Framing a boundless horizon : a sense of place and the rural adult learner
by Edrienne Lucinda Kittredge

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University
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Abstract:
In a world of increasing linear specialization that is morphising with light speed ala Alan Toffler'S Future Shock, it has become increasingly important to understand how personal landscapes exert their pull and how that influence is connected to learning. Freire's views on the development of critical awareness and the use of slides to help the learner more objectively perceive the surrounding environment were used as an overlayment, along with art theories of perspective and space, to describe the process of learning in rural adult learners, who have developed a way of learning that works for them but which with alarming speed is threatened. The purposes of this study were to describe (a) how rural adult learners perceive their landscapes and (b) how their landscapes through distances and untrammeled space have been an active force in their learning.

Utilizing a descriptive design to collect qualitative data related to the learning patterns of rural Montana, 40 adults at 22 ranches in five of the least populous counties (less than one person per square mile) of Montana were interviewed on their land. The study examined how rural adult learners have developed a sense of place and how that has affected their way of learning in self-direction, the development of a more holistic view to learning, and of the formation of networks. The findings revealed learners who could best be described as the Responsive Learner, that individual who moves learning past reflection and into action through response. This individual is characterized by framing reality, being a contextual learner, seeing learning as problem solving, being a metaphorical thinker, and viewing reality in holistic systems.

Through this study, it can be concluded that amongst the individuals interviewed, rootedness (sense of place) plays a role in learning by providing a frame of reality; that learning involves systems thinking and a holistic approach, as opposed to a linear approach; that learning is an individual experience that grows out of, takes on meaning from, and is fed by one's context; that even in the most remote area, the individual learner is at the center of a web of different networks each of which supply the learner with information and support; and that these networks are not just in the present. Recommendations from this study center on self-analysis for the rural adult educator in the area of learner empowerment.

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Edrienne Lucinda Kittredge

This thesis has been read by each member of the graduate committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

William Kishpaugh — 4-17-97

~~Dr. Gary J. Conti~~
Chairperson, Graduate Committee — Date

Approved for the Major Department

Gloria A. Gregg — April 14 1997

Dr. Gloria Gregg
Head, Major Department — Date

Approved for the College of Graduate Studies

R L Brown — 4/27/97

Dr. Robert L. Brown
Graduate Dean — Date

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Date April 15, 1997

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To those who gave us seed to hold and sow
Debts past and present
Too many to name or know
Frank Adams

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ABSTRACT

In a world of increasing linear specialization that is morphising with light speed ala Alan Toffler's *Future Shock*, it has become increasingly important to understand how personal landscapes exert their pull and how that influence is connected to learning. Freire's views on the development of critical awareness and the use of slides to help the learner more objectively perceive the surrounding environment were used as an overlayment, along with art theories of perspective and space, to describe the process of learning in rural adult learners, who have developed a way of learning that works for them but which with alarming speed is threatened. The purposes of this study were to describe (a) how rural adult learners perceive their landscapes and (b) how their landscapes through distances and untrammeled space have been an active force in their learning.

Utilizing a descriptive design to collect qualitative data related to the learning patterns of rural Montana, 40 adults at 22 ranches in five of the least populous counties (less than one person per square mile) of Montana were interviewed on their land. The study examined how rural adult learners have developed a sense of place and how that has affected their way of learning in self-direction, the development of a more holistic view to learning, and of the formation of networks. The findings revealed learners who could best be described as the Responsive Learner, that individual who moves learning past reflection and into action through response. This individual is characterized by framing reality, being a contextual learner, seeing learning as problem solving, being a metaphorical thinker, and viewing reality in holistic systems.

Through this study, it can be concluded that amongst the individuals interviewed, rootedness (sense of place) plays a role in learning by providing a frame of reality; that learning involves systems thinking and a holistic approach, as opposed to a linear approach; that learning is an individual experience that grows out of, takes on meaning from, and is fed by one's context; that even in the most remote area, the individual learner is at the center of a web of different networks each of which supply the learner with information and support; and that these networks are not just in the present. Recommendations from this study center on self-analysis for the rural adult educator in the area of learner empowerment.

CHAPTER 1

FRAMING THE LEGACY

"We give our children guns and computer games," Wendy said. "They gave their children the land."
Bruce Chatwin, The Songlines

Influence of the Land

Shaping responses and reactions, the land pervades human existence. It brings out in human beings the best and the worst, standing amazingly tolerant of short-sighted mistakes. Perhaps most of all, as it exerts its ties that none can forget, it becomes in the process much more than an inanimate mass upon which human beings act out their plays.

Some may try to negate the bond by paving large expanses of land for suburban sprawl, by blasting huge four-lane highways through its interior, or by following farming practices that physically separate the farmer from the feel of the earth (Berry, 1977, p. 48). Others try to sever past ties to the earth by espousing a doctrine of futurism, of progress, and of never looking back. However, whether holding to the tenets of "progress" or bowing to the Existentialistic pressure to live only in the here and now, Americans still search for something which has not yet been completely identified.

If not looking to fill some void, why then do Americans build with increasing fervor 20-acre "ranchettes" along river banks? Why do the wealthy retire to the country and the impoverished middle class run away to it, trying to escape some vague sense of foreboding? Why do Indian artifacts carry increased marketability, serving as reminders of a people with closer ties to the earth? Why has "heritage tourism" become the politically correct buzz word in tourist promotion, and why has the popularity of the "country look" spread so widely in interior decoration? Why has "Carhart," once worn only by "hicks" and recently endorsed when worn by Paul Newman in the movie "Nobody s Fool," become the leisure clothing label of the moment for an urban upwardly mobile class?

Whether it be the result of such inventions as the automobile or the telephone or of the spread of interstate highways, the population has become increasingly rootless--more restless than the paleo-people labeled nomads. In a world marked by an ever-increasing proliferation of best-selling self-help books, such as The Road Less Travelled (Peck, 1978), individuals seem to be looking for a lost sense of self and a sense of place, becoming in the process an even more amorphous mass of Mr. Kurtz-like (Conrad, 1963) beings.

A type of societal angst seems to have filled the void created by the loss of place and self. Like those schizoid 19th century individuals called Victorians, many people

today stand at the turn of a century questioning who they are and where they are. It is almost as if the road maps used in the past have been destroyed, and the road ahead is taking a sharp bend. Few, if any, markers remain as guideposts. While in the past decades of this century this condition affected only those individuals in the transitional stages of their lives, it now seems to affect all--from Generation X, defined by MTV in 1995 as those individuals between ages 21 and 36, through the Baby Boomer. K. Ross Toole (1976) references this feeling when he says:

> What is involved is a loss of memory, a loss of continuity, a loss of roots, a loss of tradition, a loss of parenthood, a loss of experience, a loss of maturity, a loss of rudder--and a loss of direction. (p. 237)

Somewhere and somehow in the search for guideposts or markers, education seems to have been identified as a possible source for a solution to the dilemma at hand. However, turning to education not only places weightier expectations on it but also attaches many more complicated end products to the process. As a result, the experts and critics alike assert that the process must yield more and more measurable products, becoming more cost effective and efficient or in the jargon "lean and mean." This is a highly paradoxical goal for what is supposed to be a nurturing process. When looking at education, science, not art, is used to explore and explain learning, which is more of a holistic and artistic process that is at once both mythic and mystic.

Wendell Berry (1977), a confirmed believer that American culture is inextricably tied to agriculture, observes that although assailed and somewhat compromised over the last 100 years, those tied to the land have the greatest opportunity to retain their view of themselves, their world, and their place in that world (p. 21). If unaffected by urban agribusiness and agri-agencies, these rural people's ties to and their dependence on the earth provide them with challenges for learning and living that the urban dweller will never have had.

Montana and Its Space

Montana's rural population is a prime example of the type of group to which Berry is referring. Because of the geographic reality, Montana's people have been relatively untouched by large urban centers. As a land of 147,138 square miles, it is larger than many European countries. Montana's population in 1990 was about 800,000 people or one-half the population of metropolitan Seattle (Malone, Roeder, & Lang, 1991, p. 3).

Not only is the population sparse, but the land is demanding. A semi-arid high plains desert, Montana's soil is as fragile as its precipitation is low. With its topsoil less than one inch deep in places and its annual moisture sometimes less than 12 inches a year, it is a land that taxes its inhabitants and further tests them with

temperatures ranging 180 degrees from 110 degrees Fahrenheit to nearly 70 degrees below zero (p. 5).

Misunderstanding of the region has pervaded its white settlement history. As early as the explorations of the Lewis and Clark Corps of Discovery in the early 1800s, the value of the area has been debated. There were those who saw it as a promised land, an Eden to which Americans could return (Allen, 1975). Then there were those like Stephen H. Long, who labeled the area in 1820 as "The Great American Desert" (Toole, 1976, p. 23). Later, people like Walter Prescott Webb in 1931 would "explain that certain abiding characteristics of the plains made the area unique, and man either adapted to these characteristics or perished or left the plains alone" (p. 24).

Beginning with the Homestead Act of 1862 and into the first part of the 1900s, the federal government fed the misconceptions by basing its great land giveaway on the Midwestern concept that 160 acres of land made a viable farming unit which was capable of supporting a family (p. 25). The eventual result was the mass of human calamities in 1919 when nearly two million Montana acres went out of production; 11,000 farms (about 20% of the state's total) were abandoned, and half of Montana's farmers lost their land (Malone et al., 1991, p. 283). In the face of such trouble, historians like Toole (1976) maintain that:

> It is and always has been, man's misunderstanding of what the plains were, or were not, that has resulted in periodic tragedies. . . . Those who have and who do understand them [the plains] have

> adapted to them. It has never been the plains that adapted to man. (p. 23)

Examples of this flexibility described by Toole and the more holistic thinking mandated by it are the Montana ranchers, who during the 1920s "led Great Plains ranchers to move increasingly to a calf crop basis'" (Malone et al., 1991, p. 317). Montana's ranchers had learned through events like the disastrous winter of 1897 that they had to put up hay for winter feeding. Historians also have noted:

> The homestead movement had severely damaged much of the best range land, and it had broken up ownership patterns and driven up land prices. Ranchers concluded that leasing range land, from either public or private owners, usually made more sense than buying it at a high cost. Again, Montanans, compelled by hardship, pioneered new techniques. (p. 317)

Montana, then, because of its environs and because of its demands, provides a "relationship with some kind of real national heritage--and yes, it is rooted in land, space--and in something that this presumably inhospitable place has not yet lost" (Toole, 1976, p. 234). Furthermore, Toole sees Montana's "long range wealth, though long considered a curse, was in fact, its blessing: space and elbow room--quality space. It has maintained a direct link with the American past in that abiding sense" (p. 235).

Learning and the Environment

Such a relationship with the land is reminiscent of the Existentialistic concern with the freedom of the individual and the individual's empowerment to make choices and assume

the responsibility for them. "Existentialists stress awareness, consciousness, perception, the total meaning-structure of the individual, his vision of life and death, his word choices, and other aspects of his relating to life" (Elias & Merriam, 1980, p. 111). Such awareness then would define learning as a process rather than an end product (Merriam & Caffarella, 1991, p. 124).

Gestalt psychologists, in their advocacy of "looking at the whole rather than its parts, at patterns rather than isolated events" (p. 128), echo a view that connects learning with a broad view of the environs. To such theorists, learning is related to the surroundings in a way that is more than simply a passive exchange of stimuli in and response out, but instead is "the reorganization of experiences in order to make sense of stimuli from the environment" (p. 129).

Although Bandura's theory that "one can learn from observation . . . without having to imitate what was observed" (Merriam & Caffarella, 1991, p. 135) deals more with learning in a social context, it also can be used to look broadly at the interaction between a person and the environment. "This is a reciprocal concept in that people influence their environment, which in turn influences the way they behave" (p. 135).

Another view of learning and its relationship to the learner's context can be found in the humanistic educator, Malcolm Knowles, and his concept of andragogy. He states

that "the adult defines him or herself in terms of the accumulation of a unique set of life experiences" (Elias & Merriam, 1980, p. 132). In a rural population, it would seem quite clear that a large proportion of their experiences would be related to the land that they work.

The learner's relationship to the environment is further explored by Mezirow, who speaks to reflective thought, emancipatory learning, and perspective transformation, of which perspective transformation is unique to adults (Merriam & Caffarella, 1991, p. 264). Mezirow says, "Perspective transformation is the process of becoming critically aware of how and why our presuppositions have come to constrain the way we perceive, understand, and feel about our world" (Mezirow, 1990, p. 14).

Learning in Montana

Because of their physical and cultural isolation, rural Montana adults are often viewed by mainstream urban educators at best as a potential market in the increasingly competitive battle for students and at worst as a reticent and reluctant pool of potential learners. Such assumptions about the effects of isolation may be understandable since, according to the 1990 census, 16% of the counties in Montana have fewer than one person per square mile (Duncan, 1993, p. 300); this would be the equivalent to all five boroughs of New York City having a total population of 300 people (p. 8). Jordan, Montana, for example, serves such a

scattered population that until several years ago its high school was one of the few public boarding schools in the U.S. (Malone et al., 1991, p. 348).

On closer examination, however, there is a deeper reality. In the fall season of 1995, the Senior Citizen Center in Circle, Montana, a town of 981 people, offered eight adult classes with such subjects as an introduction to computers, writing personal histories, and floral arranging while the Extension Service had sponsored a three-day workshop in range management and marketing and one day of workshops in everything from estate planning to drying weeds. The Eastern Montana Museums group, an informal association of volunteer-run museums, offered a day-long conference about local history museums; one church was offering a series of life-skills classes including interior decoration; and a women's social circle was meeting once a month to exchange ideas and approaches to improving their families' lives.

However, that is only the list for organized learning activities. It does not include the housewife who in addition to being the ranch cook, gardener, nurse, baker, butter maker, canner, and laundress had become a self-educated authority on the chemistry of food and was beginning her investigation of candle making. It does not include the 92-year-old grandmother who because of her extensive reading could hold her own in any political debate. Likewise, it does not include the rancher who,

although raised with traditional dry-land wheat farming, had planted peas "as an experiment" and was watching with great interest his neighbor's activity selling burdock root to health food stores (on-site visit to Circle, MT, by author, September and October, 1995). This panorama of learning choices in one small town in rural Montana points to the fact that both formal and informal learning is not isolated to the traditional classroom, but instead it is occurring on a regular basis in the rural, more remote areas of Montana.

Self-Directed Learning in Montana's Rural Adults

Given the circumstances of their existence, Montana's learners in order to reach their potential have assumed the responsibility for the direction of their learning. They are examples of educator Malcolm Knowles' (1980) concept of andragogy, which affirms that adult learners best reach their potentials by utilizing their experiences as resources for learning. Knowles further "advocates an emphasis upon experiential, participatory learning" (Elias & Merriam, 1980, p. 132). Both Knowles and Freire (1970) not only stress the need to analyze one's own experiences, but they both also speak to the power of learners themselves since they see the learner as best suited to determine what the individual needs. Such a view is proof of the deep respect for the learner, or as has been observed of both Horton and Freire, "They respect the inherent wisdom of their clientele and its ability to assume the responsibility for learning"

(Conti, 1977, p. 43). Furthermore, the examples from Circle, occurring over the course of just one season and in just one small town in one rural Montana county, echo the findings of Tough (1971) who speaks to adult learning projects and "deliberate learning" as a factor which motivates individuals to undertake at least one or two major learning efforts a year (p. 1).

Rural adult learners in Montana not only are involved actively in their learning; but also in order to accomplish their goals they must be very self-directed and resourceful, assuming the responsibility to seek out the information they need. Forced by distances that only in the 1960s were spanned with reliable telephone service (e.g., within 25 miles of Great Falls, Montana, a town of nearly 60,000, telephone service was not in place universally until the late 1950s), residents of many rural areas in eastern Montana have learned to develop their own learning experiences. In some places, faced with no reliable electricity and amenities such as indoor plumbing until relatively recently, these same people have learned to be resourceful--resourceful enough to be able to boast a literacy rate "far above the national average, even with the large foreign-born element in its historical population base" (Malone et al., 1991, p. 358).

These individuals stand as shining examples of the beliefs of educators such as Knowles, Freire, and Horton, all of whom stress the need to analyze one's own experience

in order to determine how and what is needed to learn. They have formed "a circle of learners" (Horton, 1990a, p. 10), creating in the process "little islands of decency" (p. 9).

Framing for Learning

These rural adult learners have been not only self-directed in their learning, but also through their learning in an environment untrammeled by man-made intrusions they reflect Paulo Freire's (1994) theories regarding the development of critical awareness:

> People, as beings "in a situation," find themselves rooted in temporal-spatial conditions which mark them and which they also mark. They will tend to reflect their own "situationality" to the extent that they are challenged by it to act upon it. Human beings_are because they _are in a situation. (p. 90)

As part of his "conscientization process," Freire sees the need for the learner to be able to pull back and objectively view reality. Freire's use of pictures and slides as part of "the development of the awakening critical awareness" are excellent examples of how a learner can attain an objective viewpoint (Meierhenry, 1983).

> Freire and his colleagues found that slides or pictures that are carefully selected and properly presented are the only means available to help individuals see their environmental surroundings in a new and detached manner. Therefore, slides and pictures are essential to the process of conscientization--the development of critical awareness of one's environment. (p. 6)

In using such a slide, the student is able to "frame" a reality. The frame can be made much smaller, cropping or blocking out much of the picture and simply focusing on one

small part of one object in the view, or the frame can be enlarged to include a whole vista. The frame then acts as a border, defining both what is within and without the boundary of the slide.

The artist uses a similar device to help solve perspective problems that occur in the translation of the three dimensional physical world to the two-dimensional world of canvas or paper (Mendelowitz, 1976, p. 46). Furthermore, the negative space, that space between the frame and the object, helps the artist to delineate the shape of the object (p. 54) while the horizon line, which in an urban setting may be obscured by "obstacles such as hills, houses, walls or foliage" (Goldstein, 1977, p. 113), also helps in the interpretation of the image.

How individuals perceive space is part of this idea of framing. Adults who are trained in a culture that values analytical, linear thinking tend to focus on the objects in space and not on the space itself. "Beginning students generally lavish all their attention on the objects, persons, or forms in their drawings, and then sort of fill in the backgrounds'" (Edwards, 1989, p. 99). However, art theorists such as Edwards believe that the negative space is not only important but also that the more holistic thinkers who use the right brain do not seem to mind spaces; "to the right brain, spaces, objects, the known and unknown, the nameable and unnameable are all the same" (p. 101).

Untrammeled vistas and space then may not only provide the rural viewer with a clearer and surer sense of where the horizon line is, but they also may help in the development of a more holistic way of seeing and thinking. For example, in looking at the setting sun on the horizon, the positive space, commonly considered the land or its features, shares obvious value with what could be called the negative space or sky. Through exposure to such experiences where the frame of reference is so boundless, the rural viewer has opportunities to draw individual boundaries and to become used to that choice.

Statement of the Problem

Toffler (1971) in his book Future Shock describes the changes occurring in the modern world, referencing Nobel prizewinner Sir George Thomson's view that "the nearest parallel with today is not the Industrial Revolution but rather the invention of agriculture in the neolithic age'" (p. 17). Toffler's comments have become even more pressing in the 1990s:

> We must analyze the processes of acceleration and confront the concept of transience. If acceleration is a new social force, transience is its psychological counterpart, and without an understanding of the role it plays in contemporary human behavior, all our theories of personality, all our psychology, must remain pre-modern. (p. 17)

In such a changing world, Toffler sees as particularly pressing the need "to distinguish in education between data' and skills'" (p. 411). With this, Toffler echoes

Freire's (1994) disdain of "the banking concept of education" (p. 52).

However, Toffler's call to analyze acceleration and transience is like trying to saddle a galloping horse. Not only is it difficult to fully understand the ramifications of the rapidly shifting concepts, but it is impossible to slow the frame long enough to capture a clear picture for study. Rural Montana, isolated by geography and somewhat insulated from accelerated change, offers an endangered view of individuals who because of tradition are tied to a physical landscape, who because of distances nurture social networks, who because of their work must be less linear and more holistic, who because of untrammeled space have a limitless framework in view, and who because of circumstances exert choices in their learning. These individuals' ways of seeing and pursuing learning are imperiled by a world filled with the rapidly changing life ways and landscapes of Toffler's predictions.

In this rapidly changing world, the effect of surroundings has become of increasing interest. Those who study, create, and build man-made environments have grown increasingly aware of how the results of their work impact the people in their structures and that "the environment is not treated as something around or outside human activity; it is integral to the activity" (Moore & Golledge, 1976, p. 143). Preservationists, both historic and environmental, drum on the idea of the importance to society of saving

natural and man-made landmarks because "every place is imbued with emotional tone for the people there" (p. 200). Artists, whether Monet or Turner, have interpreted the raw power of their landscapes with the European landscape paintings pointing to a "radically new way of seeing nature" (p. 268) that was not necessarily representative of an outer reality but rather is an expression of an inner perception. Both writers and philosophers have long referenced the physical and emotional power of the natural world whether it be Rousseau's "noble savage" (1952), Thoreau's Walden Pond (1964), Jack London's Yukon (1960), or John McFee's Pine Barrens (1986).

Educators, too, look at how the surroundings impact the learner, generally agreeing that two major forces shape the learner--genetics and environment. However, there is ongoing discussion over the degree to which nature or nurture is at work. Linking learning to everyday settings has been examined by educators stating that "context is not just an important element in thinking about human learning but is perhaps central to our understanding of adult cognition" (Wilson, 1993, p. 72) and by those who seek further understanding of the tacit dimension of adult learning which "is gained through observation and experience, most of which is acquired in the everyday world" (Sisco, 1994, p. 182).

In a world of increasing linear specialization that is morphising with light speed ala Toffler, it is important to

understand how personal landscapes exert their pull and how that influence is connected to learning. How does a sense of place, which is formed by an unencumbered horizon line, actively shape those in its grasp by affecting not only how they see their world but also how they learn in that world?

Freire, with his views on the development of critical awareness and the use of slides to help the learner more objectively perceive the surrounding environment, may hold keys to the answers. This is especially so if his concepts along with art theories of perspective and space are used as an overlayment for description of the process of learning in rural learners. At issue is rural adult learners' sense of critical awareness and their sense of place, for if their rural vista, which has formed how they see and learn, is altered overnight, what then happens to their way of learning?

Statement of Purpose

The purposes of this study were to describe (a) how rural adult learners perceive their landscapes and (b) how their landscapes through distances and untrammeled space have been an active force in their learning. Living close to the land, these individuals have developed a way of learning that works for their situation but which with alarming speed is threatened. The study examined how rural adult learners have developed a sense of place and how that

has affected their way of learning in such issues as self-direction, the development of a more holistic view to learning, and the formation of networks.

This study which looks at the impact of a sense of place on the adult learner also serves as a reminder of the impact of increasing shrinkage of space and the rapidly accelerating loss of personal landscapes. These two phenomena stand to continue to impact education at large, for cut loose from roots and traditional ways of living, individuals will increasingly need to be empowered to take control of their own learning. This study in its descriptions of rural learning provides further information about the power of the individual learner and the role that learning plays in cementing a sense of connectedness.

Limitations

This study was limited to a selected number of individuals involved in ranching in the least populous counties of rural eastern Montana. As individuals who have generational ties to the land, their responses are reflective of a lifeway that is relatively outside of mainstream urban America and not necessarily in sync with corporate agribusiness (Berry, 1977). However, that reality in itself provides an opportunity to describe an alternative paradigm for learning.

Moreover, their views do not necessarily represent all the farmers and ranchers in the counties selected. The

individuals interviewed would themselves be reluctant to universalize their situations, pointing out that their responses reflect only the perceived realities of their "islands" and as such are not necessarily applicable to other situations. However, such a perception can be embraced through the naturalistic inquiry approach of this study with its mandate for a description of learning in a rural landscape.

