies anguish as the basic human affect. But an ethic rooted in relation identifies joy as the basic human affect. Joy accompanies genuine caring, and it seems to accompany feelings of connection and genuine sharing as well.

Broadening Our Worldviews and Communication About the Natural World

As Vygotsky (1962) and other researchers pointed out, communication is a primary form of socialization, and because girls and boys are communicated with differently from a very early age, they develop different worldviews which seem to affect their perceptions and communication about nature. It is possible, however, to comprehend and grasp a new worldview. Discovering a new perspective on a problem or situation is discussed by Kuhn (1970) in his description of paradigm shifts. His work can be used as an analogy to the present discussion about recognizing and embracing new worldviews.

Kuhn (1970) states that when scientific theories are relatively accepted among the majority of a scientific community, there is a collective blindness to anomalies which may occur. This seems similar to be the period we are presently encountering in our attempts to deal with environmental crises; the solutions being offered are often simple and deny problems which are persisting in the face of attempted solutions. According to Kuhn, only when crises become unwieldy do they receive special attention. Like the presence of a termite in the bark of a tree which seems insignificant initially, problems receive critical focus when the tree begins to show signs of decay; at this point any possible solutions are considered, and this is why crises can be useful: they justify considering alternative viewpoints if the present problem cannot be ignored or postponed for later investigation. This is analogous to the receptivity some scholars

have to the ideas and perspectives of ecofeminism, which is an alternative viewpoint to the present assumptions of patriarchy we are now operating under.

When the decay of a paradigm becomes painfully obvious to several members of a community, debates ensue regarding which paradigm is superior in solving the identified problems. This ushers in the period Kuhn (1970) terms "revolutionary science", where all that is familiar is questioned and reformulated. Proponents of different paradigms use criteria from their own models to justify their own world view. This is where the significance of persuasion enters in, as it is essentially the more convincing argument or presentation which ultimately determines which paradigm will be adopted.

This concept of revolutionary science is analogous to the relatively new emergence of ecofeminism, and even the daily influence of feminism itself. For normal science, anomalies are very threatening; likewise, anomalies in patriarchy are also very threatening, and have emerged gradually. The question to be asked now is: How do we communicate across different paradigms? Pearce (1989) discusses the notion of Cosmopolitan Communication, where differing perspectives are discussed at length with the goal not being to persuade one side to the other, but to expand each side's understanding of the other. This is where our true work lies, in developing models of communication where divergent viewpoints can be expressed and a forum can be established that allows for their expression. Both masculine and feminine perspectives need to be acknowledged and considered in their full implications.

Summary

It seems the place we need to focus on is integrating masculine and feminine perspectives. We clearly need a sense of caring in our interactions and decisions, but Chodorow (1978) points out that we also need a sense of ourselves as separate. When we feel ourselves as separate we are able to influence the environment, and we need to

develop capacities that enable us to influence and not just react to the world around us. The importance of this is reflected in some of the boys' descriptions of their protagonist's self-sufficiency. Many boys described their protagonists as distraught over being separated from significant others, and the narrators describe them as making a concerted effort to return to their loved ones through their self-sufficiency and resourcefulness. Connections with these significant others were important to these boys' characters, even though their way of expressing it or achieving it was different from the girls'. The practice of autonomy and industriousness on the part of husbands and sons returning to loved ones was useful; the father and son caught in the storm returned for the rest of their family and made a new home, in contrast to the father and son in the girl's story, who just stayed on the island. If this latter boy and his father had family and/or other important connections back at home, then their lack of initiative in getting back seems ignorant at best and irresponsible at worst. Although the assumption of separation and its subsequent drive toward independence has caused an imbalance in many areas of our culture, it is not always negative; sometimes initiative and action are necessary to alleviate the problems we encounter.

Cooperation and mutual respect of both masculine and feminine perspectives seems the optimal route to take on our journey towards more well-rounded communication, more efficient problem-solving, and a healthier planet. Lloyd (1987) observed that children in girl/ boy pairs demonstrated more prosocial behavior than when they were in same gender pairs, and Haste (1987) discussed the observation that children working in pairs and groups toward the solution of logical problems produced more adequate solutions than when they were working alone. Both of these findings point to the value of cooperation and collaboration. Maybe as males and females come together we can learn to cooperate, collaborate, and compromise, as these children did in the following conversation about their respective roles:

B: Pretend we're pretend dwarfs and we're really robbers but you think we're dwarfs.

G Pretend you're a prince but you look like a dwarf and pretend you're not really a robber.

B: I don't want to be a prince.

G A dwarf?