Assumptions

Since the focus of this study was limited to those individuals who have generational ties to the land and who make their living off of the land, it was assumed that in some way the land has been an active force in their lives and that they were aware, to some degree, of the relationship they held with their land. Their perspectives of themselves and their world, however, may not run parallel with current, mainstream thought or perceptions. For example, driven by a growing awareness of the importance of the earth, there are an increasing number of references to farmers and ranchers as users and abusers. This study has been conducted under the assumption that because of their economic dependence on the land over generations, these rural adult learners have had to become attuned to the land and its needs.

Definitions

Critical Awareness: A cognitive process, the development of critical awareness is "the emergence of consciousness" (Freire, 1994, p. 62). The development of this skill involves individuals reflecting about themselves and their relationship to the world. They "develop their power to perceive critically the way they exist in the world" (p. 64), in the process becoming aware that their world is not static but constantly changing.

Environment: In a broad context, environment includes all of the external factors, objects or region, that encompass anything, thus creating a setting. Environment is the sum total of conditions or influences under which any living thing is developed or modified. An environment is also "a form of art that encompasses the spectator instead of confronting him with a fixed image or object" (Oxford English Dictionary, 1994). A broader definition of environment then reflects its Middle English roots of *circuit* or *compass*, for it is a view of the world in which all the parts are integrated.

Framing: Both in art and in this study, a frame is seen as that which bounds the whole. This boundary gives shape to and provides a focus for thoughts or actions. Framing then is the process through which perceptions are focused and shaped.

Holistic Thinking: The antithesis of the sequential process used by the more mechanistic or mathematical approach

in explaining the universe. Holistic thinking is the perceptual skill of seeing and understanding the world not as separate parts but as an integrated whole. Rooted in the Greek word *holos* or *whole*, the term involves "an understanding of reality in terms of integrated wholes whose properties cannot be reduced to those of smaller units" (Capra, 1982, p. 38). It also is the "simultaneous processing of an array of information" (Edwards, 1989, p. 244). Such an integrated view is reached through the use of all the senses and what Edwards has called "global skills" (such as walking or drawing) and their attendant "perceptual skills" (p. xii).

Horizon Line: From a Greek word meaning "the bounding circle," the horizon is the part of the earth's surface that is visible from a given point. Although in the strictest sense of perspective, the horizon line is the horizontal plane that intersects an imagined vertical line, the horizon is usually meant as the boundary line at which the earth and sky appear to meet. Because few if any irregularities or obstructions are present on the open sea or on a great plain, the perceived horizon and the imagined line coincide in those environments. The horizon line is equivalent to the observer's eye-level and is described as being "parallel with the ground-plane and 360 degrees around him" (Goldstein, 1977, p. 113). As such, the horizon is dependent on

where the viewer is--both physically and mentally. This explains why astronomers, archaeologists, artists, and soil scientists alike use the term in their work.

Isolated: This word is generally applied by a dominant culture to those individuals living apart from what the mainstream mentality deems to be necessary or normal. As such, isolated is viewed as standing alone, being separated or set apart from other things or persons. It is seen as solitariness, being unconnected to other things or persons, or being separated from normal social interaction.

Land: Although land could be said to be the solid, exposed portion of the earth's surface, in this study land refers to a tract of ground or soil owned by a person and having an agricultural use. In a broader sense it could also refer to territory that is rural as opposed to urban.

Learning: The word *learning* has its roots in an Indo-European word that carries the underlying idea of gaining experience from following a path. The roots of the word not only hold a strong relationship between "teach" and "learn," but they also imply that learning is an action of acquiring, generated from within the individual learner and not always observable. Learning is not a product of human activity, nor is it "banking" (Freire, 1970, p. 66) information for later withdrawal on demand. Instead, it is a process that is part of

the human condition. Its presence is a proof of humanity, for the ability to think and reason delineates what is human and unique from the rest of the animal kingdom. Learning is a pervasive state of being, rather than merely "a process by which behavior changes as a result of experiences" (Maples & Webster, 1980, p. 1), for not all changes in behavior are evidence that learning has occurred, nor for that matter does learning need to occur in a formal setting. Because learning often involves a "self-directed inquiry" (Knowles, 1980, p. 55), "even miseducative experiences may be regarded as learning experiences" (Jarvis, 1987, p. 16). Learning's transformative nature should also not be overlooked, for learning is "the process of making a new or revised interpretation of the meaning of an experience, which guides subsequent understanding, appreciation, and action" (Mezirow, 1990, p. 1).

Linear Thinking: This mode of thought involves the step-by-step, logical sequencing of deductive reasoning. To be understood, concepts or problems are divided into the smallest components for analysis before being reassembled in a logical order to form a complete picture. This way of thinking is grounded in Cartesian philosophy that is analytic and "mathematical in its essential nature" (Capra, 1982, p. 58) and Newtonian mechanics which is based on a view of the

world as a machine that is governed by a definite, logical, and even predictable cause and effect (p. 66).

Negative Space: A key component in art composition is negative space or the empty area around the objects or persons central to a picture. Mainstream society lavishes its attention on the positive shapes, teaching its children to draw the shape and then "fill in the background" (Edwards, 1989, p. 99) instead of concentrating on the negative spaces and letting the forms take care of themselves. An example of the phenomenon of negative space can be found in a Bugs Bunny cartoon. The rascally rabbit "runs down a hallway and smashes through a closed door, leaving a Bugs Bunny-shaped hole in the door. What is left of the door is the negative space, and the inner edge of that shape is the edge of the negative space and also is the outline of the positive form" (p. 103).

Network: Resembling a piece of work having the form or construction of a net, a social network is best described as an interconnected group of people. This group of people is not only connected by shared interests, but they also are intertwined with "a web of social relations that provides security and support, and in which primary, consistent face-to-face interaction takes place" (Fingeret, 1983, p. 135).

Perspective Transformation: Adult learning is more than just adding information to what is already known. New

learning can change existing knowledge into a new perspective. This learning process, which Mezirow (1990) believes is unique to adults, is equated with "emancipatory learning" because it involves the search for self-knowledge and increased interest in the insights that come through self-reflection. Social action may develop through this process, but if it does, it is the learner's choice, not the educator's.

Personal Landscape: Seen from a particular point of view, a landscape is a view of natural scenery with distinguishing characteristics and features. A personal landscape, which is uniquely different with each individual, is formed out of perceptions from a person's past and present. Such a landscape is made up by those features that have ingrained themselves into the subconscious, forming and shaping the individual's view of both how the world is and how it should be. A craggy mountain, a shadowed riverbank, a Victorian home, a battered brass thimble, or a dog-eared family Bible can all serve as parts of this view that provides security to the individual and forms subconsciously the basis for decisions about how the individual deals with both the present and the future.

Positive Space: In art, the objects or persons being drawn or painted in a picture are labeled positive shapes (Edwards, 1989, p. 98) with the space they take up being termed the positive space. It is this area on

which mainstream society focuses its attention at the expense of the negative space that surrounds it and by forgetting that both spaces are necessary to make up the whole.

Ranch: Although often caught in the mystique of trail drives and a Zane Gray West, a ranch in Montana's reality is difficult to quantify. The term includes both the piece of deeded ground (usually no less than one or two sections, 640 to 1280 acres) and/or the operation that is devoted to raising cattle, sheep, horses, or crops such as hay or wheat. As economic times and the weather cycles dictate, the size of the viable Montana ranch changes.

Rancher: Although popular mythology has made the term *cowboy* and *rancher* almost synonymous, in this study a rancher is a person who owns and runs a ranching operation. The term is not gender specific because many of Montana's ranches are owned by women, a situation grounded in a historic tradition. For example, nearly 40% of the original land patent holders in Cascade County were female (Cascade County Historical Society, 1988.)

Rural: Often defined as the antithesis to city or urban, rural in this study refers not just to having characteristics of the country, but also more specifically to being economically and psychologically tied to agriculture. Because it is a relative term, it

is difficult to quantify rural in terms of population numbers. Unlike the term frontier, which has been defined as fewer that two people per square mile (Duncan, 1993, p. 5), what may be deemed rural in one area becomes suburban or even urban in another.

Self-Directed Learning: Taking responsibility for and then learning on one's own outside of a formal school setting has been labeled self-directed learning. It is "a form of study in which people take the primary initiative, with or without the help of others, for planning, conducting, and evaluating their own learning activities" (Knowles, 1975).

Sense of Place: A phrase coined by Eudora Welty, a sense of place is the intuitive knowledge of oneself and one's relationship to a particular part of the material environment in a definite situation. It carries the connotation of being in situ, of fitting, of being at home, and of existing in harmony. A sense of place can be viewed as the knowledge by which "people everywhere define themselves through the places where they are born and grow up" (Ferris, 1996, p. 44).

Westering: Humans have always had a fascination with the west, that part of the earth that lies toward the setting sun. "The West was a place of romance and mystery, where hopes and dreams and ambitions could come true and life would somehow be better" (Allen, 1975, xxv). The Greeks sent their heroes to the west

and located their Elysian Fields in the west, and medieval European maps were filled with images of legends in the west. It was where Arthur found Avalon and where Columbus found the New World. Early American pioneers were also susceptible to the urge to move west to greener ground, pushing first across the Alleghenies, then the Great Plains, and the Rockies. This looking to the west for new beginnings still occurs in the migrations to Montana and even to some extent in the push to find new physical frontiers to explore, like outer space. This movement to the west, this attraction ever to the new, is called westering.

CHAPTER 2

EXPLORING THE ROOTS

The voyage ceases to be a mere tour through space, you travel through time and thought as well.

Aldous Huxley

Introduction

When viewed on a road map, any journey appears to be purely a two-dimensional activity of connecting the different dotted locations on the paper. Each of the points can be researched in its own right, complete with its attractions and places of interest. However, it is the actual journey from one point to the next that not only brings the trip into the third dimension but also which through connecting the marked locations creates a new view by establishing relationships between the places.

A probing literature review can in a way be seen as a journey in metaphorical thinking for not only does it look at the current knowledge held of a particular area, but it also can be used to draw connections between disparate ideas and fields of inquiry which have not been connected closely before. "No problem in education exists in isolation from other areas of human behavior" (Merriam, 1988, p. 63). Therefore, to better understand the impact of their landscapes on rural adult learners, it is important to

examine the research and information available on several different subject areas: social contexts, the land and place, concepts of space, perspective, creation of a frame, the self-directed learner, critical awareness, and holistic thinking.

Social Contexts

"Learning, like oxygen, is something imbibed from the atmosphere about one" (Ardrey, 1970, p. 86). This is a statement that encompasses the view that since human beings are a social species, their environment to a large extent is made up of their fellow human beings. This idea echoes in the statement, "Learning, even self-directed learning, rarely occurs 'in splendid isolation from the world in which the learner lives; . . . . It is intimately related to that world and affected by it'" (Merriam & Caffarella, 1991, p. 5).

Seen traditionally, learning occurs when students and a teacher are placed in a structured, formal setting within the boundaries of an institution's four walls. "The classroom context has come to be equated with learning whether those classrooms are in schools, in the workplace, or in a local community organization" (Merriam & Caffarella, 1991, p. 22). This impression is furthered by statistics from the U.S. Department of Education, the American Society for Training and Development, and the U.S. Department of

Labor, all of which provide reports on adult participation in learning that occurs in formal settings (p. 22).

Although it has been observed that there is no single setting that has been identified with adult learning (Darkenwald & Merriam, 1982, p. 153), Knowles (1980, p. 155) established four categories of learning settings for the adult learner. One category includes independent adult education organizations such as privately-owned for-profit schools, external degree agencies that may be adult education organizations in their own right or part of other school systems, and community-based agencies such as Highlander Research and Education Center. Another category is the one containing public schools, colleges, and universities. A third category is the one containing the quasi-educational organizations and includes agencies such as museums, service organizations, or occupational associations. A fourth and final group is called the "noneducational organizations," and it includes business and industry, government, unions, and correctional facilities (pp. 155-176).

In these formal learning contexts, people, structure, and culture have been identified as the primary factors affecting the learning (Merriam & Caffarella, 1991, p. 28). Learning in most of these traditional settings usually takes place under the guidance of a teacher or facilitator. Although there can be a wide range of degree, "this means that the instructor is usually responsible for planning,

implementing, and evaluating the learning that takes place" (p. 24).

What makes for a successful learning experience in these formal settings continues to be a matter for discussion. Knowles (1980) has pointed out that successful adult learning in such a context is characterized by several basic points: "(a) respect for personality; (b) participation in decision making; (c) freedom of expression and availability of information; and (d) mutuality of responsibility in defining goals, planning and conducting activities, and evaluating" (p. 67).

Other factors in the social environment may impact the success of a classroom. In a study of male and female perceptions of the classroom, it was found by researchers Beer and Darkenwald (1989) that women "did perceive more Affiliation and a greater degree of Involvement in the classroom that men" (p. 40). Ethnographers such as Ennis (1989) have asked how the social system may influence learning experiences in formal settings, examining data in the three areas of perceptions of personal efforts, perceptions of interactions, and descriptions of class sessions. Their findings underline the importance of "shared decision making, mutual trust, openness of the teacher, and relevance to the learners' own lives" (p. 76).

In rural settings, adult learning in a formal setting may have significant barriers. Although the rural adult learner's environment is different from the urban

counterpart, the rural learners "embark on their educational journey with the same hopes, expectations, and fears as urban residents. . . . Rural learners have a quest for knowledge, too" (McCannon, 1983, p. 17).

However, rural learners encounter difficulties in seeking traditional settings for learning. Underlining all the barriers to formal instruction is the lack of access to post secondary institutions due to geographic distances (McCannon, 1983, p. 19). Although studies such as those of Peterson and Hefferlin (1975) indicate that adults may desire further learning, there are fewer opportunities for formal learning in a rural context (p. 20). Moreover, the rural adult learner must deal with lack of prior educational attainment, lack of available counseling services, lack of family support, and lack of financial assistance (p. 21). It would seem that the rural adult learner must not only deal with situational (such as lack of money or time), institutional (organizational scheduling or policies), and dispositional (lack of confidence, feeling old) barriers (Cross, 1981), but also must deal with those circumstances alone.

Whether in a rural or urban environment, the social context, either formal or informal, impacts adult learning. This idea is unlined by three foundational principles necessary for understanding the impact of social forces on adult learning:

> Seeing human beings as open and unfinished and thus able to be influenced by the environment;

> accepting the complexity and diversity of the social environment organized by levels and classes; and understanding the symbolic nature of the social environment [such as age bias]. (Dannefer, 1984, p. 107)

Those espousing social learning as the prime orientation for adult learning go so far as to say, "People learn from observing other people" (Merriam & Caffarella, 1991, p. 134), adding that such learning takes place in a social setting. In fact, Bandura (1986), who maintained that a person could learn from observation without having to imitate, modeled his theory on a triangle. His three-way interactive model had people, their behavior, and their environment as the three points of the pyramid. This idea of people learning in a social context holds within it then the concepts of modeling, mentoring, and social networks.

The importance of learning from a societal context is also examined by Jarvis (1987) who maintains, "Throughout life, people are moving from social situation to social situation; sometimes in conscious awareness but on other occasions in a taken-for-granted manner" (p. 64). To better understand the relationships, Jarvis created a hierarchy that included nonlearning responses, non-reflective learning, and reflective learning (p. 27). In this model, the learning process is not solely an internal one but is one that is interactive with a social environment.

Sociologists maintain that each person has a network of personal relationships that make up what could be called a personal community or a social network. The links in such a

network are what serve as the conduits for the transmittal of information. The highly connected network carries information more easily than a less-connected network (Duncan & Duncan, 1976, p. 252). In addition to information, a well-connected network can establish and maintain one's reputation, one's contributions to the group, as well as the reiteration of events that might be lost otherwise. On the other hand, in loosely connected networks, "One must act before a diverse group that is constantly changing and whose members do not know one another" (p. 252). Such a situation places demands of resources of time and money, and in the end, other ways are found to transmit information such as making and sending messages about one's self through the interior decoration of a home.

A social network can be pictured as a web-like grouping of inter-relationships with the individual at the center. At the edges of the structure are the people whose relationships are more neutral to the person at the center, those with whom the person might be seen, and those with whom only simple recognition is shared. Also at the edges of the network are those people who are either disliked or feared and with whom the relationships are at best characterized by avoidance. Closer to the center are the people the person knows and likes best, the "good buddies," and sometimes kinsmen. The individual at the center of the web may provide these people with services or receive

services from them. These people may be seen daily, are turned to for help, and acknowledged for who they are. "They serve his need to be with others of his kind, and to be recognized as a discrete, distinctive personality, and he, in turn, serves them the same way. They are both his audience and his fellow actors" (Liebow, 1974, p. 96).

Relationships with other people are an important part of learning and so underline the idea of social networking advanced by Arlene Fingeret (1983). In her study of the networks formed by illiterate adults, she defines community as "a web of social relations that provides security and support, and in which primary, consistent face-to-face interaction takes place" (p. 135). Although these networks are dynamic forces, society generally views social networks as a closed system. Citing Barnes and Hendrickson (1965), Gans (1962), Jones (1981), and Young and Willmott (1957), she observes that:

> Social networks are often viewed as conservative forces inhibiting mobility through bonds of obligation and tradition. Change, including new educational opportunities, is seen as a threat to social networks, and network members are often perceived as unsupportive. (Fingeret, 1983, p. 143)

In looking at the force of networks on adult learning, Fingeret cautioned, "It is necessary to recognize the co-existence of geographic neighborhood and social network" (p. 135). Her drawing of a relationship between social and geographic contexts echoes those social historians who have studied the effect of distance on community. It has been

shown that as communities are more sparsely populated, the residents become more open and accepting of each other (Duncan, 1993). Likewise, Fingeret examines how illiterates, or those who are separated not by physical distance but by a "distance of skills," develop and trade skills that insure their place in their community. They "maintain social networks that are characterized by reciprocity; each adult still maintains final personal authority over and responsibility for personal actions and attitudes" (Fingeret, 1983, p. 145).

Moreover, in her study, Fingeret mentions the idea of reciprocity in which the teacher becomes student and student becomes teacher. She "asked these adults if they would teach me about their lives, and, once they agree, many of them took this responsibility very seriously" (p. 134). So she found that the adults in her study created and worked within social networks that were "characterized by reciprocity" (p. 145).

It is this trading between peers that strengthens the links in the network. In her appraisal of the power of networks in the world of her study, Fingeret found that the people she studied "manifested a range of abilities to decode the social world and take action in that world" (p. 145). In illustrating the strong ties to place and community for those in her study, she cites Hunter and Harman (1979) who, she writes, "recognize that illiterate

adults cannot be divorced from their communities, which are a source of personal identity" (Fingeret, 1983, p. 143).

The importance of these kinds of ties and this type of cooperation for learning that is found in Fingeret's study of networks is also found in the developing area of community politics. Kemmis (1990) recalls how historically on the Great Plains, in such areas as those found in eastern Montana, different types of people, with different interests have had to build cooperating networks:

> Life was still harsh enough that they had no choice. Avoiding people you did not like was not an option. Everyone was needed by everyone else in one capacity or another. . . . They learned, whether they liked it or not, a certain tolerance for another slant on the world, another way of going at things that needed doing. . . . In addition, they learned that they could count on one another. (p. 71)

This cooperation enforced by geographic reality is also hinted at by Wendell Berry (1990), who has even entitled one of his books What Are People For? Berry's approach adds an additional element, for he believes that the Morrill Act and subsequent land grant college acts spelled the end of American agriculture as culture (Berry, 1977, pp. 153-154). In examining what local culture can accomplish, he states:

> There must also be love of learning and of the cultural tradition and of excellence--and this love cannot exist, because it makes no sense, apart from the love of a place and a community. Without this love, education is only the importation into a local community of centrally prescribed "career preparation" designed to facilitate the export of young careerists. (Berry, 1990, p. 164)

Such an approach to the importance of local empowerment in learning resembles the underlying philosophy of Myles Horton (1990b), who was a staunch believer that democracy should be more than a political word; instead he saw it as the very fiber of a society. To achieve that end he felt that society had to allow people to make the decisions that would affect their lives (p. 174). At his school, Highlander, people from communities with similar problems were brought together and helped to develop their problem-solving abilities. When they returned to their own areas, "these learners became leaders in helping others become aware of their abilities" (Conti, 1977, p. 8). Highlander and Horton's philosophy of empowerment are based on the idea of peer learning, mutual cooperation, and helping people to learn to look to themselves and each other for solutions. "There is only one axiom that never changes at Highlander: 'Learn from the people; start their education where they are'" (Adams, 1975, p. 206).

Mentoring, which involves "interdependence in a relationship of mutual fulfillment" (Huang & Lynch, 1995, p. 10), is an idea that is akin to the concept of social networking and is an integral part of adult learning. The central point of mentoring is that in each teacher is a student and within each student there is the teacher. Mentors can be especially powerful for adult learners during transition periods (Merriam & Caffarella, 1991, p. 110). However, it is Daloz (1986) who sees the full potential of

mentors as guides and teachers in adult learning situations and who employs the metaphor of the journey to explain the power of a mentoring relationship. Using Jung's archetypal description of a mentor as a figure with "'insight, understanding, good advice, determination, planning'" (p. 17), Daloz describes the power of a mentor:

> They lead us along the journey of our lives. We trust them because they have been there before. They embody our hopes, cast light on the way ahead, interpret arcane signs, warn us of lurking dangers, and point out unexpected delights along the way. (p. 17)

Mentors are seen as being from this world and so are living proof that trials can be overcome and that transitions are possible. Examples of mentoring are found in the relationships of the Old Man to Telemakhos in The Odyssey, Charlotte to Wilbur in Charlotte's Web, and the spider woman in Native American legend (p. 16).

The essence of a mentor's work is to provide a map, a type of view. "Mentors seem to do three fairly distinct types of things. They *support*, they *challenge*, and they provide *vision*" (p. 212). In supplying that framework, ideally then a mentor "provides an environment that supports adults while they continue to learn and develop themselves" (Otto, 1994, p. 16).

However, what takes the relationship beyond the two-dimensional dynamic of teacher-student is the concept of mutuality. "Mentoring relationships begin with the expectation that it will be mutually beneficial to the protege and the mentor" (p. 18). In other words, both the

parties benefit from the relationship, as indicated in the title of the book by Huang and Lynch (1991), The Tao of Giving and Receiving Wisdom. These two authors see mentoring as a dance in which the teacher becomes student and the student becomes the teacher. The essence of the dance between the two is "the wisdom of the empty space between both partners" (p. 5).

With the intermix of people and their networks, the word *place* becomes more of a "place perspective" (Gerson & Gerson, 1976, p. 196). These sociologists point out that:

> From the viewpoint of the sociologist, the usual sharp distinction between place and people is easily blurred; for the people at a place are important in giving that place the characteristics it exhibits, and each of these people maintains a perspective upon the place that shapes his conduct toward it. (p. 196)

The sociologist would also explain that the approach to place is social phenomena, not individual. In fact there are anthropologists who study the relationship between social networks and space usage, for example as it relates to housing patterns. They see both serving to link people and to transmit information (Duncan & Duncan, 1993, p. 251).

Such perspectives emphasize relationships and derive from a belief that a person's:

> Experience with a place (and conversely, the experience of others at the place with him) is at least in part a function of his commitments (ideological, temporal, monetary, and sentimental) both to the given place and to other places with which it is implicitly or explicitly compared and contrasted. (Gerson & Gerson, 1976, p. 197)

In other words, in such a view, place becomes more than space, for the characteristics of any given place are a "series of contexts in which perception takes place" (p. 197).

The Land As Place

The interaction between physical landscapes and the humans tied to them lies at the core of how place is perceived. Psychologists, sociologists, and anthropologists have investigated how human beings themselves, their actions, and their societal make-up shape the human psyche. Ardrey (1966) with his look at the instinctual forces that territory exerts on human life is but one of these. Such traits as aggression, family loyalty, responsibility, and even morality are tied in his view to humankind's dim evolutionary beginning bonds to a particular territory. There is also the growing acknowledgement of the effect of landscape on the human makeup and in the process the seeing of landscape as part of culture. Toole (1976) states:

> It is, nevertheless, historically accurate to say that for the much greater part of the two-hundred year existence of our nation, the most compelling and influential condition of our values, our stability, and our national direction was our intimate relationship with and discovery of the meaning of the land. (p. 237)

The impact of place on the human being is a concept underlying the foundations of Australian Aboriginal culture. The people of this culture see *space* more like how the Western world understands the idea of the conscious mind.

The idea of *place* in the aboriginal world replaces the Western concept of organization because in the aboriginal world the spot where a person is born is significant for it will determine that person's identity and actions. The location of birth marks the spot of emergence from Mother Earth:

> The land surrounding this place of birth becomes the nexus of the baby's identity. He inherits the stories of that place and the sacred responsibilities for the sites of importance in that area. He receives a set of rights and responsibilities in terms of what he can hunt and gather in that area and what he cannot. Anyone who comes to that area must confer with him, in order to cut a piece of wood for a spear or hunt a lizard. So this place determines this person's relationship to every other person who enters that place. (Lawlor, 1993, p. 16)

If an individual loses track of that point, the chances are increased that the way back will be lost with the end result being that the individual will never be able to find the way home to Mother, the Earth. The place becomes more than simply a geographic spot but also has a spiritual dimension, connected to the Dreaming (p. 17). This relationship to the landscape is described as a kind of paternity, just like in a human parental relationship (Chatwin, 1988, p. 60).

Thousands of miles away, the same voice echoes and reechoes. It is heard in the words of a writer who speaks of having to move away from "beloved places, from landscapes and towns that shaped me, yet I remain attached to those places by the threads of stories" (Sanders, 1993, p. 4). This idea of being tied to a place and having an identity

inextricably bound with that place is found in the writing of landscape architect, Ken Taylor (1996):

> Ordinarily sacred places are those which reflect our relationships with places that have meaning because we or our ancestors have connections with them. Place making and all it means to us promotes a powerful feeling of belonging and strong sense of place. (p. 45)

This tie to the land was evidenced in the earlier westering history of America and even in the mythology that grew up with it. The West of myth was seen as a place of potential, of beginnings and of high adventure. In the area that often was referred to as "The Great American Desert," human relationships with the land were often described in hyperbole, such as, "The American frontier was Elizabethan in its quality--childlike, simple, and savage" (Hough, 1921, p. 4). Often the relationship became quite mythic, as shown in this description of the men and women who came West:

> The people are at once godly and savage. They breed freely; they love their homes; they are ever ready for adventure; they are frugal abstemious, but violent and strong. They carry on still the half-religious blood feuds of the old Scotch Highlands or the North of Ireland, whence they came. They reverence good women. They care little for material accumulations. They believe in personal ease and personal independence. (p. 5)

The theme of the interrelationship between people and the land also is found in the earlier nature writings of men like Henry David Thoreau, who lived in the woods on the shore of Walden Pond and who saw living near to the land as a way of seeking deeper truths:

> I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to

> teach, and not, when I came to die, discover that I had not lived. I did not wish to live what was not life, living is so dear; nor did I wish to practice resignation, unless it was quite necessary. I wanted to live deep and suck out all the marrow of life, to live so sturdily and Spartanlike as to put to rout all that was not life, to cut a broad swath and shave close, to drive life into a corner, and reduce it to its lowest terms. (Thoreau, 1960, p. 66)

Although his focus was not so much the thrust of Thoreau's "living deliberately" and more toward developing a land ethic, Aldo Leopold, in the next century, would voice similar sentiments about the active role that the land plays in human life. Although writing primarily about wilderness and man's relationship to it, Leopold argued that unlike the Golden Rule which ties the individual to society and democracy which orients social organization towards the individual, there is no such formalized ethic for the relationship between man and the land. Leopold defined such an ethic as:

> The individual is a member of a community of interdependent parts. His instincts prompt him to compete for his place in the community, but his ethics prompt him also to co-operate (perhaps in order that there may be a place to compete for). (Leopold, 1984, p. 239)

Currently, the writings of agricultural authors like Wendell Berry and Wes Jackson carry the same theme of the inseparability of human and place. Jackson (1996), who believes, "One of our principal tasks as educators is to expand the imagination about our possibilities" (p. 96), describes the resettlement of the small, deserted Kansas

town of Matfield Green and in the process speaks to "consulting nature" (p. 98) and "becoming native" (p. 101).

Berry (1977), who sees the farmer as a nurturer not a technician or a businessman, also speaks of the human relationship to the land. "Neither nature nor people alone can produce human sustenance, but only the two together" (p. 9). However, in his view, urban-dominated politics and agribusiness not only have separated the farmer from the land but also have separated America from its cultural roots. This unnatural separation process affects every aspect not only of rural life but more generally of all American society:

> The soil is the great connector of lives, the source and destination of all. It is the healer and restorer and resurrector, by which disease passes into health, age into youth, death into life. Without proper care for it we can have no community, because without proper care for it we can have no life. (p. 86)

The relationship between humans and their land is still seen today although somewhat distorted through the viewfinder of economic realities. American travel promoters of the 1980s and 1990s not only measure but they also have coined the phrase "heritage tourism" and "cultural tourism" to define the movement of people seeking to find and tour the places that have retained their individual histories and life ways. This movement includes people, places, events, and even objects, not to mention the symbolism and associations that may be connected. It has resulted in renewed attempts to preserve the historical integrity and

visual character of many rural landscapes that have been threatened by change. There is the feeling among these preservationists that:

> Rural historic landscapes are the result of long interaction between man and the land. Shaped through time by historical land-use and management practices, these landscapes provide a living record of America's past. (Copps & Abberger, 1994, p. 18)

This emerging area of study also points to the awareness of and interest in the importance of personal landscapes, those unique and individual perspectives formed from an individual's past. Such a landscape, reminiscent of the Australian Aborigine's entrance point into the world, is made up of those features that have ingrained themselves into the individual's subconscious, forming and shaping a view of not only how the world is but also of how the individual feels it should be. The individual may be reminded of this landscape by either large natural physical features or the smallest of material possessions. The individual's landscape cradles, gives security, and, if allowed, feeds the individual with new ideas, which in turn form the basis for decisions about how both the present and the future are handled.

However, in spite of this apparent attraction to the land, America is also characterized by people on the move without the ties of place:

> As a people we have not chosen to live long on a single landscape. The desire to move is the national condition; we are fired by the vision of "elsewhere," the dream of some other place "where the past can be discounted and the future shaped

> at will." (Schlissel, Gibbens, & Hampsten, 1989, p. 236)

Between 20% to 30% of all Americans move each year while the average American moves 14 times during a lifetime (Tall, 1996, p. 104). The American dream may be to own a home, but once bought, the average American rarely stays in a house for longer than five years (p. 104). Many of the milestones of life such as marriage, birth, a new job, almost demand that there be a change of location (Zelinsky, 1973, p. 56). Not moving is even seen as evidence of a lack of character:

> In fact to stay in one place for life is often interpreted as being unambitious, unadventurous--a negation of American values. Moving up in the world means moving on. (Tall, 1996, p. 104)

It has been this restlessness that settled America's frontier, but which at the same time gave the West, also called "this disordered space," what some authors consider its instability and its hardship (Schlissel et al., 1989, p. 240). Beyond the freedom of space, the opportunity for riches, and the hope of owning land, the frontier also "offered the space to separate from failure and the place to escape domestic despair" (p. 240). The frontier in such a view does not reflect a tie to place. Instead, it is considered destructive of roots and family because "the space of an uncreated frontier beckons and promises escape from the tyrannies of family obligations and compromises" (p. 243).

However, even those writers who view the settlement of the American frontier with less than rosy-colored glasses

admit that "frontiers changed those who lived there for a lifetime. Perhaps this was the most poignant aspect of the frontier experience, this radical separation of vision" (p. 241). There is this view that the frontier reflects an America in which:

> We have learned to want that which is unformed, the empty space in which to construct our own lives, beyond the limitations that come with generations that touch. We lose the habits of home and the heart to care. (p. 244)

Such a view seems in direct contradiction to what Stan Steiner found in his thirty years of traveling the American West. He found hundreds of ranching families, living on the homesteads settled by their forefathers. As one woman said, "My roots? I don't have to go looking for my roots. Why my roots are right here in our house, in our pasture, underfoot in the grass" (Steiner, 1980, p. 6). In Steiner's gathering of stories, the land becomes a member of the families he interviewed. It is to be protected against mines and power companies and any other kind of bureaucratic intrusion. In fact he found:

> [People who] have stubbornly refused to lease or to sell their land. They have obstinately held on to a way of life and a way of thinking that the rest of the country long ago abandoned and forgot. They have grown defiant, in their quiet way. (p. 5)

Steiner found people who felt fiercely independent, self-confident about their relationship with the land, individualistic, or as Steiner writes, "Never have I met a typical rancher and I hope I never will" (p. 24). However,

these same people felt terribly vulnerable to distant and unlistening bureaucratic powers:

> They felt no one listened to their admonitions and thoughts, and when they talked, what they said was usually distorted by the urban provincialism of the press and the government. (p. 25)

Duncan (1993) in his study of the frontier counties of the West found a similar thread in his interviews. He observed that the decisions on the fate of the land are "still skewed by a cultural chasm, no longer so much along racial lines as along those of life-styles and place of residence" (p. 280). As an example, Duncan alluded to the proposal put forth by the Poppers, two New Jersey professors, to create a "Big Open" or "Buffalo Commons" in the area of Jordan, Montana, by removing all inhabitants of that region to allow bison the chance to graze free.

Duncan (1993) noted that the residents of the area "have gone through a century of being ignored, patronized, misunderstood, caricatured, and sometimes forced to make sacrifices without being consulted" (p. 280). Furthermore, because of the challenges these people have to face and their close association with local politics, they could be described by political scientists as "empowered." However, on a national scale and even to some degree on a state scale, "because of their few numbers and their remoteness from the seats of power, they feel powerless, neglected, and often picked upon" (p. 250).

The same observation is echoed by Toole (1976) who claims that rural Montanans have developed a special

relationship over time with the land. He calls it "a relationship almost impossible for them to articulate and even more impossible for an 'outsider' to understand" (p. 78). Furthermore, Toole believed that relationship with the land has produced a special kind of people:

> A third- or even fourth-generation rancher on the plains today has a heritage of tough independence, a suspicion of his urban cousins, and a philosophy about land, animals, and grass that makes him "different." (p. 69)

These people have over time been part of "the general picture of exploitation by eastern capital and corporations" (p. 69); this is a view that is similar to Freire's (1973) observations about the colonized and the colonizer (p. 2).

In fact, the people Steiner and Toole are speaking of bear other resemblances to the people Paolo Freire refers to when he talks about those who are part of a "culture of silence" (Freire, 1973, p. 2). Freire, who saw formal education as merely the transference of knowledge and not the more encompassing and important act of knowing (p. 1), writes about those who are silent because they have not been invited to have knowledge by the formally educated (p. 2). Furthermore, he believed that such an omission was part of what he termed "a cultural invasion" in which those who are invaded "begin to respond to the values, the standards, and the goals of the invaders" (p. 134). Through such an act, which could be accomplished by "a metropolitan society on a dependent society" (p. 134), the invaded are made to feel inferior, adopting the patterns and traditions of the

invaders, including the patterns of formal education environments from nurseries to universities which then become used as a tool for continued domination (p. 137).

The individuals of whom Toole, Duncan, and Steiner write have been able to bond with a place. They have what other more transient Americans yearn for--a place. Even though transient America may be able to go speed boating every weekend, buy a new coat every year, and take a two-week vacation, such diversions do not seem to be able to quiet the call of those personal landscapes that speak to each human being on a gut level. Often, because these landscapes are hidden by the proximity of time and place, they are undervalued and so are easily destroyed, thereby causing the individual to mourn but not knowing for what. However, substitution or "purchase" of a replacement does not fulfill the need. Freire (1994) stresses the importance of this element of place when he says:

> I must reemphasize that the generative theme cannot be found in people, divorced from reality; nor yet in reality, divorced from people; much less in "no-man's land." It can only be apprehended in the human-world relationship. To investigate the generative theme is to investigate people's thinking about reality and people's action upon reality, which is their praxis. (p. 87)

In other words, how people interpret their world is embedded in their world, their reality, and how they view it.

Concepts of Space

Technically, space is either defined "by the extension of material bodies or fields bordering on each other" (Arnheim, 1977, p. 10), or it is experienced as the setting in which everything takes place. As Arnheim points out, "Apart from the energy that pervades it, however, space cannot be said to exist physically" (p. 10). It is only perceived when it is in the presence of visible objects.

In looking at how humans relate to the concept of space, Arnheim references the sociologist Hall (1963) in his work with spatial distances between people in their daily lives. Arnheim agrees with Hall that humans will juggle the distances between objects until the balance feels right. "If the intervals are experienced as nothing but dead, empty spaces, there would be no criterion, other than practical considerations, for preferring one distance to another" (Arnheim, 1977, p. 20).

When two objects are moved so far apart that there is no relationship felt between them, the space is considered empty. Extreme emptiness can be equated with no objects at all; it is the "absence of all points of reference and orientation, the lack of attraction and repulsion, the undefined distances" (p. 21). This type of emptiness can affect the person caught in it:

> This lack of external definition destroys the internal sense of identity, because a person defines the nature of his own being largely by his place in a network of personal relations. (p. 21).

Such a situation, however, has positive effects, in that a strong personality will feel freedom and "may cope with aloneness by establishing himself or herself as the center and irradiating the surroundings from the center with a sunburst of forces that animate emptiness" (p. 22).

Moreover, when looking at such space, the visual field not only is assessed for emptiness, but it also expands horizontally and extends up vertically (p. 25). Because of this fact, a sharply defined, even horizontal boundary, such as that which appears on a great plain, tends to produce an abrupt edge between the sky and the land (p. 26). Furthermore, while the verticality pushes matter into a realm beyond human control, horizontalness represents man's world of action. "That simplest model of man's existential space is, therefore, a horizontal plan pierced by a vertical axis" (p. 35).

Americans have been observed by sociologists to conceive of space and define space by such coordinates:

> Our concept of space makes use of the edges of things. If there aren't any edges, we make them by creating artificial lines (five miles west and two miles north). Space is treated in terms of a coordinate system. . . . To us a space is empty--one gets into it by intersecting it with lines. (Hall, 1963, p. 159)

On the other hand, a culture such as the Japanese look at the area. "They name spaces and distinguish between one space and the next or parts of a space" (p. 159). In all of this, Americans have attached positional value to space,

along with standardization for how to measure it uniformly (p. 159).

Just as the Western world understands space in a different manner, its perception of the difference between the conscious and unconscious, especially in relation to time, differs from cultures like that of the Australian aborigine who defines meaning in terms of spatial consciousness. What the Western world sees as visible objects in the physical world are the closest approximation to the Australian Aborigine's idea of the conscious mind while what the Western world would call empty space is the unconscious in Aboriginal thought (Lawlor, 1993, p. 12). In such a construct, life is a cycle in which "the future is behind us and we are really moving towards the past, just as a plant during all its phases of outward growth is in reality moving towards the seed from which it originated" (p. 15). Any boundaries or enclosures erected in such a world are artificial (p. 15). This concept of the power of openness is explored by Anne Morrow Lindbergh (1972) when she writes:

> For beauty, for significance, its space
> We need; and since we have no space today
> In which to frame the act, the word, the face
> Of beauty, it's no longer beautiful. (p. 44)

Another related view of space comes from Bachelard (1994), who early in his career explored the concept of space in modern day physics. In examining a house, which he terms a study of "felicitous space" (p. xxxv), he shows that the inside space within a house is "a necessary nest for

dreaming, a shelter for beginning" (p. viii). The house is a corner of the world which is a person's "first universe" and in that lies the "poetic depth" of a house's space (p. 4). The inner space of this first universe allows a person to dream in peace and be protected (p. 6).

Furthermore, this inner space aids the memory; for "memories are motionless, and the more securely they are fixed in space, the sounder they are" (p. 9). Like for the Aborigines, such a view of space is linked to the unconscious. As such, space becomes more important than time, "for a knowledge of intimacy, localization in the spaces of our intimacy is more urgent than determination of dates" (p. 9). In order to preserve that space, humans should name it. "Each one of us, then, should speak of his roads, his crossroads, his roadside benches; each one of us should make a surveyor's map of his lost fields and meadows" (p. 10) like Thoreau (1960), who once said he had a map of his fields engraved on his soul, or Freire, who asserts that the learner must first "name" the world (1970).

Bachelard (1994) also saw daydreaming as a form of "original contemplation" which became immense when done in natural space, or "the space of elsewhere" (p. 184). When analyzing immense images, "we become aware of grandeur," and "we feel that we have been promoted to the dignity of the admiring being" (p. 184). These kinds of impressions are expressed in the spaces of the visible world: "We do not have to be long in the woods to experience the always rather

anxious impression of 'going deeper and deeper' into a limitless world" (p. 185). This leads to the conclusion that:

> Through their "immensity" these two kinds of space--the space of intimacy and the world space--blend. When human solitude deepens, then the two immensities touch and become identical. (p. 202)

In the meeting of those spaces, Bachelard sees both the centrism of things and the differing dialectics of center and horizon:

> In this coexistenialism every object invested with intimate space becomes the center of all space. For each object, distance is the present, the horizon exists as much as the center. (p. 203)

For example, the desert in its immensity is "annexed" to the immensity of inner space (p. 204), which in no way equates with inner emptiness but instead to "inner substance" (p. 205). Such a study is interesting because:

> There would always be nuances, too, between dreamers who are calmed by plain country and those who are made uneasy by it, nuances that are all the more interesting to study since the plains are often thought of as representing a simplified world (p. 204).

A person can be changed forever by certain psychically innovating spaces. Individuals like Diole have described how once having been in the deep sea, they can never be like any other men again. Diole observed that even in the midst of a desert, he could still imagine himself in deep water (p. 207).

Perception of such kinds of space "is not a passive process of registration, but an active process of

interaction between organism and environment. Perception is an achievement" (Hilgard, 1978, p. 36). The goals of perception are to insure that the space around is stable and that there is some degree of definiteness about that space. In order to achieve those goals, what the senses bring in regarding values like distance and size must in some way agree. Understanding such an area involves more than just knowing the important places. It also involves knowing how those places connect and how they are related to each other (Kaplan, 1976, p. 42).

Part of understanding those kinds of relationships in larger spaces that cannot be seen in a few glances is understanding how such spaces are organized cognitively (Stea, 1978). Spaces consist of a series of "points," and that there may be several ways to hierarchically arrange the space. Such space is "bounded" in some way, either clearly or indistinctly, which may add to the possible barriers in moving from one space to another. Furthermore, each of those barriers have their own characteristics (p. 46).

Understanding such parameters relates to the concept of "environmental cognition," a term that "refers to the awareness, impressions, information, images, and beliefs that individuals and groups have about the elemental, structural, function, and symbolic aspects of real and imagined physical, social, cultural, economic, and political environments" (Moore & Golledge, 1976, p. 5). In this idea the person knowing has an impression not only of the

environment and its basic elements, but also of other dynamics and the inter-relatedness of all the elements, including the "meaning, significance, and mythical-symbolic properties" (p. xii). Understanding the environment is perceived is a relative matter with no one view being better than another other. Environmental cognition then includes not just impressions of the elements of an environment that are usually considered influential on behavior but also those impressions of the special events, the dynamic and cyclic occurrences, the conceptual patterns, the personal meaning, and "collective symbolism" in a place (p. 5).

There is a tremendous range of theories applied to the idea of environmental cognition. In fact, "there is a total lack of coherent theory in the area of environmental cognition" (Downs, 1976, p. 75). Even including an adaptation of Piagetian theory to the field, "We still do not have agreement as to the connection between perception and cognition and between image and cognitive map" (p. 76).

In this search for understanding, there are those who do not use *perception* and *cognition* interchangeably, who view the terms as degrees along a spectrum. To them, *perception* is the more specific of the two, applying to the act of receiving stimuli and the behavioral response that follows it. *Cognition*, on the other hand, is used by such people as a more general term that includes perception but also many other actions such as recall, reasoning, problem

solving, judgment, and evaluation (Moore & Golledge, 1976, p. 6).

The situation is confused further in that many sociologists, political scientists, and social geographers use the terms *perception* and *cognition* interchangeably. They find it impossible to separate an individual's reality from the very nature of that individual or the context in which it finds itself. In this case, "perceiving" is defined:

> That part of the process of living by which each one of us, from his own particular point of view, creates for himself the world in which he has his life experiences. . . . Without taking any metaphysical position regarding the existence of a real world, independent of experience, we can nevertheless assert that the world-as-experienced has no meaning and cannot be denied independent of the experience. The world as we experience it is the product of perception, not the cause of it. (Ittelson & Cantril cited in Moore & Golledge, 1976, p. 15)

In processing all the various information received in knowing an environment, a person must have "cognitive clarity, a state of mind characterized by a strong focus and the suppression of distraction" (Kaplan, 1978, p. 84). This capability is central to survival for an information-based human, who could otherwise be overloaded by information from the space around it. Making sense of the environment and involvement with the environment are two facets necessary in coping with uncertainty in the surrounding space (p. 89).

How the information is processed seems to be the question that has embroiled most researchers. At one end of this spectrum is a very scientific and precise description

of both the external and internal processes of cognition. Such a narrow view is hampered by environmental knowing being a dynamic process. It is a subjective area dependent on the group studied, and it manifests itself in psychological space (Moore & Golledge, 1976, p. 10).

At the other end of the continuum is a rather metaphorical use of the phrase "cognitive map" or "mental map" to describe how people see and understand their environment, evaluating the information, planning, and deciding on their actions in the particular environment (Kaplan, 1976, p. 33). Cognitive mapping is much more complex.

> [It] is a construct that has been proposed to explain how individuals know their environment. It assumes that people store information about their environment in simplified form and in relation to other information they already have. It further assumes that this information is coded in a structure which people carry around in their heads and that this structure corresponds, at least to a reasonable degree, to the environment it represents. It is as if an individual carried around a map or model of the environment in his head. The map is far from a cartographer's map, however. It is schematic, sketchy, incomplete, distorted and otherwise simplified and idiosyncratic. It is, after all, a product of experience, not of precise measurement. (Kaplan, 1973, pp. 275-76)

In the analysis of how humans deal with the space around them, there appears to be multiple approaches to understanding the relationship between the organism and the environment. One approach is to examine the concepts and attitudes, taking a structural route and examining what information is selected and stored and how it is organized

in the mind. Another approach is evaluative, looking at what is considered important in the environment and how that affects decisions involving space. A third approach could be called preferential for it examines the relationship between certain behavioral objectives and spatially differentiated objects (Kaplan, 1976, p. 18).

In any event, it would appear that knowing the environment and surviving and thriving in it depend on several capacities for handling information. These include: (a) object recognition, which involves "dealing with a great deal of uncertainty" (p. 34); (b) the ability to anticipate future events and not necessarily in a single-step procedure but instead in a network of possibilities and more like a chess game; (c) the capacity to abstract and generalize from experience since each experience is particular and nonrecurring; and (d)) the capacity to innovate, or problem solve, when a new situation arises that does not fit an accustomed pattern but for which action of some type is required (p. 35).

To help order this maze of thinking, Kelly (1955) developed Personal Construct Theory (PCT), which in its philosophy runs counter to what he called "accumulative fragmentalism" (Downs, 1976, p. 79). The latter concept is based on the idea that there is a single and often hidden truth that forms the foundation to all knowledge. That truth is revealed only by the inquirer patiently amassing and understanding bits of information which are then assumed

into a sort of gigantic multidimensional puzzle, which no one ever expects to be finished (p. 79).

On the other hand, Kelly's PCT model is based on the belief that people never come into direct contact with a world made up of simple facts. Instead, people have more varied responses.

> [They] make assumptions that lead to interpretations, and we then proceed to find out how useful these assumptions are. The world around us is open to as many varied constructions (or interpretations) as we are able to generate. There is not one right interpretation to be sought out; there is no holy grail. (Downs, 1976, p. 79)

In this theory, the value of an interpretation is measured in its usefulness with all constructs being open to reconstruction. In fact, the larger the accumulation of facts surrounding a particular construct, the "greater the invitation to generate a reconstruction that will reduce the facts to a mass of useless trivialities" (p. 80).