B: Okay, a dwarf (Paley, 1984, p. 114).

Maybe we can all be dwarfs who live happily together in trees.

Suggestions For Future Research

Although there were subtle gender differences in some of the relationships between children's protagonists and their descriptions of the future, it is noticeable that there were no meaningful gender distinctions in the children's general descriptions of the future. The common denominator in most of their stories was a pervasive sense of dismay and perhaps fear, which appear to override any other considerations. Examining this particular element in a larger sampling of children might yield some insights on the particularities of this aspect of their discourse.

In the same vein of gender distinctions, Chodorow (1978) spoke at length about the influence of mothers on their daughters, and the influence of absent fathers on their sons. It would add to the findings here if a study could be completed that looked at the perspectives of boys raised with their fathers consistently present and available. It would be interesting to find out if their ideas of connection, separation, and of femininity in general were any different than the findings presented in this study. Of course, it would depend on the particular fathers and sons studied, but a sample of at least 12 to 15 father-son pairs could yield suggestive results in this area.

Another area of study that would be interesting to explore is how older females experience nature, to find out if they express feelings of camaraderie with nature like some of their younger counterparts. Several studies have shown that girls' confidence decreases when they are approximately 11 years of age (Eickmann, 1995). Goodnow (1995) interviewed a researcher who explored this issue, and concluded that "despite the women's movement, girls are more oppressed than ever – traumatized and disheartened by what (the researcher) terms the United States' 'girl-poisoning culture'" (p. 12D). She goes on to state "most of the stress that teenagers experience comes from the broader culture" (p. 12D). This points to the fact that we need to pay attention to messages being sent to girls regarding their value and the value of their perspectives. In a study conducted by the American Association of University Women, it was found that teachers call on girls less than they do on boys in the classroom. The report showed how schools routinely squelch girls' academic performance and self-esteem, "yet little attention has been given to dramatic changes in the average public school classroom since the study's release" (Eickmann, April 18, 1995, p. 1C). Girls' self-esteem continues to drop, they speak up far less often as they grow into adolescence, and as a result we are losing out on hearing the voices which might contribute significantly to helping us form an alternative perspective on problems with human's interaction with the natural world. Their perspective might assist us in establishing innovative approaches to environmental issues, so hearing their voices is not only important but may be essential. It would be interesting to find out if this drop in self-esteem affects their sense of themselves in the natural world and their communication about nature overall.

Since the Judeao-Christian ethic has imbued so much of our thinking, it might also be interesting to study children from different religious backgrounds, and investigate if their different spiritual orientations leads them to different perspectives

on the natural world. Studying the depiction of nature in the Bible, in the Koran, and in the Book of Mormon may reveal some interesting distinctions among them.

Yet another area that could further this research is the comparison of children's discourse who have attended classes with an environmental focus versus those who have not, or differences from before and after the class with the same children. It would be interesting to see how closely they reflect the communication that "scaffolds" their views of the natural world. There are presently many classes with an environmental focus in children's elementary and junior high schools, but the actual communication used to describe the natural world in these courses has never been studied. The changes that probably occur in children's subsequent communication after taking such courses has never been studied either, and could yield some useful insights about the worldview that is guiding the sequence of such courses. In a related area, there are many children who presently feel empowered and energized to act on nature's behalf (Viloria, 1996, July 15), and it would be interesting to investigate the kind of discourse about nature they have been exposed to.

A last suggested area of research is that of completing an ethnography of children's spontaneous discourse about the natural world in naturalistic settings, such as the playground, outdoor gymnasiums, or even at a children's summer camp. Noting what words kids use in reference to nature and in reference to each other may reveal if there is a connection between their views of others and their views of nature. It might also reveal the words or descriptions they have heard others use. This relates back to the kids who feel positive and empowered to advocate for nature's future. Listening to their discourse and comparing it to a control group of randomly selected children at a summer camp or other outdoor setting could yield insights into the kinds of discourse that inspire children's passionate response, and the kinds of discourse that inspire children's fear and a sense of futility. A sign outside the Palo Alto Unitarian Church

read: "Education is not about filling a bucket; it is about igniting a fire." It would be useful to know what kind of communication about the natural world lights a child's fire.

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Appendix A

	Girls	Boys
11	G2, G3	
10		B3, B4
Age 9	G1	B2
8	G5, G6, G7	B5, B6
7	G4	B1

G1 & G2 = Sisters

G3 & B1 = Sister/Brother

G4 & B2 = Best friends

G5 & B5 = Same aged cousins being raised together

B3 & B4 = Best friends

G6, G7, & B6 = Triplets