When applied unthinkingly to environmental knowing, learning theory, according to Downs (1976), can quickly resemble accumulative fragmentalism since learning theory holds that knowledge about the world is gradually accumulated through experience. Although urban cognition may not follow the pattern, length of time in an environment could well become the critical factor in the success in how one knows the environment. It probably is more constructive to view environmental knowing as a process which builds alternatives for "knowledge of the environment is not based

on the progressive accumulation of the jigsaw-like pieces of a cartographic map" (p. 80).

A fundamental part of PCT is the element of choice and how anticipation guides to a large degree the process of knowing for "a meaningful construct is one which is designed to embrace the future rather than merely catalog the past" (Downs, 1976, p. 82). Kelly felt:

> [People are not] inert objects waiting to be impelled into action by forces exogenous to them. They are actively construing their world and are trying to anticipate events so that they can make decisions about appropriate behavior. Life is a process of construing and reconstruing the world in which we live. (p. 81)

The shift of focus then is from the belief that people have a set and predetermined image to a more fundamental question of "the role of knowledge in anticipating events and in selecting (or channelizing) appropriate solutions in the form of spatial behavior" (Downs, 1976, p. 81). According to Kelly, people form their constructs from inside themselves. "They are imposed upon events, not abstracted from them" (p. 81). In other words, "sense is made, not given" (p. 82).

These thoughts are reflected in a number of studies, including those done by Piaget, which showed how children learn about their environments and judge and operate in those environments (Moore, 1976, p. 140). Klett and Alpaugh (1976) reference Rusch who differentiated between *perception* as external awareness, *conception* as internal awareness, and *reflection* as mental representation, which

is a more contemplative stage (p. 129). Moore's (1976) approach in understanding perceptions of the environment blends a transactional and constructivist approach; to understand how people learn about their environment, it is first necessary to understand what people do in their environment, how they interact in that space, and how the hidden variables in their lives may affect that knowing (p. 163). It seems as if in drawing the relationship lines between a person and a social system and a place and its spatial reference system, that there has been more focus put on the points and not on the relationships or lines between or diagonally (Buttimer, 1976, p. 217).

Anthropologists tend to look at environment cognition less in terms of stressing knowledge as the psychologists do but more in terms of what in the process of cognition makes the world meaningful. They look more at understanding how meaning is given to the world than in trying to determine how the world is known (Rapoport, 1976, p. 221). One of an anthropologist's major tasks in gaining an understanding of how people understand their space is to ask the question, "How do people create order out of chaos?" (p. 222). How do they categorize, organize, and define their world? A culture's orientational system is one example of a component to which an anthropologist might refer in seeking answers to how a culture defines its space (p. 228). Such an understanding of a culture's patterns for ordering its space and situation are critical not only in understanding the

culture itself but also subsequently in successfully communicating across cultures (Hall, 1963, p. 122).

Another way of evaluating human relationships to space is through literature, which can be read for its "articulation of experience" or its conceptual frame (Tuan, 1976, p. 262). For example, the twentieth century world can gain a glimpse of the world of the Middle Ages not just by reading warriors' great deeds or the writings of the great philosophers like Thomas Aquinas but also through the folk views seen in the religious festivals, the songs, the fables, and the morality tales (p. 262). In fact, the visual descriptions embedded in literature and the character's responses to them lead to a heightened awareness of a sense of place and what it means to the individual (Shin, 1976, p. 278). In other words, works of literature provide another lens, another perspective, of how the space around an individual is viewed.

Perspective

If the learning process is viewed as an art rather than a science, then those seeking to understand learning can identify with artist Max Beckman who said, "I am seeking for the bridge which leads from the visible to the invisible" (Knobler, 1980, p. 295). To understand the invisible, it can be helpful to look at art theory and to examine theories of seeing for "art articulates experience" (Tuan, 1976, p. 263).

Theories of art hold that it is not the seeing that identifies an object or helps a person to drive a car or read a book. It is "the more objective sight that recognizes forms and values for their own sake without referring to an object" (Simmons & Winer, 1977, p. 2). For example, the act of drawing requires:

> First, the ability to judge accurately shapes, relationships, and proportions; second, the visualizing activity that allows us to recognize and organize drawing potential in a subject; and third, the ability to read and interpret the marks of the drawing itself. (p. 3)

Drawing then involves both thought and action in that it involves the action of seeing, followed by a way of understanding that sight. "All the marks that constitute a drawing define, act, and interact" (Goldstein, 1977, p. 215). More than simply a robotic recording of a surroundings, drawing involves synthesization in addition to all the elements of line, form, value, texture, color, and space (Chaet, 1978).

Of those elements, the interpretation of space is most closely related to this study. Space can take on several meanings. "In art, as in life, space is an intangible element" (Zelanski & Fisher, 1988, p. 92). In drawing, it can be either the feeling of the three-dimensional area that lies within the borders of the paper, or it can be the area that separates one form from another (Simmons & Winer, 1977, p. 45).

Human beings live in a three-dimensional world. It is filled with three-dimensional objects and that requires

movement in and around a three-dimensional space. Spatial depth affects everything done. Knowing it is an innate understanding, because human beings are three-dimensional persona not flat cartoon characters from the world of Roger Rabbit. In fact, the major human senses are spatial in that they inform humans about "such spatial properties as scale, interval, frequency, intensity, contrast . . . and balance" (Chard, 1987, p. 24). For example, because human beings have a vertical orientation in space, "a simple horizontal division of a rectangle immediately implies a sky-ground relationship" (p. 27).

When an artist attempts to translate the three-dimensional world to the two-dimensional plane of paper or canvas, however, there are problems of perspective that are made even more difficult by the fact that space is an element that cannot be touched.

> Three-dimensional knowledge must be reevaluated and translated into two-dimensional patterns based on a fixed relationship between the draftsman's eyes and the object being drawn. Since actual spatial depth is absent from the surface of the drawing paper, three-dimensional reality must be interpreted as a two-dimensional pattern. (Mendelowitz, 1976, p. 46)

Linear perspective was developed during the Renaissance as one way to solve this problem of interpretation. In this method, objects grow smaller as they get farther away. This view is different from "tiered perspective," a method used by the Egyptians and Medieval Europeans, in which the lower parts of a drawing represent closer sections and the upper sections are meant to be further away in space and time

(Simmons & Winer, 1977, p. 47). In linear perspective, not only are objects allowed to overlap if they are in the same path, but parallel lines are seen to meet at what is termed a vanishing point. This spot is that point which is about eye level to the viewer and which is located where two parallel lines meet as if on an imaginary railroad track at the horizon where the earth curves from view (p. 48).

This idea of linear perspective changes the relationship between the viewer and the object. The viewer is given the illusion of "being enveloped by this expanding funnel of space" (Arnheim, 1974, p. 294). This way of seeing can be interpreted as an acknowledgement of the viewer because "the funnel of central perspective opens like a flower toward the observer, approaching him directly and, when desired, symmetrically, by making the picture's central axis coincide with the viewer's line of sight (p. 294). Such a view of space is a result of Renaissance individualism because the world is seen from the viewpoint of the perspective viewer. Suddenly, the individual is free to move about sideways and back and forth and to change slightly with each move the individual perspective of the world (p. 295).

Such a viewer sees the self as the center of the world and "as he moves, the center of the world stays with him" (Arnheim, 1988, p. 36). Other objects are secondary. With this theory, "the dynamics of any center operates reciprocally, in both outer-directed and inner-directed

ways" (p. 36). The relationship is also a dynamic one because the vanishing point becomes the apex of a pyramid that forms the basis for the picture's world. Arnheim references Leonardo da Vinci who wrote:

> Perspective employs in distances two opposite pyramids, one of which has its apex in the eye and its base as far away as the horizon. The other has the base towards the eye and the apex on the horizon. (p. 295)

Nearly five hundred years later, the poet William Butler Yeats (1966) would apply the same idea of responding forces in his image of the gyres:

> Turning and turning in the widening gyre
> The falcon cannot hear the falconer
> Things fall apart; the centre cannot hold.
> (p. 113)

A gyre, as it appears in Yeatsian poetry, is cyclical in nature but three-dimensional like a tornado funnel. An event triggers the motion of the gyre in its upward spiral with the circle at the top growing ever wider much like a funnel. As the circle at the top widens, it reaches a point where the center no longer can hold the gyre in orbit. The power of the gyre dissipates with the gyre falling away from itself. However, at that point, a new gyre is born, growing in the other direction. At some point, it too will fall away, and another gyre will be born. Much like da Vinci's view of pyramidal forms in linear perspective, Yeats' metaphor is at once two dimensional and three-dimensional for as the gyre moves on a circle on one plane, it also grows in a spiral.

These figures and the movement inferred in them relates to the concept that "visual experience is dynamic" (Arnheim, 1974, p. 11). What an individual sees is more than mere static objects or colors or sizes. It is the relationship, the "interplay of directed tensions" (p. 11). How those relationships are formed is perception, or the awareness of the world (Knobler, 1980, p. 12). An activity that begins early in childhood, perception is the process in which the individual orders and gives meaning to what is seen (p. 14).

Another concept in the theories of perception is that which gestalt psychologists have called the basic law of visual perception: "Any stimulus pattern tends to be seen in such a way that the resulting structure is as simple as the given conditions permit" (Arnheim, 1974, p. 53). Simplicity is what the observer through personal experience and judgment believes can be understood with no trouble (p. 55). The concept can be tied to how the observer orders the world:

> For when things are arranged in such a way that when they are represented to us by the senses we can easily imagine and, in consequence, easily remember them, we call them well ordered and, in the opposite case, call them badly ordered or confused. (p. 55)

Because the viewer is the center of the frame of reference, the simplest and most "agreeable" vista in art is the orthogonal one, the perpendicular one. In other words, the viewer's eyes meet the object at right angles. Oblique or sideways views are more complex and create disagreement in the viewer because two worlds, the world of the viewer

and the world of the seen, come into conflict (Arnheim, 1988, p. 48). However, in reality the individual sees the world sideways, which is a more complex view. As a result, "entering the world becomes a problem" (p. 49). Humans are not detached viewers of the world, but instead:

> We are in it and of it, and we therefore see it partially and from a private perspective. . . . In a typically and perhaps exclusively human way we participate actively in our world while at the same time trying to view it with the noninvolvement of an observer. (p. 43)

The complications of a balancing center extend beyond fine art into the "real" world.

> As the spatial surroundings change, so does its balancing center. When the space is continuous, as in a hallway, the center may move steadily with the viewer like a guiding star. (Arnheim, 1988, p. 212)

On the other hand, if the space is broken up into a succession of separate spaces, then the interpretation becomes more complex. Each separate space's center must be approached, deciphered, and overcome before progressing on to the next center (p. 213). Therefore, the rapidly changing images not only of life but also of the movie or video world become more difficult to process.

Creation of a Frame

To aid the artist in accomplishing this feat of viewing, it is generally accepted that the artist use "the square viewer," a square cut from cardboard or stiff paper which allows the artist to "locate an object in space and thus see vertical, horizontal, and proportional

relationships" (Mendelowitz, 1976, p. 54). This viewer acts much like the frame of a piece of art or even a window that one might look out of onto a natural landscape. It helps to focus the eye and to limit and define the space while also aiding the artist in seeing with a new eye. "The trouble is that once we recognize an object--we tend to stop thinking about it critically" (Chard, 1987, p. 19).

Furthermore, the negative space, that space between the frame and the object, also helps the artist to delineate the shape of the object (Mendelowitz, 1976, p. 54). In using such a slide or frame, the artist is encouraged to change the positions of the viewer in order to see the object in a variety of ways in relation to the horizon line. In this way, the artist like any person in the real world maintains the control for changing the spatial relationship to what is being studied. This can be done either to view the object in its entirety; to see it in relationship to its surroundings; or to look at one part closely, examining the small details (Zelanski & Fisher, 1988, p. 92).

This framing act is based on the theory of the picture frame which was first developed in the Renaissance with the construction of lintels and pilasters surrounding the altars in the churches. As the world became more secular and the pictorial began to move from being a part of the wall of the altar, a need developed to create a clear line of demarcation between the space of a room and the space of a picture.

> This world came to be conceived as boundless--not only in depth, but also laterally--so that the edges of the picture designated the end of the composition, but not the end of represented space. The frame was thought of as a window, through which the observer peeped into an outer world, confined by the opening of the peephole but unbounded in itself. (Arnheim, 1974, p. 239)

Such a frame accomplishes several things. First of all, it defines the area as "a closed entity, a center that exerts its dynamic effects upon its surroundings as well as upon its own inside field" (Arnheim, 1988, p. 56). Moreover, the frame "separates an image from its surroundings to indicate that it is a world of its own" (p. 57). The principal function of this defined space then is the creation of its own center, a point that organizes and balances the elements (p. 58). "The frame is the foundation on which a painting's composition is built. It determines the limits and contents of the work" (p. 66). This idea is proven by an empty frame which will establish its own center through the basis of the visual equilibrium of its four sides.

The frame is not only an integral part of a picture's composition, but it also speaks to the autonomy of the viewer who can move about freely (Arnheim, 1988, p. 214). A motion picture or a video does not have the same effect for it is an extension of an immobile viewer locked in one spot. Moreover, the centering effects are diminished in the rapidly changing images that reflect the more oblique reality of life. "Visual composition reveals itself more

readily in the quiet detachment from time, found in the immobile works of painting or sculpture" (p. 214).

One of the key elements in this translation process is the concept of the horizon line, the imaginary line that is equivalent to the observer's eye-level view of the world. To successfully interpret what is seen, the artist must establish mentally the horizon line, which shifts as the observer shifts position. Unless the viewer is on a wide open plain or the high sea, the task of establishing this guiding line is made more difficult because "normally, obstacles such as hills, houses, walls or foliage block our view of actual horizon lines" (Goldstein, 1977, p. 113). Those barricades can at times skew the sense of placement in space.

In the act of framing, the artist is drawing a boundary around space, and so it is important to understand the dual nature of space. This can refer to the feeling of three-dimensional space reflected on the confines of the artist's paper, or "it can refer to the area that separates one form from another on the picture plane. An aspect of the second spatial delineation is often called negative space, interspace, or background" (Simmons & Winer, 1977, p. 45). How the positive shapes of objects or persons are configured within the negative space or empty areas is tied in large part to how everyone sees their world (Edwards, 1989, p. 98). Adults, trained in a culture that organizes its reality in analytical and linear fashion, tend to focus

on the objects in space and not on the space itself. Objects, people, and forms become most important, with backgrounds filled in as an afterthought (p. 99)

Beginning artists aren't the only ones to lavish their attention on positive spaces. People in everyday life concentrate on objects (Arnheim, 1974). In Luria's experiment with children's reactions to colored patterns, they quickly reacted to the foreground figures, but ignored those in the back (p. 236). The bias against negative space is also found in the interpretations of Rorschach ink blots. "Figure-ground reversal is facilitated by structural ambiguity, positive use of the interstices is said to suggest a diagnosis of negativism, stubbornness, doubt, suspiciousness, or even incipient paranoia" (p. 236).

According to theorists, the artist must not only acknowledge these spaces that are subconsciously maligned by the mainstream viewer but must also understand them and their power as thoroughly as the positive spaces. Such an understanding of the subtle balancing between positive and negative spaces can be found in nature in how leaves grow.

> The interaction between the separate elements creates a systemic order that keeps the distances between the branches all nearly constant, even though the individual details of ramification are totally unpredictable. (Arnheim, 1974, p. 239)

Like the artist, Freire also saw the slide as a tool in perspective (Meierhenry, 1983). He used it to help students gain new perspectives about their world. In fact imaging, or codification, was an important part of Freire's literacy

programs. To him codification "mediates between the concrete and theoretical contexts of reality" (Freire, 1970, p. 214). In teaching recognition of a word, the learner is presented with an image that reflects some significant aspect of the learner's concrete reality. The essence of the word is captured and expressed as a "moment in concrete" (Escobar & Escobar, 1981, p. 5). Through this means the word could then become the object of a teacher-learner dialogue, with the "deep structure" (p. 6) of the word being explored.

Given the artist's concept of the use of a frame, it is possible that the untrammeled vistas and space of Eastern Montana may also serve as a frame for the people living there. With no buildings or trees to block the view, the rural viewer has a clearer and surer sense of where the horizon line lies. In looking at the setting sun on the horizon, the positive space, the land or earth features, have obvious equal value to the negative space or sky. In fact, they may be naturally following Chard's (1987) advice to landscape artists, "If the sky can be seen as a positive space compositionally, it will provide strength and stability to the picture" (p. 33).

Self-Directed Learning

Because choice is involved in how perspectives are framed, the concept of self-directed learning needs to be examined in any study about rural adult learners and how

they perceive their environment. Moreover, how one views the world can become an important part of the learning process and an important part of understanding the environment comes through self-directed learning. Self-directed learning as been defined as a type of learning in which individual assume the primary initiative, with or without the help of others, for planning, conducting, and evaluating their own learning activities (Knowles, 1975).

Although excluded in the past from consideration in formal settings, self-directed learning can take place both inside or outside of an institution. This is possible because the learner has the "primary responsibility for planning, carrying out, and evaluating their own learning experiences" (Merriam & Caffarella, 1991, p. 41). This idea of maintaining control and retaining responsibility of one's learning certainly fits with the concept of self-directed learning.

> Most adults are accustomed to having control over many aspects of their own lives. The fact that they are illiterate or socially and economically deprived does not change the fact that they are used to making decisions for themselves. (Fellenz, 1982, p. 84)

Even with the attendant responsibilities for the learner, "it seems apparent, then, that control, freedom, and flexibility are the major motivators for engaging in self-directed learning" (Merriam & Caffarella, 1991, p. 44).

An early advocate for self-directed learning, Tough (1971) speaks for "deliberate learning," a factor which motivates everyone to undertake at least one or two major

learning efforts a year with some individuals undertaking as many as 15 or 20. In fact, his studies revealed that "it is common for a man or woman to spend 700 hours a year at learning projects" (p. 1). Furthermore, although deliberate learning, which manifests itself in "learning projects," is initiated for a variety of reasons, in 70% of the projects it is planned by the learner alone (p. 1).

Such planning carries the implication that the learner has control of the situation. Thus, the learner controls the frame through which the project is viewed. That self-control is critical in the framing process because it allows the individual to choose the perspective and to be responsible for that choice. Furthermore, it can be tied to Freire's idea of cultural invasion in which a force outside a culture holds the frame.

> The actors draw the thematic content of their action from their own values and ideology; their starting point is their own world, from which they enter the world of those they invade. In cultural invasion the actors (who need not even go personally to the invaded culture; increasingly, their action is carried out by technological instruments) superimpose themselves on the people, who are assigned the role of spectators, of objects. (Freire, 1994, p. 161)

Tough (1971) first outlined the key-decision points that determine how, when, and why adults choose to learn. "Several times during the year, an adult initiates a major effort to learn or change" (p. 44). It can be "assumed that adults have a wide range of abilities for planning and guiding their own learning activities" (Merriam & Caffarella, 1991, p. 45). These learning projects are

intentional and have some type of lasting change (Tough, 1971).

It would seem rather ironic that with all of his work in documenting intentional changes in adults, Tough (1982) found non-changers of great interest. He found them to be busy, contented, upper-middle class with above-average education (p. 45). "Change is not somehow better or more important than nonchange" (p. 46). However, because most of the world seems to be changing all the time, there is a general negative feeling about "those resistant to change" (p. 46). In reality, "when we talk about resistance to change, we probably meant the person will not choose the particular changes or paths that we think best" (p. 46).

Critical of attempts to apply traditional theories of learning to adults, Malcolm Knowles (1980) coined the phrase *andragogy* to help explain his theory of adult learning. His theory is marked by some key assumptions. Because he saw adulthood as developmental rather than a downhill slide, he believed that success in teaching adults lay in awareness of "the teachable moment" (p. 51), or that point in time when adults may be most ready to learn. Because adults engaged in learning as a response to some type of pressure in their lives, they tended to be more "problem-centered" in their approach to education (p. 53). The pressure helps to trigger the "teachable moment" in which receptivity, opportunity, need, and the new idea all come together as a window to learning.

Adults, who appear to be more self-directed than young learners in primary or secondary school, are more inclined to use their experience as a resource in their learning (Knowles, 1980, p. 55). This latter point is especially important because "learning is an internal process. . . . Those methods and techniques which involve the individual most deeply in self-directed inquiry will produce the greatest learning" (p. 56). The adult learners need to be allowed to diagnose their own needs for further learning, formulate their own objectives, share the responsibility for carrying out the learning activities, and finally evaluate their own progress.

> The truly artistic teachers of adults perceive the locus of responsibility for learning to be in the learner; they conscientiously suppress their own compulsion to teach what they know students ought to learn in favor of helping students learn for themselves what they want to learn (p. 56).

However, self-direction does not mean seclusion. Self-direction is not an isolated process but rather is one that often encompasses other learners, teachers (who are facilitators and guides for self-directed adult learners) as well as many other resources (Knowles, 1975). The "superior conditions for learning" (Knowles, 1980, p. 57) include the fact that the individual feels the need to learn, that the environment is both physically and emotionally comfortable, that the learner "owns" the goals of the experience, that the individual assumes the responsibility for the experience, that the individual participates actively in the learning, that the process is tied to the learner's

experience, and that the individuals feel like they made progress toward their goals (pp. 57-58).

Both Knowles and Freire stress the need to analyze one's own experience and both speak to the power of learners themselves. They see the learner as best suited to determine what that individual may need. This point is especially important since Knowles does not believe that adults will learn what they see as irrelevant to their lives.

The view of self-directed learning as advanced by Tough and Knowles has been described, however, as linear in how it follows the model of the formal education pattern of needs assessment, strategy, implementation, and evaluation (Merriam & Caffarella, 1991, p. 210). Moreover, securing adequate resources has been identified as essential to the process; and because it is assumed that the process can take place in a number of settings, its validity has been questioned (p. 214). Indeed, adults may need help in identifying resources and in how to direct their learning projects (Fellenz, 1982).

Brookfield (1986) raises questions about andragogy as a theory because he does not see self-directed learning as "an empirically verifiable concomitant of adulthood" (p. 26). For example, that group who are considered chronologically adults definitely contains individuals who show no evidence of self-direction in their lives. There is also the question of regionality in regards to research sampling, for

most of the theories advanced are based on the white, middle-class Americans in continuing or extension education classes (p. 33).

Even so, Brookfield sees self-directed learning as central to the adult learning experience. He includes a set of nine basic principles for adult learning devised by James (1983) which include the acknowledgement that adults are a "highly diversified group of individuals," that the learner's experience is a major resource in a learning situation, that adults tend to be "life-centered in their orientation to learning," that adults are motivated by a variety of drivers, and that "a comfortable, supportive environment is a key to successful learning" (Brookfield, 1986, p. 38).

Self-directed learning does create the need for teachers to "serve as a facilitator rather than as a repository of facts" (Conti, 1983, p. 63). There are several methods that teachers can use in helping adults to become self-directed learners. The list includes decreasing dependency on the educator, helping the learner to understand how to use resources, assisting the learner in defining needs and objectives, helping the learner to develop an approach to the learning process, helping with problem solving, and emphasizing participative instruction (Brookfield, 1986, p. 37).

The literature seems in agreement with the statement that adults are learning continually as well as informally

and usually in response to changes in their world (Knox, 1977). However, adults often tend to underestimate their abilities and that along with their overemphasis of the importance of school experience sets up situations in which they underachieve. In spite of individual differences and the aging process, "almost any adult can learn anything they want to, given time, persistence, and assistance" (p. 469).

Critical Awareness

An important step in the journey of the self-directed learner toward understanding of the world around lies in the development of critical awareness or the ability not only to see but also to "know" one's world. The development of critical awareness, which can also be referred to as the process of conscientization (Freire, 1985), is not a static concept but a dynamic one that moves from "revealing identity" to "transforming that reality" (Taylor, 1993, p. 61). In order to be part of that process, the learner had to see with new eyes. Freire believed that one of the important goals of the process was to create a new frame whereby one could see that world "not as a 'given' world, but as a world dynamically 'in the making'" (Freire, 1985, p. 106). In other worlds, this is an ongoing process.

> Conscientization thus involves a constant clarification of what remains hidden within us while we move about in the world, though we are not necessarily regarding the world as the object of our critical reflection. (p. 106)

In living close to the land and being dependent on it, knowing the land's powers and the human relationships to it would seem to be greatly enhanced through the development of critical awareness. As Freire (1994) points out, "Human beings *are* because they *are in* a situation" (p. 90).

In some ways, this type of learning is almost like trying to discover a thematic thread in a novel, a similarity drawn by Freire when he makes the connection between education and what he terms "thematic investigation" (p. 90). Through the critical thinking of such an investigation, people gain a sense of where they are and so form an awareness of the need for problem solving. "Every thematic investigation which deepens historical awareness is thus really educational, while all authentic education investigates thinking" (p. 90).

As part of this "conscientization process," the learner must be able to pull back and objectively view reality. Freire's use of pictures and slides as part of "the development of the awakening critical awareness" are an excellent example of using a resource to help the learner attain an objective viewpoint (Meierhenry, 1983). In using such a slide, the learner retains control, adjusting the frame to fit the reality chosen.

In such awareness, lies the power of transformative learning, "knowing implies transforming" (Freire, 1973, p. 1). Knowledge needs to be seen not as a fact but as a process which liberates by building an individual's belief

in self. The simple transference of knowledge or fact was called "education for domestication" (p. 1) or "banking education" in which deposits and withdrawals of fact are made by the educator into and from the learner. In such a system, educators viewed knowledge as something to have or to possess.

> By recognizing that the educatees are those who do not know, they conclude that their task is to transfer their knowledge. So it is as if the educatees are mere empty bodies to be filled by the knowledge which is transferred from those who know. (p. 1)

Educators should instead "invite people to believe that they have knowledge" (p. 2), a fact that the colonizing dominant cultures have continued to avoid doing. What has resulted is what Freire terms a "culture of silence" (p. 2) which suppresses learners and keeps them from knowing that they have the power to know already in order to transform the world.

Freire saw the oppressed as being removed from the power of knowing that they could make their own decisions, which is a policy that education uses to continue its oppression. Moreover, education is never neutral. "Either it is an instrument to facilitate conformity to the present system, or it is a process for helping people to deal critically with the realities of their world" (Conti, 1977, p. 39). Both Horton and Freire believed that learning could just as well occur outside the traditional classroom. Both men saw education as a process, and both saw that learning had to be tested in real-life situations. Perhaps most

importantly, however, both saw that learning helps the individual come closer to becoming a self-actualized person.

One of the key components of the development of this type of awareness is the presence of reflective thought, which is "reflection upon the content of one's environment and one's experiences" (Merriam & Caffarella, 1991, p. 259). Mezirow (1981) and his theory of transformative learning are important in this consideration of rural adults and their landscapes. Transformative learning is also equated with emancipatory learning, which is "characterized by interest in self-knowledge and insights gained through self-reflection" (p. 11). Such a process is unique to adulthood.

> Perspective transformation is the process of becoming critically aware of how and why our presuppositions have come to constrain the way we perceive, understand, and feel about our world; of reformulating these assumptions to permit a more inclusive, discriminating, permeable, and integrative perspective; and of making decisions or otherwise acting upon these new understandings. (Mezirow, 1990, p. 14)

In this theory, the emphasis is on becoming aware of the why in learning. Adult learning is not simply adding to what is already known. Instead, adult learning involves becoming aware of an existing perspective and changing that knowledge into something new. This evolution of a new idea is usually set in motion by a dilemma in which old patterns of behavior have proven to be ineffective. In the process of creating the new perspective, the learner is freed or transformed much as the Freire learner. However, Mezirow

sees such social action as Freire would advocate as the learner's decision not that of the educators (Mezirow, 1989, p. 127).

The traits required by Freire's codification process and Mezirow's perspective transformation are reminiscent of Brookfield's critical thinking theory. Brookfield (1987) saw four components in critical thinking: (a) identifying and challenging assumptions, (b) challenging the importance of context, (c) imagining and exploring alternatives, and (d) reflective skepticism.

It would appear that the ability to imagine alternative action is one of the most important traits in this creative process. Furthermore, because of the creativity elicited in the process, critical thinking is not purely rational or mechanical. "Such a model moves this approach to thinking from a totally intellectual activity to a more holistic endeavor" (Conti & Fellenz, 1991, p. 67).

Holistic Thinking

If understanding the landscape's power on rural adult learners means moving out of the naive Grandma Moses world of white picket fences and into the dynamics of a Wyeth or Turner world, then the perception of the world as a whole becomes increasingly important. Nobel prize winner Roger W. Sperry and his colleagues confirmed that human thinking is a dual function:

> The data indicate that the mute, minor hemisphere is specialized for Gestalt perception, being

> primarily a synthesist dealing with information input. The speaking, major hemisphere, in contrast, seems to operate in a more logical, analytic, computer-like fashion. Its language is inadequate for the rapid complex syntheses achieved by the minor hemisphere. (Levy & Sperry, cited in Edwards, 1989, p. 29)

They discovered that verbal and analytical thinking mainly takes place in the left hemisphere of the brain while visual and perceptual thinking occurs on the right side of the brain (Edwards, 1989, p. xii).

In this theory, "the left hemisphere analyzes, abstracts, counts, marks time, plans step-by-step procedures, verbalizes, and makes rational statements based on logic" (Edwards, 1989, p. 35). Left mode dominated activities include working math theorems, using numbers in counting, keeping track of time, making decisions based on reason and facts, and figuring out problems step by step and part by part.

Not only is the left mode dominant in the brain, but according to Edwards, society functions in the left mode. School systems are even set up along left-mode systems--lessons are sequenced; students progress linearly through grades one, two, three, and on and on; the main subjects studied are verbal and numerical; time schedules are strictly followed; seats are placed in a row; and teachers give out grades based on a number sequence (Edwards, 1989, p. 36). Only partly in jest, scientist Levy pointed out that, "American scientific training through

graduate school may entirely destroy the right hemisphere" (p. 37).

On the other hand, the right hemisphere imagines, recalls, and sees how the parts make up a whole. Here is where humans dream, understand metaphors, and create new ideas. Right mode dominated activities include functioning with little sense of time, using intuition, synthesizing, having a willingness to suspend judgment, making leaps of insight, and seeing overall patterns.

Although there may be an ongoing controversy about the location in the brain of the functions, it is accepted that the brain does have two basically different cognitive modes. These cognitive modes have been related to the hemisphere of the brain, "The left hemisphere analyzes over time, whereas the right hemisphere synthesizes over space" (Levy in Edwards, 1989, p. 35).

> [Consequently,] even in the midst of the argument about location, most scientists agree that for a majority of individuals, information-processing based primarily on linear, sequential data is mainly located in the left hemisphere, while global, perceptual data is mainly processed in the right hemisphere. (p. xiv)

Based on her instruction of drawing, Edwards believes that for educators the location of the processing is not important but that what is important is an awareness that information is handled by the brain in two different ways. She has found that "in order to gain access to the subdominant visual, perceptual R-mode [right-brain] of the brain, it is necessary to present the brain with a job that

the verbal, analytic L-mode will turn down" (p. xiii). Furthermore, for most people, the left-brain way of thinking is easiest, is normal, and is very familiar. Most people approach their world through this familiar channel, neglecting the access they have to a more holistic view. "In order to access the verbal, analytic L-mode [left-brain], it is necessary to present the brain with a task appropriate to L-mode (reading, writing, and arithmetic, for example)" (p. xiii).

Edwards (1989) found that the L-mode of the brain does not deal with empty spaces. "It can't name them, recognize them, match them with stored categories, or produce ready-made symbols for them" (p. 100). However, the R-mode, which synthesizes, does not seem to mind spaces. "To the right brain, spaces, objects, the known and unknown, the nameable or unnameable are all the same" (p. 101).

Processing visual data involves the whole brain, which "gathers visual information by constantly scanning the environment" (Edwards, 1989, p. xiv). The brain edits the images it is sent based on such things as training or past experiences. "We tend to see what we expect to see or what we decide we have seen. But this expectation or decision is not a conscious process" (p. xiv). In other words, the conscious self does not necessarily control this type of seeing.

Artists aren't the only ones who benefit from this other types of visualizing. Poet John Keats referred to

this phenomena, which he called "negative capability." A person in that mode "is capable of being in uncertainties, mysteries, doubts; without any irritable reaching after facts and reason" (Keats in Edwards, 1989, p. 102). When immersed in seeing holistically, many artists often refer to the fact that they feel differently and are able to understand relationships that were unclear before. "Awareness of the passage of time fades away, and words recede from consciousness" (p. 4). This concept has also been referred to as "simultaneous perception" and used to explain how a person can move through a crowded space almost as if in a dance with the surrounding individuals (Hiss, 1991).

These two ways of information processing could be considered two ways of knowing--one that looks at the world in a linear way and one that considers the world through a holistic viewfinder. Wendell Berry (1972) considers this concept when he writes about the "two fundamentally opposed views of the nature of human life and experience in the world"--one that is linear and one that is cyclic (p. 139).

> [Linear knowledge] is the idea that anything is justifiable only insofar as it is immediately and obviously good for something else. The linear vision tends to look upon everything as a cause, and to require that it proceed directly and immediately and obviously to its effect. What is it good for? we ask. And only if it proves immediately to be good for something are we ready to raise the question of value: How much is it worth? But we mean how much money, for if it can only be good for something else then obviously it can only be worth something else. Education becomes training as soon as we demand, in this

> spirit, that it serve some immediate purpose and that it be worth a predetermined amount. (p. 141)

On the other hand, cyclic vision is embodied in the words of Black Elk:

> Everything the Power of the World does is done in a circle. The sky is round, and I have heard that the earth is round like a ball, and so are all the stars. The wind, in its greatest power, whirls. Birds make their nest in circles, for theirs is the same religion as ours. (p. 140)

The speaker sees the interrelationship between people and their world and accepts not only the seen relationships, but also the unseen, both old and new (p. 150).

This hidden eye has been replaced by the "glib and shallow optimism of gimcrackery" (Berry, 1972, p. 150). As an example, the weather reports promise better solutions than can really be provided. In so doing they replace an older skill. "The farmer whose weather eye has been usurped by the radio has become less observant, has lost his old judicious fatalism with respect to the elements--and he is no more certain of the weather" (p. 150).

This difficulty in seeing the whole marks much of the Western world, affecting all parts of the culture.

> They have based their ideas on the mathematical theory of Isaac Newton, the philosophy of René Descartes, and the scientific methodology advocated by Francis Bacon, and developed then in accordance with the general conception of the reality prevalent during the seventeenth, eighteenth, and nineteenth centuries. (Capra, 1982, p. 46)

Such a view sees matter as the basis for all existence and that this existence is organized on the same principle as a kind of gigantic machine consisting of a multitude of parts.

To understand the complex, it becomes necessary to reduce it to its most elemental parts and to look for the mechanisms that make those parts work. This sequential, dissecting approach is familiar; it is one that most individuals believe can be applied to any endeavor including education. After all, this type of thought is what has brought 20th century humankind to an understanding of all manner of natural phenomena. It has been used to explain and understand everything from the anatomy of a hummingbird to the innards of an atomic bomb (Capra, 1982).

Pervasive as this view of the world is, however, there are other ways of seeing. The traditional Northern Cheyenne view holds that the spiritual and the physical worlds are intertwined, with the Creator providing life and direction.

> Knowledge and learning are integral parts of a holistic system. Within this system all living things including the earth and sky are related to each other in one system and live harmoniously. (Rowland, 1994, p. 125)

In this world view, balance and harmony are of utmost importance because "knowledge is not set apart as an entity unto itself but rather is infused throughout all of reality and provides meaning for the spiritual and physical worlds" (p. 127).

The Chinese concept of fluctuating poles of yin and yang creating the balance in the universe is another more holistic world view. This way of seeing and believing is often misunderstood in Western culture. "What is good is not yin or yang, but the dynamic between the two; what is

bad or harmful is imbalance" (Capra, 1982, p. 36). Based upon living organisms rather than machines, this approach to seeing is a systems view of life in which one views the world in terms of relationships and integration.

> Systems are integrated wholes whose properties cannot be reduced to those of smaller units. Instead of concentrating on basic building blocks of basic substances, the systems approach emphasizes basic principles of organization. (p. 266)

In this more holistic approach to seeing, systems are marked by interaction. Like the systems in the human body, they are dynamic in nature; they contain internal flexibility; they are self-organizing; they are self-renewing. They can also be marked by self-transcendence, "the ability to reach out creatively beyond physical and mental boundaries in the processes of learning, development, and evolution" (Capra, 1982, p. 269).

Arnheim espouses a similar view when he discusses gestalt theory. As an example of holistic thinking, he refers to von Ehrenfels' example of music. If twelve listeners to a melody each experience one tone and then try to put their experiences together, what they would end up with would not equal the experience of the person who heard the whole melody (von Ehrenfels in Arnheim, 1974, p. 5). Such theory is bound in the belief that "the mind always functions as a whole. All perceiving is also thinking, all reasoning is also intuition, all observation is also invention" (p. 5). A recurring theme in Arnheim's writings becomes the loss of this ability to see the whole and in so

doing that, "we have neglected the gift of comprehending things through our senses. Concept is divorced from percept, and thought moves among abstractions" (Arnheim, 1974, p. 1).

In some ways this lament is echoed in Hiss's (1991) concept of "simultaneous perception" (p. 3) which is "calmer, more like a clear, deep, reflective lake" that "keeps us linked to our surroundings" (p. 3). Simultaneous perception gives individuals something normally invisible, "a different sense of who, or what, we are" (p. 21). This sense is one that almost in a Capra sense connects people to their surroundings and to other living things, causing boundaries to disappear. For simultaneous perception to emerge, the individual must be in a place that seems safe and "where the information presented to each sense is complex but not overpowering" (p. 27).

Freire, Horton, and other educators who view the learner as the center of the learning process could be described as more holistic thinkers. Freire saw his concept of the learning process as a liberating one because it broke out of the traditional Cartesian statement of "I think therefore I am" and instead considered a systems approach of "We think, therefore we are" (Freire, 1973, p. 1). Such holistic educators would agree with the statement, "Clarity is not linear" (Richards, 1964, p. 128). Moreover, it would seem that such educators:

> Try to hear the whole reverberating through the parts. Experience is education. What I say about

> Pedagogy applies to both the profession of teaching and the non-profession of manhood. We teach all the time, by what we are and what we do. We learn all the time, by what we see and feel and think and do. The capacity to learn and to teach is organic. We take in and we give out. (p. 97)

However, according to writers like Wendell Berry (1977), society is dominated by the inability to perceive the whole; this occurs not just in education but in every facet of life. The result is in a profound split between what is thought and what is done.

> There are . . . educators who have nothing to teach, communicators who have nothing to say, medical doctors skilled at expensive cures for diseases that they have no skill, and no interest, in preventing. . . . Specialization is thus seen to be a way of institutionalizing, justifying, and paying highly for a calamitous disintegration and scattering-out of the various functions of character: workmanship, care, conscience, responsibility. (p. 19)

CHAPTER 3

CREATING A FRAME FOR VIEWING

Dann man gerade nur denkt, wenn, das woruber man denkt, man gar nicht ausdenken kann.

(Then only are we really thinking when the subject on which we are thinking cannot be thought out.)

Goethe

Design

This naturalistic study utilized a descriptive design to collect qualitative data related to better understanding the learning patterns of rural Montana. As Wolf and Tymitz suggest in Guba (1978):

> [Naturalistic inquiry] is aimed at understanding actualities, social realities, and human perceptions that exist untainted by the obtrusiveness of formal measurement or preconceived questions. It is a process geared to the uncovering of many idiosyncratic, but nonetheless important stories told by real people, about real events, in real and natural ways. . . . Naturalistic inquiry attempts to present "slice-of-life" episodes documented through natural language and representing as closely as possible how people feel, what they know, how they know it, and what their concerns, beliefs, perceptions, and understandings are. (p. 3)

Because the goals of this case study keyed on a description of how rural adult learners perceive their landscapes and how their landscapes have been an active force in their learning, the research fit Merriam's (1988) six assumptions of a qualitative design: (a) it is concerned

mostly with the process rather than a product, (b) it was grounded in the search for meaning or 'how people make sense of their lives, experiences, and their structures of the world' (p. 145), (c) the researcher, not an inventory or questionnaire, became the primary instrument in the collection and analysis of data, (d) it involved fieldwork in a natural setting, (e) it was descriptive, and (f) it inductively built concepts from details. Because of these factors, the nature of the subject and the lifestyle of those being interviewed seemed more suited to a qualitative approach (Creswell, 1994, p. 146).

A qualitative design is appropriate for several reasons. First of all, the very heart of this study lies with uncovering information and gaining understanding of the relationship between the individual and the environment. As Bogden and Taylor point out in Guba (1978), the most complete conclusions can be drawn by the noninterventive nature of qualitative research because the observations can be made in the natural context (p. 11).

Another reason for choosing this design was that part of the stated problem of this study is the land's assumed active role. "The craft of the naturalist's method is that it does not treat nature as passive" (Guba, 1978, p. 5). Since understanding the relationship between the individuals and their landscapes would rely on intuitive and felt knowledge, multiple realities would need to be understood

and as such would not be quantifiable (Lincoln & Guba, 1985).

Furthermore, the very nature of qualitative research that allows contextual intrusions would provide for gathering insightful and culturally relevant information from the interviews.

> Although many traditional cultural properties have physical manifestations that anyone walking across the surface of the earth can see, others do not have this kind of visibility, and more important, the meaning, the historical importance of the most traditional cultural properties can only be evaluated in terms of the oral history of the community. (Sebastian, 1993, p. 22)

A quantitative approach to this subject was not appropriate because the very nature of this study deals with perceptions, multiple realities, and relationships. Furthermore, there is an underlying philosophical difference, since the quantitative researcher could be termed a logical positivist, or one who is concerned solely with "scientific facts and their relationship to one another" (Guba, 1978, p. 12).

The quantitative research approach sees the world as made up of variables that can be manipulated to determine their effects on one another while the qualitative researcher is concerned with discovery and description and uses "triangulation" as a means of "testing one course against another until he is satisfied that his interpretation is valid" (p. 13). This type of research seemed very appropriate to the study because, as Stephens (1991) noted in his study of progressive farmers:

> Each farmer is different and each comes from a different background. A naturalistic approach allowed for consideration of individual differences among farmers in their own environment. (p. 50)

Another important difference lies in the quantitative researcher taking a reductionist's stance, creating in the process a hypothesis that must be tested or proven. The qualitative research, on the other hand, is more inductive and holistic in its approach to understanding whole complexities and is far more exploratory (Guba, 1978, p. 14).

In any study the issue of validity is of great importance. "The issue of objectivity is probably the most thorny one that can be raised with respect to naturalistic inquiry" (p. 73). However, what is deemed subjective, or the opinion of one person, becomes objective when a number of people refer to the same experience or observation (p. 73). For that reason, the researcher's knowledge of rural culture, which is based on the personal experience of being raised and living on a ranch east of the Rocky Mountain Front, could be deemed subjective and biased if taken out of context of the interviews conducted. Instead, the confirmability of the study through numerous interviews insures the intrinsic adequacy (p. 75). After all, "data gained from quantitative sources may also be biased. Consider for example, the cultural bias said to exist in so many "objective' tests" (p. 75).

The naturalistic researcher "does not manage the inquiry situation but uses it; he is less a stage manager than a member of the audience" (Guba, 1978, p. 14). The researcher in this study was "a member of the audience" in that she was born and raised on a cattle and wheat ranch which is located where Bird Creek drains into the Missouri River. Ten miles to the west, foothills begin to rise up to the eastern front of the Rocky Mountains. To the east, the plains stretch out with a horizon that is broken by such landmarks as Square Butte, Crown Butte, and the Birdtail. The offspring of the union between a third generation Montana ranching family and an immigrant homesteading family for whom English was a second language, the researcher gained through her upbringing, not only knowledge of traditional ranching ways, but also an appreciation for new ways of seeing reality.

This study also utilized a peer observer whose presence helped both in data gathering and analysis. This study's peer observer, who is married to the researcher and lives with her on a Montana ranch, was born and raised in a small upstate New York town. Although more populated than the Montana counties visited, the area in which the peer observer grew up was rural in nature. It was characterized by farms, hills, heavy woods, and small lakes and streams. In this study, the peer observer had several roles:

1. He addressed the tape recorder and all the tape recording equipment so that the researcher could

concentrate without distractions on the interview process itself. This also helped to minimize the feeling of intrusion that could result from the recording process.

2. Given the long distances between services in many areas and the vagaries of the weather at the time of year, he provided the assurance of a second person if an emergency arose.
3. Having another person present at the interview, lightened the heaviness of focus that often results in a one-on-one experience. In addition, the peer observer helped to establish rapport.
4. Having heard the interviews in their entirety and having travelled across the land, this person's observations added further validity to the conclusions and helped to objectify any biases of the researcher.

In order to gather the information needed to describe the relationship between rural adult learners' perceptions of the landscape and their learning, the study was designed for adults in five of the least populous counties of Montana to be interviewed in person and on site at their family ranches. Since the individuals being interviewed are part of a minority group with a history of either being ignored or misunderstood from afar by a mainstream population, it was important that the researcher should travel to each individual site. Visits configured in this manner not only

gave the person being interviewed the feeling of ease of being on familiar ground but also were made out of genuine interest in and respect for the very busy and full lives that these people lead.

Each interview was planned to last no more than one-half day with arrangements suggested at the time for a follow-up interview to clarify issues or to gather further information if it was needed. The first step in interviewing is "finding someone to answer your questions," the second step is "getting invited into your informant's home, and the final challenge is to be able to return for subsequent interviews. Rapport becomes a major focus of concern" (Collier & Collier, 1986, p. 105).

A tape-recorder, operated by the peer observer, was used to record the interviews, and field notes were taken on-site. Observations of the researcher were both taped in the field and written up at the end of each day. The study was designed to allow for accessing documents in several Montana archives if further information was needed. In order to gain additional insight into what the interviewees saw when looking at their favorite landscape, they were also supplied with disposable cameras with which they could take five photographs of their favorite view before passing the camera on to the next person.

Research Questions

In order to explore and examine how a sense of place affects learning, there were a number of broad questions that guided this study. They can be grouped into five main categories:

Ties to the Land and Rural Learning

1. How exactly do rural adults define a "sense of place" (Taylor, 1996, p. 45)?
2. How has that perception influenced their learning?
3. How does the loss of landscape markers impact the learner?
4. How does the addition of landscape markers impact the learner?

Social Networks and Rural Learning

1. When rural adults seek out learning experiences, how do their perceptions of place relate to social networks (Fingeret, 1983, p. 133) and to learning new skills?
2. How does networking affect rural adult learners' perceptions of their place?
3. How do networks enlarge or reduce the frame of vision for what rural adults choose to learn?
4. How does the rural adult learner's perception of place affect any mentoring relationships that may be developed in the learning process?

Holistic Thinking in a Rural Landscape

1. How do rural adult learners develop a view of the world that provides them with a visible horizon line and a clearer sense of positive and negative space as defined by Edwards (1989)?
2. What do rural learners see when they view their landscape, and how does that impact their learning?
3. How does what rural learners see impact how they organize their world?

Framing in Rural Learning

1. If physical isolation is to the concept of learning as a picture frame or slide (Freire in Meierhenry, 1983, p. 6) is to one's view of the world, how does this apply to Montana's most-rural population and their perceptions of their world?
2. How can a picture frame or slide used in viewing a scene be used to explain the concept of how a sense of place is developed and how that perception may impact learning?
3. How do the rural adult learners' perceptions of untrammeled vistas impact their frames for learning?

Self-Directed Learning in a Rural Landscape

1. What role does self-direction play for the rural learner, and how is it related to the concept of framing and the perception of place?
2. In the eyes of the rural learner, who assumes the responsibility for learning, and how does the perception of the landscape affect that?
3. How has the individual's perception of interaction, termed by Herman (1994) as "landscape relations" (p. 7), with the landscape changed over time? In turn, how has that change affected the learning process?
4. If the individual's perception is that the landscape's integrity has been maintained with few changes occurring, how has that fact impacted the learning process?

Population and Sample

In order to gather the information necessary to describe how landscapes impact rural learners, interviews were planned with individuals who live in five of the Montana counties which had less than one person per square mile according to the 1990 census. As such, these people live in areas that are more sparsely populated than those that are close to the two persons per square mile that mark an area as a frontier (Duncan, 1993, p. 7). Even the

reaches of Outer Mongolia are more populous, boasting four people per square mile.

The potential study areas and number of people per square mile in each were Petroleum County (.3), Carter County (.4), Garfield County (.4), Powder River County (.6), Golden Valley County, (.8), Meagher County (.8), Prairie County (.8), McCone County (.8), and Treasure County (.8).

Five of the above counties were chosen on the basis of how they could be grouped for travel. McCone and Garfield were chosen because they lie across the middle of the state and cover together a vast expanse of land to the east through which Montana Highway 200 cuts. Carter County was chosen because of its position at the far southwestern corner of the state; but because the distance involved in getting there of is about 500 miles, it was not grouped with any other county. Finally, Golden Valley and Petroleum were chosen because they lay close together and toward the center of the state.

This group was targeted because of their apparent protection from a large urban area or from the more rapidly growing parts of Montana that have been visibly changed recently by a large influx of people. For example, Jordan, a town of 485, is 84 miles from Miles City (population 9,602) and 240 miles from the services found in Billings (population 66,798). Unlike Montana towns located on the extreme eastern border that can access larger towns in North

or South Dakota, Jordan and places like it located toward the middle of the state are less accessible.

Furthermore, because of the distances in the landscape, those individuals living in these counties have the potential to have maintained a distinct cultural perspective toward the land. Looking at the impact of space on the development of their critical awareness could also serve as a benchmark for looking at other rural areas that in the face of population influxes and mass introduction of technology have lost their sense of identity.

The study was designed for interviewing representatives of four or five families from each of the counties above. They were identified by referral of other rural families in the area or by persons who had ties to the area, following a similar process as the "nomination" procedure for progressive farmers used by Larry Stephens (1991, p. 51). In this study of rural Montana, the nomination process started with the local historical societies in each county since those organizations have a sense of who has maintained ties to tradition. The criteria for selection included:

-- Individuals who are not necessarily the leaders, but instead are the ones who "stand off to the edge of the group." This is important because the people interviewed needed to have retained their sense of place so that they have been less swayed by passing trends.

-- Individuals who have lived on their land for at least two generations. This criterion is necessary in order that the individuals have had time to be shaped by the landscape surrounding them.
-- Individuals who live on the land all year round. Again, this criterion insures that the individuals are receiving the full effects of the landscape they see.
-- Individuals who make their living from the land. This is important because if these individuals do not make their living from the land, their perspective may well be one that has become romanticized from distance and time (Berry, 1987).

The criteria in general helped to insure that the individuals interviewed were tied to the land surrounding them and had developed a strong sense of place. Being involved in family-owned and managed ranches, these individuals also represent an often overlooked minority. Once a major component of a nation built on the Jeffersonian ideal of the farmer citizen (Berry, 1977), those individuals making their living off the land have plummeted in number. In fact, in October of 1993, the *New York Times* announced that the United States Census Bureau would "no longer count the number of Americans who live on farms" (Berry, 1996, p. 76). The article pointed out that between 1910 and 1920, about one-third of the population of the U.S. lived on farms. By 1991, the number had dropped to less than 2% of

the nation's population (p. 76). With such small numbers and often separated from the centers of power by distance, it is easy to understand why many of Montana's ranchers feel under-represented, misunderstood, and undervalued.

During a three-month period, a total of 3,313 miles were covered in traveling to 22 sites to gather the information for this study (see Figure 1). The 40 individuals interviewed ranged in age from a 28-year-old man who was the third generation to work the land to a 95-year-old woman who although born only 50 miles away had been on the land since she had married in her twenties. About 63% of the participants fell in the 50 to 70 age range. The exact age groups were: age 20 to 29--1, age 30 to 39 -- 0, age 40 to 49--8, age 50 to 59--11, age 60 to 69--14, age 70 to 79--4, and age 80 and above--2. Of the 40 participants, 18 were women.

The visits were made to ranches that had some combination of cattle, sheep, hay, or wheat. Although not a question considered appropriate to ask directly ("How many acres do you own?"), land ownership maps indicated that the ranches visited were at least several sections in size (deeded acres). Many of the ranchers were faced with the management difficulties of leased Bureau of Land Management (BLM) or state lands that checkerboarded private holdings.

Located east of the Rocky Mountain Front, these ranches are located on the vast plain that to an uneducated eye appears featureless.

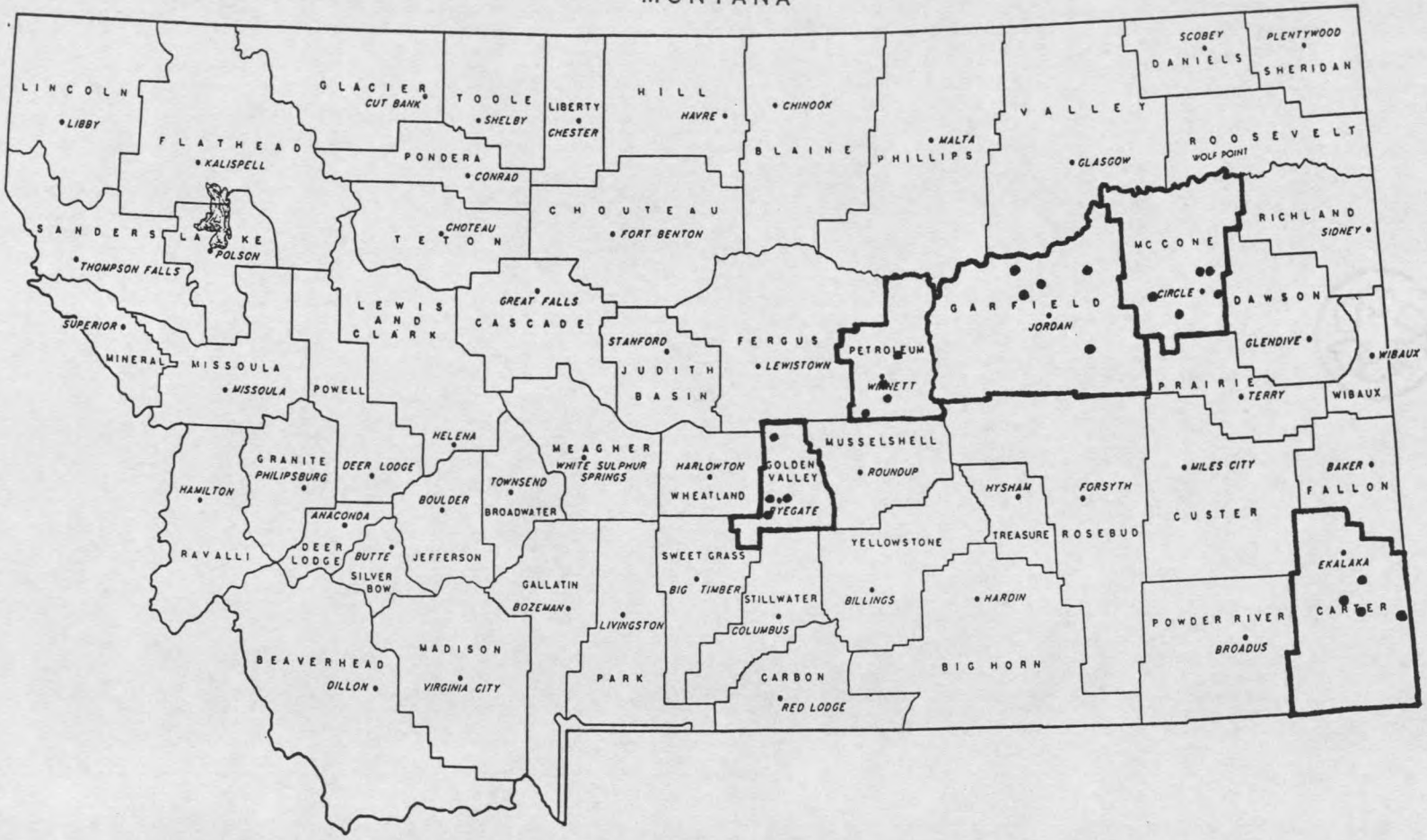


Figure 1. Locations of interviews. Sites were located in five counties of eastern Montana, entailing over 3,300 miles of travel for the researcher.

> [This region] has been called many names: the Empty Quarter, the Margins, the Yonlands, America's Outback, the Lands Nobody Wanted, the Last, the Remnant, or the Surviving Frontier. For more than a hundred years, people whose sole goal was to scurry across as quickly as possible have referred to it as godforsaken, as in "Who would want to live in that godforsaken. . .?" Others call it a forgotten region, but in truth it has never been well known and you can't forget something you never knew. It has just been ignored. (Duncan, 1993, p. 2)

The land is marked by its huge expanse of sky, its rich and subtle variations of color, its dramatic and sudden breaks or coulees, its rolling terrain, and its uncluttered horizon. That horizon in many places is edged by a thin fringe of distant mountains. Although separated from their neighbors by sometimes as many as fifteen to thirty miles and located for the most part on unpaved gravel roads, the ranches were often because of the openness of the terrain within sight of a neighbor's buildings or yard light.

Educationally, the interviewees ranged from individuals who had been educated in a country schoolhouse through the eighth grade to individuals who had advanced degrees on the master's level. The exact levels of educational achievement were as follows: Through eighth grade--4, non-diploma high school--3, high school diploma--7, non-degree post-secondary--14, bachelor's degree--7, non-degree graduate studies--4, and master's degree--1. Those individuals whose college education had been interrupted generally said that they had returned to the ranch to help with circumstances that had arisen there such as calving or a hired man suddenly quitting.

Although each interviewee was as uniquely different as the ranch he or she lived on, the individuals could be grouped by the time, if any, that they had spent away from the land. One small group of six had not spent any time away from their land, with the exception of an occasional trip for business or vacation. A much larger group had spent one to six years away from the land for either schooling or required service in the military. A third and smaller group of five had spent a longer time away, up to 20 years, during which time they had worked in other occupations and lived in different areas before coming back to the family land.

Procedures

Because naturalistic studies occur in context, "the researcher physically goes to the people, setting, site, or institution to observe or record behavior in its natural setting" (Merriam, 1988, p. 19). Therefore, this study was conducted in the individuals' homes on their land. Because these people represent a group whose lives differ greatly from mainstream existence, every effort was made to approach the gathering of data with understanding and respect.

Interviews were not scheduled during the busy summer months of haying or the early fall months of harvest or of shipping calves and lambs. On the other hand, winter weather conditions demanded that the interviews be conducted before the heavy storms came, bringing the attendant

problems not only of travel for the researcher but also of feeding livestock and equipment failure to the rancher. Even so, the interviews still intruded on busy schedules--working sheep and cattle, meeting with cattle buyers, pouring concrete for storage buildings, hauling hay, and of course dealing with all the pressures of hunting season. Because of these scheduling factors, interviews were kept to no longer than two hours in length.

Those chosen for the interview process were contacted first by telephone several weeks before a planned trip to their county, and the research project was explained. In the process, to help build rapport, the researcher's ranching roots were described, and an explanation was given of how the rancher was selected. The individuals were asked if they would feel comfortable with the researcher coming to their ranch to interview them. All of the ranchers contacted expressed interest in helping with the study, although several voiced concern that they might not have enough information to be valuable to the research. None of those ranchers contacted refused to be interviewed.

Because of the rather fluid nature of their lives and the occurrence of the unexpected requiring immediate action, most of the ranchers were reluctant to schedule a definite appointment time for an interview. Instead, a time frame of morning, afternoon, or evening was agreed upon as probably the best time with the researcher promising to contact the rancher the evening before the interview to agree on a

specific time. In this way, if the unforeseen did occur, interviews could be reshuffled at that point.

Follow-up letters were sent that restated the purpose of the study, gave the agreed time frame for an interview, and provided the researcher's home address and telephone number in addition to contact locations in the field. The letter also clarified that the researcher would be accompanied by a peer observer who would be helping with taping the interview. Each evening in the field, the researcher called the interviewees for the next day to insure that the interview was still scheduled and to get specific directions for how to get to the interview site. Given the distances and the schedules of the ranchers in the study, this step was essential for the process. It also provided an additional opportunity for the interviewee to ease any remaining concerns about the interview.

The interviews themselves followed several general guidelines because "the aim of the interview protocol was based not only on sound theory and practice in education but also on culturally important considerations regarding the data-gathering process and the use of probes in the interviews (Rowland, 1994, p. 60). A semi-structured interview format was used with an interview guide of open-ended questions developed to seek descriptive, experiential responses. However, questions had to be asked with care. The individuals interviewed belong to a group that has a tradition of communication that is often marked

by few words and evidences itself in the care with which information is imparted. Therefore, attention was paid to avoiding what could be considered by the interviewee to be invasive question.

And finally, the researcher, as a local historical museum director, has observed that family history tends to be a connecting thread. Therefore, the first broad questions in the interview set the relationship to the land in a historical context. In an effort to verify information, the researcher periodically during the interview recapped what the interviewee had said to insure the accuracy of understanding. Often this method also stimulated further discussion.

At the beginning of the interview, the purpose of the study was again explained in addition to how the information would be recorded on tape and with field notes. Permission to use the contents of the interview was obtained, and issues of anonymity were resolved. The interview format was organized so that each interview was conducted in a leisurely manner with an emphasis on developing rapport and maintaining a conversational tone. In fact the interview could in a sense have been labeled a visit with the resulting dialogue recorded. The interviews were structured conversations: "The researcher sees an opportunity to 'chat' with a person of interest and seizes it" (Gay, 1996, p. 224). Establishing such connections was further enhanced by the fact that the interviewer's experience on a Montana

ranch and by the fact that most of the interviews were conducted in the ranch houses over coffee and around big traditional kitchen tables centrally located as obvious gathering spots.

In an effort to keep the interviews on track and as a strategy to help maintain "intrinsic adequacy" (Guba, 1978, p. 62), the interview format included questions in three general broad areas:

1. The individual's background (e.g., formal education and daily cycles),
2. The individual's relationship with the land (e.g., how is change dealt with and a description of the land when the interviewee was younger), and
3. The individual's relationship with a social network (e.g., who to turn to for information and what was their last learning experience) since social networks are impacted by rural isolation (Duncan, 1993) and social networks do impact learning (Fingeret, 1993).

All of these questions helped to establish the information needed to determine if there are indeed links between the interviewees and their land, how the relationship is perceived, and how the individual views the learning process.

In addition to the verbal question and answer interview format, a visual component was included. As Hall (Collier & Collier, 1986, p. xiv) points out, the visual world is

holistic. The individuals interviewed were asked to visualize their favorite place on their land, to describe it either in words or with a rough map, and to explain its significance.

As an exercise early in the interview process, the individuals were also shown four photographs of unidentified places. These consisted of (a) a narrow alley in a large city (see Figure 2), (b) a suburban hillside with trees and homes (see Figure 3), (c) a lone house near a fog-shrouded mountain with trees (see Figure 4), and (d) an open expanse of desert-like terrain with a thin line of mountains in the distance (see Figure 5). The ranchers were asked to explain how each view would help or hinder their thinking if they were in that environment. This line of questions included what they would take out or put in to improve the situation if they had to stay in that environment for any length of time.

The use of visuals in this way served several purposes. It initially served as an ice-breaking activity in which both the interviewer and the interviewee participated. It aided in keeping the direction of the study on course by helping to sharpen memories and induce conversation. By initially removing the focus of attention from the interviewee, this method removed the pressure from the interviewee being viewed as the subject (Collier & Collier, 1986, p. 106). Instead, the individuals at the interview table became immersed in a joint project. Additionally, it

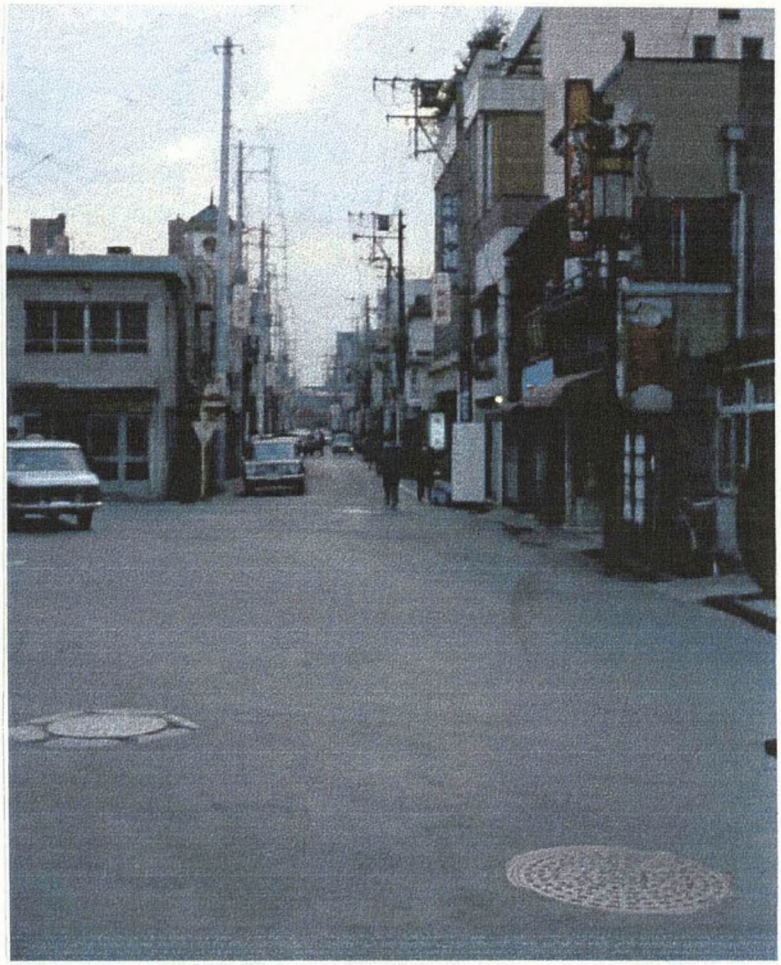


Figure 2. Narrow City Alley.

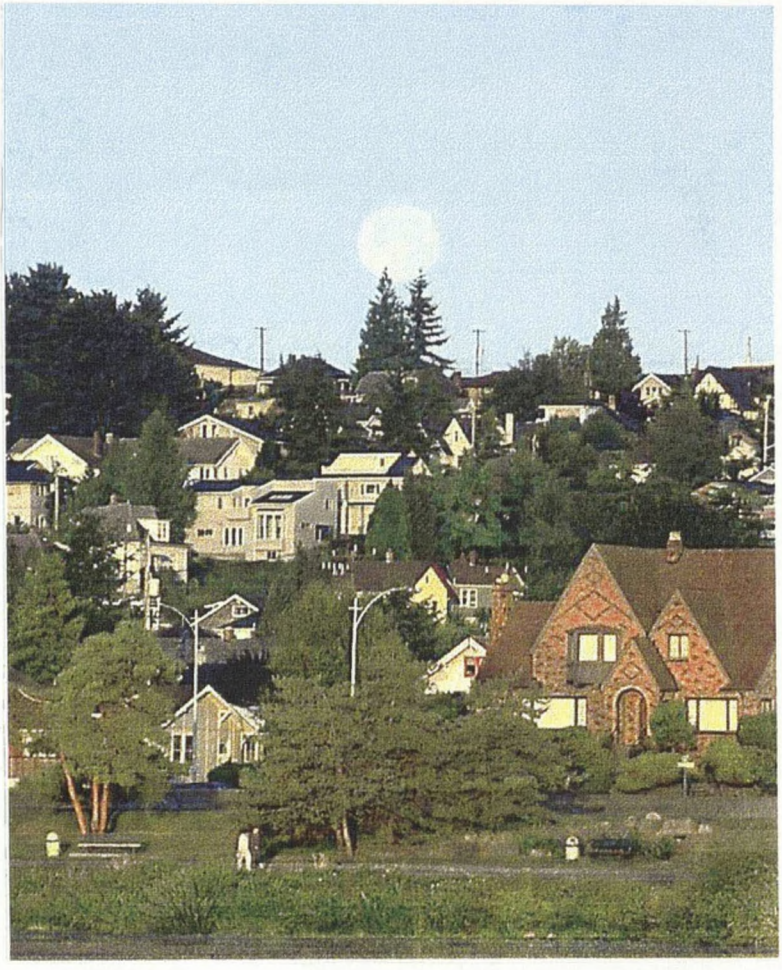


Figure 3. Suburban Hillside with Trees.

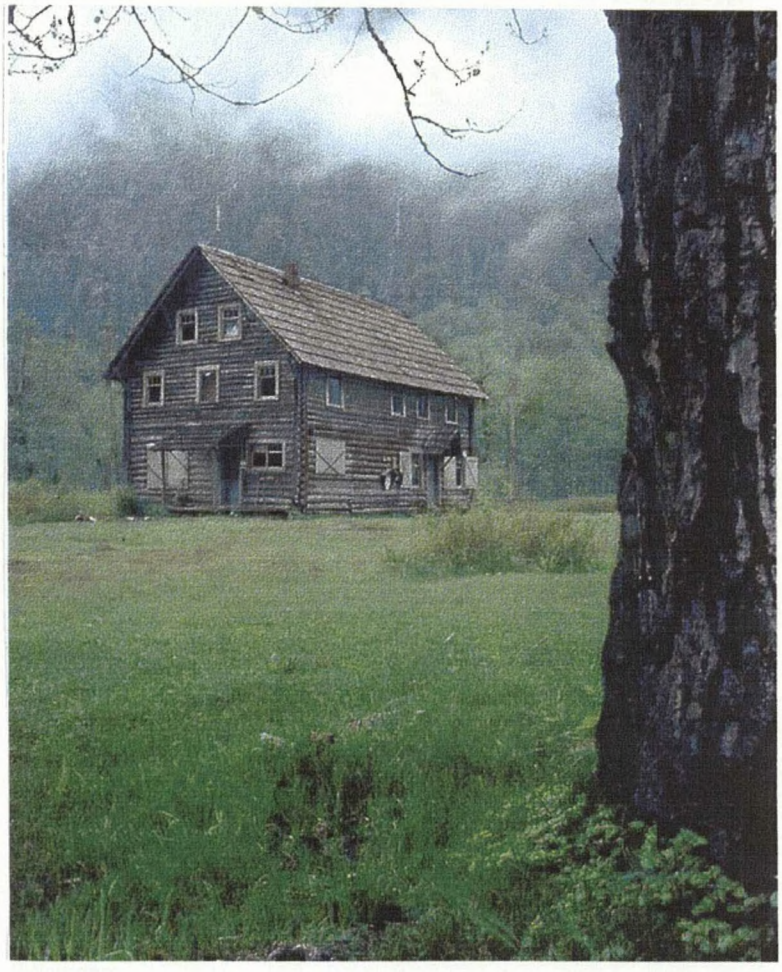


Figure 4. Fog-Shrouded Mountain with One House.



Figure 5. Open Desertlike Expanse.

hearkened back to Freire's use of slides to aid in the development of critical awareness (Meierhenry, 1983).

At the conclusion of the interview, each individual was provided with a disposable camera and instructions for taking five or six photographs of a favorite vista on their land. They were given a mailer to return the camera to the researcher for development. This final response provided a uniform format for all those interviewed to show the researcher an approximation of what their favorite vista looks like through their eyes.

After leaving each interview, comments by the researcher were tape recorded and then entered into a notebook with the other data at the end of each interview trip. A list of categories, called "coding categories" (Creswell, 1994, p. 154), were established and assigned to the appropriate segments of the text. These were then used for grouping the information gathered into the categories.

Throughout this process on the long trips between sites, the information gathered and observations made were discussed for validation purposes with the peer observer. These discussions served as a peer check in further analyzing the data and establishing validity.

CHAPTER 4

FRAMING REALITY

Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts.

Rachel Carson

Introduction

How rural adult learners perceive their landscapes and how their landscapes through distances and untrammeled space have actively shaped their learning were the underlying questions of this study. Living close to and depending on land, which has been held in their families for at least two generations, these individuals have developed a way of learning that works for their situation and place.

The power that place has in shaping these learners has created in them a way of knowing that separates them from mainstream thinking not in the tangible ways of language or appearance but in other ways that are equally decisive. The creation of this gulf has resulted in many of these same rural learners feeling underrepresented in political centers of power, misunderstood by an ever-increasing urban society, and undervalued by a world with little sense of place. In spite of that, the power of the place and of the way of life holds many tight to the land, creating an integrated whole

that is difficult, if not impossible, to analyze in segments and which in its totality forms a synergistic whole.

Through interviews involving individuals at 22 ranch sites (see Figure 1) located in the sparsest populated counties of Montana, information was gathered about these individuals' perceptions of place and learning. Since these people live and work on the land, they were introduced to the interview by being shown photographs of four different places (see Figures 2-5) in order to stimulate their responses. These photographs included a tight-in shot of a city alley, a wider view of a suburban hillside, a still wider view of a log house in a forested clearing, and a broad panorama of a near desert landscape.

Through the interview process, information was gathered which grouped itself into categories. A profile emerged of the Responsive Learner, an individual who moves beyond Mezirow's reflective thought and Brookfield's critical thinking. This takes the learning process one step further into action through response. This Responsive Learner is an individual (a) whose reality is framed in terms of surrounding landscape, (b) whose context shapes the learning experience, (c) whose learning is viewed as active problem solving, (d) whose thinking is often metaphorical, and (e) whose view of the world is systemic.

Framing

Just as an artist uses the slide to solve questions of position and perspective, the individual as part of any learning experience frames the situation so that in preparation for any action an objective view of the circumstances is gained. Framing reality then is another way of saying that they are "identifying the issue." In this action, perspective is gained, boundaries are drawn, focus is established, and balance is achieved.

An Open View

The first characteristic that an outsider notes about the eastern Montana counties in which the interviewed individuals live is the broad expanse of clear, clean sky that arches over the land with few physical or visual barriers. Neighbors are few and far apart, and even common dividers such as fences or telephone or power lines are not always apparent. However, perhaps the most striking characteristic of where these individuals live is the sense of space. To the inexperienced eye, the land appears to have nothing on it. To the experienced eye, there are gullies and coulees that can shelter livestock or provide sites for catch ponds of water; there is tough and nutritious grass on which cattle and sheep not only survive, but also thrive; and the rich soil can produce ample crops if the rains come.

The land where the individuals interviewed live stretches for miles and miles with untrammeled horizons, which are sometimes broken only by a line of trees or the undulations of gullies or protruding rocks. The land can be flat level in places; it seems so flat that there is the illusion that if the traveler were to drive straight for the horizon, there would be a sharp drop off similar to what Columbus faced in sailing to the New World. In other places, craggy breaks cut hundreds of feet into the earth, while only miles away, rugged mountains abruptly rise out of the plain. In one conversation about an ongoing and difficult search for a downed airplane, an individual remarked that the country is not what it appears to be: "You get out in that flat open country and you find that it is not really flat and open."

These ranchers are at ease with this unbroken vista almost proudly wearing the moniker of "Flatlander" that they have been given by the majority of people who are not from their area. They speak of being able to see in the distance, of "really needing my space," of being able "to see forever," of having a favorite spot that is on top of a hill giving them a window on a huge expanse of country, which is never less than twenty miles and which in several cases stretches out for a hundred miles and encompasses several mountain ranges. One rancher could see four mountain ranges, The Pryors, the Big Horns, the Little Horns, and the Beartooths from his window. Another rancher

spoke often of riding horseback over the open range where his cattle grazed. He described land that was over 5,000 feet in altitude and extended in every direction as far as he could see. They all could be the individuals to whom Toole (1976) refers when he says:

> Distances in the West have always been deceptive, especially on the plains. It has long been a favorite pastime of "natives" (pointing to the range of mountains sharply etched against the western sky) to ask a "pilgrim" how far away the mountains are. The answers usually range from ten to twenty miles. The native smiles. The mountains are almost sixty miles away. (p. 1)

When shown the interview photographs, the vast panorama of Figure 5 elicited smiles and chuckles of recognition, accompanied by remarks that equated the photograph with what they thought of as home. One 61-year-old man said, "That's more like it! That's wide open." Seeing out or being able to see things at a distance was important. A 73-year-old man responded by saying, "You get up on top of this mountain, and you can see a quite a ways. I just as soon see something wide open as a bunch of buildings standing in my way."

A visit to the mountains is something to be enjoyed, but it is always within limits as one 46-year-old woman pointed out, "I can take the mountains. The mountains are beautiful. I can stay there about three days. Then there is a certain amount of discomfort." When shown the mountainous image in Figure 4, a 50-year-old man underlined this idea that the mountains make a great vacation place:

> It is pretty. There's nothing wrong with it. But I don't think I would live there. I like an open view, I guess. Because of where I was raised here. You get in the mountains, your range of visibility is really limited. I don't mind that [the image] for a short period of time, but I couldn't live in that environment.

The need for an open, unhampered view was mentioned again and again. A 67-year-old woman said, "I like to go travel to the mountains. But after awhile I begin to feel closed in and am glad to get back out in the open."

Others, when shown this same image, noted that the fog would be a problem because it would shut out the sunshine and block their view. They mentioned the oppressiveness of the image although one 50-year-old woman remarked about friends from western Montana who, when they visited, want to get up in the coulees where there are trees because they seem to be more comfortable there. Others remarked about feeling a sense of relief when they come out onto the plain after a visit in western Montana.

These people understand that their ease with their vista may be from having grown up in it. Some individuals remembered their mothers who were from outside the area and from places with trees and mountains. Even after thirty years on the plains, these women were still not comfortable in the wide open spaces. One 45-year-old woman, who was raised about 50 miles away from where she presently lives, viewed where she lives now as "godforsaken" compared to where she was raised, which has been described by others as

equally unforgiving. The general feeling was summed up by a 46-year-old woman who said:

> I realized that it was the land and being on it at a really impressionable age, eight to ten years, when you are old enough to learn and you are still really vulnerable. I realized that basically my adult outlook was shaped by the land and the wide open spaces.

Interestingly, only one rancher said that the view of the broad plain in Figure 5 was too open and too much like a desert. This rancher was the only individual interviewed who lived in the mountains nestled in against the timber. However, this rancher still had an open view and indicated that he would not like to have that view obstructed by trees or the mountain itself.

When faced with more closed in space, these people looked for ways to open up the view. In the mountain view in Figure 4, one 53-year-old man said that he would move the hill back while another mentioned removing trees. When shown the suburban hillside of Figure 3, several responded that it was closed in and that they would like it better if a few houses were removed and it was "opened up." A 64-year-old man said that the houses would not be so bad to live with if there was a lake that would "open up a little area there." Several ranchers said that they would open up the tight city view of Figure 2 by widening the alley.

The choice of an open view is not made totally for aesthetics. Openness also serves a purpose. A 67-year-old woman pointed this out when describing her office, "It's got a view of the road and a view of an area of the place. I

can't see the mountains. But if I am just relaxing in the front room, I can see the mountains." In a lifestyle where life and death can depend on what has been noted, such a view becomes a management tool as this same rancher noted about ranch house kitchens, "Most kitchens on ranches are located where you can watch who's coming in and who's going out; what's going on. You can keep track of the flow because you're going to need to know it somewhere, somehow." She went on to explain that if a pickup is overdue back in the yard, help can be dispatched if the tardiness is noted. In such cases, the problem or what is wrong is the factor that is readily apparent. She also noted:

> Most men's shops, when you drive into a yard, are where they can see. You never find any shop out behind the corral or hidden someplace. It is always where when the door is open, they can see the whole area. And it is for the same reason. It is a need to know.

Open space is seen as the shaper of people, but it also is seen as a reflector of their values. When looking at the vista in Figure 5, a 46-year-old woman said, "It's open and honest. The first picture could hold so much deception. In this picture, it is just open and honest. What you see is what you get." Moreover, the space is equated with no constraints on freedom of physical and intellectual movement and of being able to see the whole picture. One 65-year-old woman said, "I want to get up on top of the mountain and see the whole thing. I love that, to be able to see the whole picture and then coordinate from there."

Perceptions of Balance and Aesthetics

Even with the wide open vistas, the land's topography can change rapidly and suddenly with ranches encompassing several different zones. None of these areas may meet the mainstream criteria of scenic splendor that has swelled the population of the more mountainous western side of the state. However, as noted by a 59-year-old man, "There's beauty in all of it if you have the eyes to see it." This idea of beauty being in the "eye of the beholder" is underlined when the outside world visits. This same rancher described an agriculture field day that had brought in individuals from all over the United States.

> When we got them together that night they all knew exactly what they had looked at, but no two of them had seen anything the same. And they might not have been able to even imagine where the other person had been! They were more confused than you could shake a stick at and they were so glad to see each other. They thought they were never going to see civilization again.

Beauty for these ranchers is tied to sunlight, green, and productivity. Tall buildings, crowded alleys, and close houses do not constitute places where these people chose to be. Water forms much of how they respond to a landscape. Favorite spots had water, a creek, a catch pond, or a view of a lake. One 46-year-old rancher said in a statement what was heard over and over, "You can't live without water." Moreover, what is pleasing to the eye is often difficult for them to identify because aesthetics may have little to do with physical survival. The rough and rugged riverbreaks

are breathtaking in their beauty, but may not be able to pasture many cattle. Furthermore, in order to be successful, the ranchers must be able to readily identify problems such as the stray cow in the road and find solutions quickly, rather than simply look at a view to decide whether it is beautiful or not. In some ways, these individuals have reunited fine art and applied art, an artificial distinction imposed on the Western world's sense of aesthetics in the late 1700s (Knobler, 1980, p. 6).

Although mutability of the seasons was mentioned in two interviews along with aesthetics, balance became a factor in what was pleasing to the eyes of all of these individuals. Several mentioned upon looking at the alley in Figure 2, that it was confusing and unordered. One rancher noted that the red house in the suburban housing of Figure 3 upset the view in the picture because it stuck out too blatantly. A 46-year-old woman mentioned when looking at the plains in Figure 5 that it was pleasing because of the balance of the plants, the hills, and the mountains in the distance.

All elements are seen as part of the whole with what artists would call negative and positive spaces fitting together and with none receiving more attention than any other. A 67-year-old woman said:

> I don't think you do it [balance] consciously. Subconsciously maybe. You're getting ready to go out and look at the cows, and you are sitting there thinking about it. "Well, I'd better go there because the water is good now and won't be later, and then we can go over to the other pasture."

The same sense of balance seen in how they view their ranch is also evident in their evaluation of their relationship with the land. One 46-year-old woman said:

> It was a beautiful fall day and I was down a draw. And I just happened to have the sun; the colors were just vibrant. I just had this love for the land. I could hardly contain it. And then two months later, you are in a blizzard and you are swearing and you are freezing to death. And you just hate it so much. You have this love-hate relationship with this land.

Horizon and Balance

The untrammeled horizon line becomes a reference point that helps all these ranchers balance their view. From their vantage point, or as one 65-year-old man said, "When you are standing back and looking," they have a clear view of the line where sky and land meet with both elements playing an important part in the whole. Although the land holds much of the basis for their living, the clues for much of what is going to happen in their world is found in the sky. It harbors, for example, the clouds that bring rain which is a bane in times of harvest or planting and a boon in times of growth needed for grass or water for livestock. These signs come across the horizon and are seen from afar and evidently are a factor that helps to shape the process that these ranchers go through in their critical thinking.

Furthermore, without using the words negative or positive space, a 67-year-old woman said that when looking out at a vista, the expanse of horizon helped her to see not what was right with a picture or what the artist would call

the positive space. Instead she noticed what was wrong with the image which could be construed of by the artist as the negative space. In her words:

> I immediately see, "Oh, there's cows over there and there shouldn't be." Or there's this there, and it shouldn't be. You don't see what's normally there. It's the blip in the horizon that shouldn't be there that sends you out looking. So that's what you see--you don't even see really what you are looking at. Or it doesn't really register unless there's something wrong. If there's something wrong, then it shouldn't be there.

By not having their horizon line obstructed by manmade structures, these individuals have the added advantage of a unified concept of the horizon. Visually, their true horizon line and the perceptual horizon line merge and become one as they shift their frame of view from right to left or up to down. When moving from point to point on their land, these ranchers always have that referencing system. When speaking of favorite places, they mention being where they can see around them in order to have a panorama of vision. Where they stand then becomes the reference point, the check of where they are in terms of the horizon. A 54-year-old man verbalized it this way:

> Our life mainly is the land. I suppose that is why I feel so comfortable in this environment because I can see the horizon. We know that we are here. It is x number of miles over there, and that is where we belong and are supposed to be. We can relate to "we are here" and "that is over there." We know where we are. We're comfortable with that situation.

Boundaries

In speaking of framing reality, the very definition of the word *frame* must involve some type of boundary. However, not all boundaries are apparent. Even though all of the individuals interviewed responded to the familiar open spaces, they also spoke of boundaries that may not be readily apparent. In some ways, they are bounded by distance, because not only are they aware of how far they are from services but also because they have a clear sense of how far it is to the other side of their range of view. Sixty percent of them can describe where their fence line runs even though they may not be able to see it. Descriptions of places, though, may include man-made borders although one 54-year-old man said in describing his favorite place:

> There are no buildings or anything special. I'd have to say it has to do with the land. It's, you know, wheat fields waving in the evening breeze, or water in the dikes. It is not a specific part. It's nothing that you can decipher, separate by boundaries or anything around it.

If there are boundaries, they are distant ones or natural ones like a ridge or an element in the topography of the land. One 53-year-old man, when looking at the vista in Figure 5 with its distant faint line of mountains, noted the open, clear expanse of land, but added, "You've got something in the background to hold it in, because I don't like real flat country."

In some ways boundaries can be connected with responsibility. The ranchers interviewed mentioned boundaries in terms of focusing on their own property and their own responsibilities. One rancher said, "You watch your boundaries and your livestock--more or less to see that they are in the right pastures." A 46-year-old woman mentioned that her boundaries were around the house because that was what she took care of and managed. Another rancher mentioned that boundaries only come into play when there is a project like a fence to fix.

Still others equated boundaries or their absence with what is home and what is not. Loss of the ability to move across a fence line through the sale of neighboring land to people who did not understand the community ethic was tantamount to loss of place even though these ranchers were well aware that they did not own the land sold. A 67-year-old woman said:

> That's the one thing that's hard for me in hunting season. We put out a map, and I have to tell each one of these hunters, "This is the boundary." Because to me it is all home. If I can see it, it is home. The fact that I own some of it or lease some of it, doesn't bear anything on it. If I can see it, it's home. Even though I know it belongs to so and so, it's still home.

Home and one's comfort level then is tied to the vista one can see. One woman illustrated this idea when she described bringing her father home after a long illness. Although he was not on his own deeded land when he came in view of a familiar landmark, he said, "Thank God, I'm home."

Focus

Having few boundaries to pull in their frame of vision could pose problems of focus, but 70% of these people mentioned that the absence of boundaries removed distractions and made it easier for them to focus on what they needed to learn. One 59-year-old man emphasized this point when he said that having no boundaries both opened up opportunities while also teaching one how to deal with a number of issues simultaneously, "You see the tremendous diversity, and you learn to cope with that on a daily basis. So you'd focus it completely that way. You're boundless as to where you can go from here."

All the ranchers gave examples showing that the expanse of land exposes and makes more clear what needs to be learned. In other words, if the cows are out of a pasture, the fence needs to be fixed. A 65-year-old man said, "Lot of times there's more than you can do. Like now, I'll look out there, look at the fields, and see the time to plant or summer fallow or harvest. That's my main object--get that crop in." The focus then becomes one's own responsibility and what is needed to fulfill a goal. One 76-year-old man said, "You always have problems, and you wonder how to cope with them." The expanses of land evidently aid the learning process because of the demands placed on the learner, forcing the individual to examine old patterns and stretch to adopt new ones. A 64-year-old man said:

> It has made it necessary to learn because that is why you can make it work. Without learning, it is just not going to work for you, economically. But then from my standpoint, I like to learn. I am glad to learn. It is not like I think, "Oh, I have to learn this." I am always glad to learn something new. But on the other hand, it is necessary.

The range of focus of these ranchers takes in a great many elements, including grass, hills, sunrises, the points on a nearby ridge that interrupt the horizon line, clouds that carry rain and which also can bring welcome shade, traffic on the road, wildlife, or dirt blowing in the fields. As one 65-year-old woman said:

> You see the grass. People. The moon. I guess it is sort of a relative thing, not black and white--because it sort of depends on how pressured you are for time as to what you see and what it means. If you are really busy at your work, you may notice some things, but not others. It is bigger than us.

A 54-year-old man enlarged on this idea of sensing everything in a process reminiscent of "simultaneous perception" (Hiss, 1991) when he said:

> You know where everything is located in comparison with all this, and you see the entire area including the animals, the vegetation that are associated with it, the rock formations, the water, the gumbo formations, everything that is there. You are aware of all of it. You're not concentrating on one specific thing.

Just as the unobstructed view forms an integrated perception of the horizon for these ranchers, it also must move them away from mainstream manner of focusing solely on the positive space and into "seeing emptiness" (Arnheim, 1969, p. 89). Instead these ranchers focus not only on the object itself, called the positive space, but also on what

may be wrong about the object or its context, which could be considered the negative space. "The cows that aren't where they are supposed to be," cattle walking down a road, or a black spot off in a field by itself are examples of taking in the total picture. Something wrong at the neighbor's may elicit action, as a 65-year-old man said:

> We keep track of each other. He knows what's going on over here. And we'll watch what's going on over there, especially in the winter time, to see if he's doing okay or go over.

One ranch wife explained how they are trained from living in a place so long to note what is in their view, whether it be cattle or deer. So it is quite easy for them to notice when something is different. In her case, it was the imposition of a power pole in her line of vision for a rock formation in view of the kitchen window. These individuals are doing what Edwards urges artists to do, concentrate on the negative space, which in turn gives shape to the positive space and creates a more dynamic and stronger whole image.

Creating a Frame

Freire indicates that one of the most important tools in learning, which for him is developing critical awareness, is gaining objectivity. Perceptions are the filter through which the data an individual receives is organized, and the meaningless confusion of that information is sorted into patterns that have meaning. For an artist, a framed picture

or a slide aids in bounding the view. It also helps that artist in translating what is seen to what exists on paper.

When faced with Figure 2 of a city alley, the ranchers interviewed found it confusing and cluttered, even unsafe. In one case, the person left the table when faced with questions about that photograph. When asked what he would remove in the photo, one man echoed several other people by responding by pointing to himself; and a 53-year-old man said, "Everything!" Other suggestions were to add grass, trees, flowers, or take out the buildings, the manhole cover, the power lines, and the parking on the street. All the responses reflected attempts to create an order out of a view that was framed not through their choice but through the actions of many other people.

One method used in their framing as part of their critical thinking process is to hold an idea or issue at a distance to gain a wider frame for examination. For example, mainstream thought would view the lack of computers in these rural households as a general refusal to endorse computer technology. Indeed, over 75% of the ranchers said that they did not use computers. However, instead of a negative response to the new technology, these individuals appear to be holding an idea at a distance, examining it for applicability before endorsing it or using it. Other examples reflect the same pattern. One 62-year-old man has adopted video marketing of his cattle, and another 48-year-old man is investigating and questioning how retail

store television security monitoring can be applied to linking his house to the shed during lambing.

All of these rural learners live in a world of broad vistas generally not bounded artificially or by a human hand. Not only do these rural adult learners frame or bound their own realities, but they also hold the control of perspective. This is a position that places them in tune with how the western world since the Renaissance has viewed, described, and recorded the physical world. Like the person who appreciates fine oil paintings, these rural learners with their view and with their framing of that view are examples of the theory that sees the viewer as the center of any scene's panorama.

CHAPTER 5

CONTEXTUAL LEARNING

Tell me the landscape in which you live, and I will tell you who you are.
José Ortegay Gassett

Introduction

Learning does not occur in a vacuum, but instead it takes place in a context where relationships exist (Merriam & Caffarella, 1991). Whether land or people are involved, the Responsive Learners are aware of the context in which they move. As if in Freire's praxis of reflection and action (1994, p. 107), these individuals learn from their context in a circular way, which includes action generating reflection leading in turn to further response and action. Acknowledging this process, a 50-year-old man said, "You have to find out who you are in the context of where you live."

All the ranchers voiced their belief in some way that living on the land and surviving in the life style they lead has shaped the kind of learner that they are. If for no other reason than through necessity, they have become contextual learners, who do not simply exist in a place but who are intimately tied to the land and who have developed a healthy respect for it along with a reciprocal relationship.

A 67-year-old woman pointed this out when she explained that because she had grown up on the land, she had not had to learn as much as her husband who grew up in a different way and came from another area: "I learned it from the time I was a child. You take care of what you got." A 46-year-old woman went so far as to describe her relationship with the land in terms of the land teaching her:

> I would also say the land itself teaches. Riding horseback. You learn to gauge and judge. You learn not to jump over. And if you can't jump over, to find another way.

Others echoed this view in saying that being close to the land allowed them to make more relaxed decisions while one 65-year-old woman said that returning to the land had "cleared my head."

For these ranchers, contextual learning is so bound into a whole approach that it is difficult to separate out the parts. However, for these people this learning process involves the following elements: (a) close observation; (b) the open attitude to see alternatives; (c) the flexibility and adaptability to work with what the land offers; (d) the ability to cope with what is at hand in order to insure survival; (e) the commitment, persistence and patience to see a situation through; and (f) finally, the self-confidence to act.

Observation

A great deal of these Responsive Learners' ability to succeed and carry on the responsibility of working the land relies on their ability to observe accurately what is occurring in their environment, whether it be on their own land or across several fences. All the ranchers interviewed mentioned the need to watch for signs of what the land required or clues for how it was responding to what they were doing. Several mentioned watching the grass for signs of overgrazing, and others mentioned observing the land to see where they could create catch ponds for water. One rancher had developed a system for preserving the flow of spring water, based on his observations of cattle hanging around a water hole and how in the process they can plug a good source of water. This same rancher had also observed birds in the timber behind his home and, based on his observations, questioned the information about the birds' feeding habits provided to him by a specialist in the field.

Over half of those ranchers interviewed mentioned watching what a neighbor did and then trying it out on their land, much like the progressive farmers interviewed by Larry Stephens (1991). Because of the fragility of the land, there is not much room for error, and observation helps them to increase their odds for success. As a 50-year-old man said:

> We virtually rely on limited rainfall and during a dry period you might look at what works for other farmers. Other farmers may try something and then

share their successes. That probably has changed our method of agriculture the most.

These individuals accept it as a given that they learn from what they observe. A 76-year-old man remarked, "I don't say that every day you learn something, but you are always keeping your eyes open." Using the ready availability of materials, his knowledge of mixing concrete, and his practice with the physics involved in raising walls, this same individual had built not one but several concrete-walled buildings by himself. He also admitted that if he were younger, he would investigate a fabric building like the ones used in Iowa and Oregon for large pig farms to see if it would fit the circumstances where he lived.

Open Attitude

One of the requirements for accurate observation and learning from a context is an openness to a range of possibilities. In remarking about being open to ideas, a 65-year-old woman said, "I have to be willing to let them help me. If I don't, they can't help me. There may be a dozen, two dozen different ways to trigger that 'I see,' but I have to be willing to be open."

These ranchers see their environment as providing more opportunities to learn from different perspectives. Perhaps, it even pushes the learner at times. Often economic necessity is the driver such as weighing the pros and cons of nitrogen fertilizer or considering a switch to a different breed of cattle in response to Midwest feed lot

demands. Another example of this type of open examination of the status quo was found in one young rancher in his 20s who ranches with his mother and father. Flying in the face of recent agribusiness trends to bigger and bigger bales of hay and the attendant specialized machinery to handle them, this young man had calculated the costs of using the latest machinery in hay production versus putting up loose hay. He and his father had decided that loose hay stacking and feeding was more economical and best fit their needs. One 50-year-old man pointed out the relationship between openness and survival when he said, "You have to try different things more than urban types of people. You have to try in order to survive. Success may not be measured in possessions but on if you have survived another year."

These people also realize that in a constantly fluid and changing world, the individual needs to be open to new permutations even on the familiar situation. A 67-year-old woman reflected an understanding of how much depends on the individual's situation and how they view things when she said, "You see what you want to see. You aren't going to see the same thing every day. You change." Several families mentioned their children's experience out in the wider world and how those children fared successfully in comparison with the children of urban families. In such comparisons, open attitude was one of the characteristics noted as a difference between the rural person and the urban person. One daughter reported to her parents, "They [her

urban counterparts] don't learn anything. It's like they don't want to learn anything."

Flexibility and Adaptability

Whether apparent in direct comments or in the individual's lifestyle, all of the ranchers subscribed to the belief of one 46-year-old woman who said, "You do what you can do." This same individual also said, "When you grow up, you learn to accept the realities, and then if you can change it better, then you do so. And if you can't then you say, 'Ok, what do I have to do to go on?'" This concept was an underlying thread in many of the conversations. The land speaks or the weather talks, and the individuals who make their living off of the land have to listen. Observe the situation carefully, they must be ready to change as it changes and not necessarily when they want to change.

Similarly, a 53-year-old man emphasized the need for flexibility and adaptability when he said:

> You learn to work with Mother Nature, rather than to tell Mother Nature what you are going to do. You realize what tricks she has up her sleeve, and then you design your places so that the snow doesn't blow into your buildings.

This same individual pointed out that decisions made are a result of listening to the needs of the land and of understanding what the character is of the various pieces of land that are within the family's care. For example, it is absolutely essential in an area with a great deal of wind to understand the vulnerability of fragile land that is

over-tilled for summer fallowing too excessively can cause the dirt to blow with the resulting loss of precious topsoil.

These people viewed flexibility and adaptability as almost global skills because they are applicable in most situations, which may challenge while at the same time becoming opportunities. One couple who owned over 500 head of sheep had no heavy equipment of the type needed to feed the large, one ton hay bales which comprised the only hay available. Not wanting to have a huge outlay of money for equipment, they examined their circumstances. By adapting their pickup and adding a chain and metal rod system, they found that by working as a team they could feed their sheep. A 64-year-old man said:

> I think that because of that, you can adapt to adversities perhaps better because you see that maybe there's opportunities in them, while some people would say there's no hope.

As an example of his point, he described the building of a corn bin and how his hired man had not wanted to start the work because of frozen ground. However, they adapted to the situation, first scraping the frozen ground off and out of the way, and then proceeding to build the storage bin. In other words, as one rancher pointed out, "You have to work with what you have." The result of this kind of action is as one older rancher pointed out, "You learn something every day on a ranch. There's hardly a day goes by that you don't learn something."

Many of the ranchers interviewed believed that not only does living as they do provide more opportunities to learn but that it also makes the individual a more responsive learner. All of the ranchers were justifiably proud of and could gave examples of their work to improve their places while dealing with a range of situations and adversities. As one 46-year-old woman said:

> As far as learning, I feel it makes you a better learner because first of all, you have to learn or you'll get hit along side the head again, the second time. You go outside in the cold; you'd better put your overshoes and your mittens on. If the wind is blowing, like over at the ranch we didn't have plumbing, so we had to throw out the dishpan. You have to throw the dishpan water away from you not towards you. It forces you to learn about nature. It makes you a fast learner or else you get out.

Such adaptation is seen, however, as an individual action, requiring the response to situations that are never quite the same but which usually allow little room for avoidance. For example, even if the tractor doesn't start when its 30 degrees below zero, the livestock still needs to be fed.

This ability to understand and use adaptation can be seen in how these individuals process much of the information they gather. They have learned to avoid general adoption of an idea or method because of several factors. One of these elements is that there is little margin for error in their survival. Another reason is because they constantly see physical evidence of individualness, not only in knowing the vagaries of their own land but also in seeing the differences between their land and their neighbors.

Generalizations are difficult, if not impossible. Nothing can be taken lock, stock, and barrel for it must first be examined to see if it can be adapted successfully to another situation. In explaining how some of his neighbors have adopted and adapted his method for marketing calves, one rancher remarked, "They may not do exactly like we do. But they get the general idea, and then they work on that. Every rancher will adapt it some to his place."

Adaptability is also a trait seen in the apparent evolution of many of their personal lives. Individuals often spoke of change not in terms of rapid, black and white decisions but as evolutions, because as one 64-year-old man said, "Things don't always work out the way you want, and you have to figure out something that does work." Several people mentioned how they had adapted their lives to fit a return to the ranch. They left a variety of careers such as teaching, graphic arts, and engineering. Others took breaks from college to help with situations that arose at home, such as providing help at calving time or when a hired man unexpectedly quit.

The women included in the interviews had to be particularly adaptable. Several women spoke of leaving the area where they had been raised and not only of adapting to their husband's ranch but also of learning to love it as their own even though they may hold tight to some kernel of their past. One 49-year-old woman had planted trees around their house, and another young woman had started raising

sheep on her husband's traditional cattle ranch. Still another 40-year-old woman took her family back to her childhood home every year at Christmas to take part in a tradition that she had grown up with--getting the Christmas tree in the mountains with a team of horses.

Perhaps this ability to adapt even speaks to how rural populations are able to successfully adapt to an urban life when they leave their context in the country and change their frame of reference. As one 49-year-old woman said when looking at the crowded alley scene of Figure 2, "If I had to live there . . . [long silence] I'd adjust."

Coping and Survival

The feeling that these people get along, making the best with what they have in order to survive is reflected in an anonymous verse posted in a cafe in the small eastern Montana town of Roundup:

> We the willing
> Led by the unknowing
> Are doing the impossible
> For the ungrateful.
> We have done so much
> For so long
> For so little that
> We are now qualified
> To do anything
> With nothing.

This ability to make do evidently has been fostered through generations. When asked how her grandparents found the spot where they ranched, one 65-year-old woman echoed the comments of many, "It was probably what was available because by then a lot was already taken." Again and again,

the refrain came, "You make the best of it" even though it may not appear initially to be the best in many ways."

Story after story was told of individuals whose expectations and hopes had gone unfulfilled but who continued to live on the land, adapting to it and coping with the lifestyle. One example is the story told by a 65-year-old rancher about his mother. She had homesteaded with her husband, enduring hardships of dry years and crop failure, of raising a family and establishing a home. Through all this, she had always wished for an oil well and to be buried like an Indian. Her son noted, "There were two things in her life that she always wanted. .. and she didn't get either one of them." However, in her old age when she had the opportunity to leave and return to her childhood home, she chose to remain in Eastern Montana.

Coping with whatever is dealt is more than a part of their oral tradition for these people. It is a part of their every day life today, influencing their days and even shaping their identity. A 64-year-old man said, "We are really different people from city people. How we are different has to do entirely with the landscape." Although he believed that everyone deals with problems, he saw urban living as offering more safety nets of protection from bad times. From losing a job to daily garbage collection, he believed that the services provided individuals in a city with support making them less self-sufficient and robbing them of the ability to cope as successfully with

circumstances. In some ways this concept was echoed in a story recounted by a 46-year-old woman. During one especially severe blizzard that had closed all the roads for a long period of time, she had received a telephone call from a new neighbor who did not have a milk cow and who had run out of milk for her children. The woman interviewed offered milk from her cow, but the new neighbor turned it down because her children did not drink milk from a cow. They only drank milk from the store.

Unprotected by urban services and lifestyle, the ranchers make their own safety nets and in so doing often get along without what many urban people would consider a necessity. As a 50-year-old man noted, "There aren't too many people that are willing to do without the things farmers and ranchers do. Not everyone drives a new pickup. If you can survive here financially, you can make it anywhere." This same individual went on to say that "working the land for a living is not going to make you rich. You get one nice crop going and then have a dry year. And everything dries up."

All those interviewed could give at least one example and many gave more of getting by under an array of adverse conditions, whether natural or man-made. Learning to live with the environment and coping with whatever it deals out was a thread that ran in common through the interviews. As a 76-year-old man said, "I think you pretty much do what you have to do." Many of the stories reflected efforts to deal

with the effects of severe drought, grasshoppers, blizzards, and great distances. All these trials are not visitors to the Great Plains, but instead are integral parts of the cycle found in living in this part of the country (Toole, 1976, p. 138).

To prepare for the worst, springs and other water sources are developed to get by in dry times; insects and weeds are continually researched to find ways to combat them; food and supplies are stocked for survival during storms. Scrap piles of metal and old machinery are accrued and become the hardware store because as one older rancher said, "If you need some little part, you don't just run to town over to the hardware store. You figure out some other way of doing it." Some stories had no resolution such as a frustrating story told by a 76-year-old man of learning about cockleburs in his pasture. His cattle ended up being infested with them, and he admitted that he had no quick answers to the problem or any ways to forestall it in the future.

Still other stories were poignant and reflected how people at a very young age learn to get by in this area. In talking about the importance of planning trips to town in an area marked by great distances, a 67-year-old woman said, "We'll wait until we've got a real good reason to go to town. We'll do without things." She then told the story of a little boy nearby who, when she asked him about his birthday celebration, replied that he could not have his

birthday until his mother went to town for supplies. She later found out that there were no candles for the cake until there was a trip to town.

These individuals not only cope with environmental conditions but also with man-made ones such as tough economic times or bureaucratic requirements and intrusions. Most of the ranchers mentioned having to deal with increasing governmental requirements, many of which involve access rights, employment and insurance laws, permits for water projects, and outside agency surveys of plants, animals, soils, and minerals. As these people deal with an increasing number of such demands, they also have had to cope with increasing pressures on their communities from the outside world coming in at certain times such as during hunting season.

Moreover, all the individuals interviewed thought that economically their lives are far more difficult now. One 65-year-old woman said:

> Now it seems like economically it has really, really squeezed down hard. You can't make it go, so you just try something here. That obstacle comes up. So you try something there.

One 73-year-old man, who had a sick cow in his corral, noted that he would not take her to the market in Billings because cattle prices were so bad that he did not think that she would bring enough to pay for the gas to haul her there. Instead, he had decided to keep feeding her in the corral and, "if she has a calf, she has a calf. If she dies, she dies."

All of the ranchers indicated that in some way coping with economic challenges and with the demands of time drive and control much of what and how they learn. For example, many of them have sought to alleviate their economic vulnerability by diversifying and so have had to acquire a whole new area of knowledge. Although knowing how to successfully run sheep and cattle requires two different knowledge bases, a 64-year-old man who had first raised sheep and then bought cattle noted, "We always said we had to keep the sheep to buy the cattle."

Several mentioned how economic times and expensive land prices are a tempting combination for ranchers to sell their land, especially when faced with a series of dry years and grasshoppers. The families that have survived here to pass the land on to the next generation have been those that are frugal, living by the folk axiom of "Save a little, spend a little, and you'll always have a little." It would appear that having been on the land for at least several generations has provided these ranchers with additional insights in getting by and making do that more recent comers to the scene may not have. One 59-year-old man said:

> We can weather out the long storms, the droughts, the bad weather, and all that that a lot of them would get in trouble with. Part of that is that the family has been here long enough that they have encountered a lot of this stuff.

Even with having to cope with a number of challenges, these ranchers have chosen to stay on their family's land because as one 54-year-old man said, "We don't have a job

per se. Our job is what we do and what we like doing it. We don't do it because it's a job. We do it because it is our way of life." A 50-year-old man echoed this observation of these rancher's continuing acceptance of the need to cope and make do when he said:

> If you get to know the people, most of the personalities, the ones who have lived here the longest know that we are not here to get rich. What is more important probably is the lifestyle.

Survival then becomes the underlying reality because these individuals and their families are survivors. The word can carry the meaning of a day-to-day life and death survival or it can be used in the sense of a family surviving for another year on the land. Finally, survival can be a concept that speaks to how the generations last on the land.

The issue of survival is underlined in this part of the state by one characteristic in particular that always is in the mind of the rancher: what is the carrying capacity of the ranch or in other words how many head of livestock per acre the land will keep or how much crop can be grown. In these counties which lie in a high plains desert, more land is needed to make a living than in other ranching areas of the state. Here, a cow needs 25 acres of range to be sustained whereas in the more westerly parts of the state, only seven or eight acres is necessary to support a cow.

Most of the people left in this part of the state represent the survivors from the Homestead Era, a period in which governmental acts gave away land erroneously based on

the amount of land that was needed to support a family in the Midwest. Story after story told of how families had arrived in the area and immediately set to work developing a home. As times changed, these families that hung on watched as other families around them gave up after being beaten by the weather and economic odds. They left behind buildings, schools, and vacant communities. However, the hardships did not end with the close of the Homestead Era, for more than one story echoed that of a 65-year-old woman who said:

> I grew up in the dirty '30s. As a child I knew how hard it was, but it didn't really hurt the same way. I can remember when we got the debts paid off and how totally delighted the family was. When we first got the old house that needed paint so badly painted. We got it painted, and it was white. It really was white.

The day in and day out dealing with what nature hands them has had its impact. As one 53-year-old man said, "Dealing with the elements and everything has toughened us up, I suppose." Many recounted having to sell cattle to get by during a drought and of then having to deal with grasshoppers and no more rain. A 49-year-old man remarked that "if you didn't do things right out here, before they had electricity and all the conveniences, you could freeze to death or starve to death." There was story after story of the harsh effects of living on the land. Children nearly died from scarlatina; families nearly starved to death during the winter, and a father froze to death when he was caught in a blizzard. One 54-year-old man said:

> The saying we have out here is, "Get tough or die." Live and learn to survive, or you don't.

> To accept it. There are lots of people who have lived here and have gone. It is a hard place to live in. If you don't adjust to it, you're not going to live here.

There is the general feeling that the land forces this type of tough thinking. One 46-year-old woman said:

> It also makes you a survivor. Every year it is the same. You have spring, you have summer, fall and winter. But you have to live through it all, and every year you don't know if it is going to be easier or worse.

Being able to survive depends on being able to access past information and then being able to apply it to slightly different situations and often times in rather quick succession. The same woman said, "People used to talk about dumb farmers. You know that isn't a very accurate term. You have to do things right--or you aren't going to be a farmer very long." In fact, the amount of information that these individuals need to access and then connect in order to make the decisions that allow them to survive would be confusing to the person uneducated in the land. A 53-year-old man described several of their endeavors:

> We've been in the bull business forever. We have had a lot of disappointments here. But there still is the determination to make it go sometime. There's a lot in the genetics of the bloodlines, a lot to learn. A lot of information to get, like carcass information. We have been doing some work on that over the last couple of years. Feeding information. Livestock brings a lot of disappointments, but we feel good about it too. Of course, the farming . . . there's the same type of thing. If you hit a good year, you feel pretty good! If we ever get enough to pay the bills, we really feel good.

Commitment, Persistence, Patience

Such doing without requires an enormous amount of commitment, or as a 67-year-old woman said, "There was never any turning back." Many of the ranchers noted that they do whatever it takes to survive in changing times. One 54-year-old man commented about how life had changed and has forced different modes of living including women having to go to work in town to keep the ranch solvent. Some of the ranchers do outside contract work such as earth-moving, gunsmithing, and free-lance photography. Some wives have jobs outside in addition to what they do on the ranch. They may drive the school bus, cater parties, or be an accomplished artist. Several of the ranches have dude ranching or charge for hunting. One 46-year-old woman commented, "Sometimes you wonder whether we are insane or not, but we are still here."

The persistence with which these people deal with existence is seen in all parts of their lives, including the fact that they are still working the land that their grandparents and sometimes their great-grandparents settled. This phenomenon of rootedness occurs in these areas where the population is shrinking and more and more ranches are being sold to absentee owners. A 48-year-old man pointed this out when he commented that although the population of the county seat had perhaps even grown, "The yard lights in the country are what keep disappearing. There's less and less people in the country all the time."

In dealing with increasing bureaucratic requirements, these ranchers often have to be persistent in their dealings with the agencies involved. A classic example of this type of persistence is the saga of one rancher's installation of a sprinkler pivot. It took him ten years to obtain the 58 permits required for him to proceed with his project. When asked how he handled the situation, he said, "We'd just kind of shut our eyes and get through this one and go on to the next one." He also noted that in addition to the permits, he had to deal with a number of individuals all of whom were considered trained specialists. Instead of encouraging his learning in they process, they kept telling him what he could not do what he wanted to and that what he was proposing was impossible. He said that at such points:

> If you listened to any of them, it would have discouraged you completely. You had to just say "I'm going to do it" and bow your neck and go ahead and do it. What to them were some of the real disadvantages of the project were also the advantages of it.

A 67-year-old woman noted the same need for this type of persistence in dealing with bureaucracy when she said, "You've got to stay with it until you find somebody that understands what it is that you are looking for." What so often may elicit frustration and anger in mainstream thinking seems to cause a more stoic response in many of the individuals interviewed. One rancher's wife noted that in some of their dealings with governmental agencies, persistence had to often be shown in spite of frustration and anger, echoing her husband's words, "If you had somebody

that you were at logger heads with, you just worked around them and kept on going."

The persistence includes the physical work that these people pursue in protecting their land. One couple who lived in a very rough area with steep cliffs of gumbo noticed that a truck hauling a load of fenceposts from western Montana had introduced spotted knapweed to their ranch. When chemicals failed, these two people with shovels and on horseback rode, climbed, and scrambled over their property digging up any signs of the weed that they found. The result of their persistence is that after ten years of attention, they have nearly eradicated a weed that in most other places continues to spread.

This same kind of persistence in dealing with and in protecting their land is also found in the personal lives of the people interviewed. One 67-year-old woman recounted nearly cutting her finger off and the persistence it took to regain the use of it. She worked at exercising it until now the finger is no different from the others in its mobility. She said, "Some people when they say, 'You can't', they give up. No, that's not in my nature." This same person went on to note that when someone told her she could not do something, her reaction was, "It sort of boils under your hide, 'I'll show them.'" This characteristic of "sticking to your guns" and of having "staying power" is a universally admired trait in this group of people with those who do not

exhibit this same kind of trait being characterized as fair-weather people.

In addition to developing their sense of commitment and their trait of persistence, these ranchers believed that the land also had impacted them by instilling patience. They have to be patient in waiting for crops to grow and ripen, for calves and lambs to be born and develop for market, and sometimes even to wait years for livestock breeding programs to bear fruit. One 65-year-old woman pointed out:

> When you are out trying to make a machine work, you have to find ways and means to make it work. Just getting annoyed and throwing your hands in the air and getting frustrated won't work.

In addition to the patience they must possess for their work, these people even have to be patient in fulfilling many of their creature comforts. This idea was emphasized by a 50-year-old man when he described his return to the family land:

> The thing that bothered me when I first came back was that the things that I wanted were not always available at the time. It took me awhile to learn that. Now I realize that if I can't get it now, I can get it tomorrow. I just can't get it right away. Mother Nature changes your attitude. There are a number of things that are involved with that--like not getting what you want for example.

Patience is one of the characteristics that separates these ranchers from a mainstream approach which often through its mass media advertising and popular literature urges swift and immediate action and gratification. It is not that these individuals do not take action. They do, but they can only take so much action. Then they must wait for

Nature to take its course. As a result, they tend not to be as reactive and are inclined to being more responsive, with results often not as readily apparent. A 59-year-old man stressed this idea when recounting a story of long years between good hay crops:

> You just have to have patience. Everything that takes place in agriculture in areas like this, the ranches that are here, all is measured by generations--on what this generation did and what that generation did. It isn't measured by months or years. It's what you accomplish in a lifetime.

Confidence

What is it that feeds this commitment to a way of life, this persistence in pursuing a goal, and this patience in waiting for results? For these Responsive Learners, self-confidence in one's abilities is the answer. All of the ranchers had survived numerous tests; and although they did not feel that there were any guarantees in the outcome of new situations, they were confident that they are prepared to meet the challenges that may be directed their way.

Such confidence building begins early in life. Since childhood, the people interviewed have had experiences that have built their confidence in their own abilities to take care of themselves in addition to teaching them their limits. They expressed often the idea that they have had the opportunities and the responsibilities to do things that other young people their age have not had to do. They

mentioned caring for animals, moving cattle, breaking horses, and driving as many as 30 miles one way to school.

As an example of this type of contextual learning, a 59-year-old man recounted stories of how as a young boy he packed a horse and went with a friend on a two-week expedition to hunt crows for bounty and how he spent the summer with a friend riding around a vast expanse of country learning to rope by helping every rancher in the area who was working cattle. He summed up these exploits by saying, "You get a confidence and a self-assurance. We had self-confidence that we could do this when other kids were afraid to even try it." Another 53-year-old man tied the gaining of this kind of confidence to the relationship with the land when he said:

> I feel like I turned out the way I did because I was raised where I was. The land has a big bearing on my capabilities, of what I feel like I can do, what I have done, although I haven't done that much. It just gives you confidence. I can do this because I have to do it for starters. It is part of living on this land.

There is another important component to this kind of confidence. In addition to learning one's potential, one also must gain an understanding of individual limits within nature's system. A 50-year-old man said:

> I know for a fact what I can do. What I can achieve. I know what the limitations are that have been put on me by Mother Nature. There are only so many things that I can do as a farmer. Then Mother Nature takes over.

Learning those limits and possibilities are important parts of learning about oneself. A 67-year-old woman said:

> You aren't putting on any pretenses for anybody. You are you. You can accomplish anything. It's easier to do that at home. But home won't do that for anybody. . . . That's something that you have to do yourself.

It is not that these people are necessarily fatalists or that they could be called pessimists. On the other hand, most of them appear to be quite positive. They have to be in order to continue to keep on with their work in the face of the obstacles they face. As one of them commented, they live in "Next Year Country." Next year the rain will come, the crop will be better, the calves will be heavier, and the prices for their commodities will improve. A 50-year-old man also pointed out that a positive attitude is also an important part of their job which is to nurture life, "I just think you have to have a positive attitude to be able to nurture. That is just part of it. You aren't in control of everything."

Much as these individuals realize that they are not in control of everything, they learned early in their lives the power that they hold in the learning process. One 65-year-old woman who had returned to the family ranch full-time after her years of teaching math in the public school system recounted learning how to do long division:

> I remember in learning long division, asking, "Why do we put this number down below?" The teacher got mad, and so I said, "OK, I'll never bother you again with that kind of thing. I'll figure it out." So I ended up teaching myself a lot of things so I could find out how it all fit together.

These ranchers see that this self-confidence is born out of a life that was filled with a number of risks and which offers no guarantees. Their self-assurance is not born out of the belief that they are going to be successful in the mainstream sense. Their self-confidence comes more from knowing and understanding their landscape and the fragile relationship they enjoy with it as they move through it and work on it. A 50-year-old rancher noted this when he said:

> I don't know people who are overly self-assured and confidence that they are successful. People who have a profession, for example a doctor or lawyer, they have a guaranteed income and by the end of the year they're going to make x number of dollars. There are no guarantee for farming. You may do great one year and fall flat the next year. Any success you may have has nothing to do with who you are or how well you have done things. It depends on Mother Nature. You never know what Mother Nature may have in store. She tunes you up every once in a while.

CHAPTER 6

LEARNING AS PROBLEM SOLVING

It ain't what we don't know that gives us trouble, it's what we know that ain't right.
Will Rogers

Introduction

In addition to framing reality and learning in context, the Responsive Learner could also be characterized as a problem solver. Problem solving itself is defined as the action involved in finding solutions to perplexing questions or situations (Oxford English Dictionary). Moreover, whether the problem solving is through insight or trial and error, the solution for these ranchers requires more often than not some type of action.

When asked about their learning experiences, many of these ranchers did not have ready answers. However, when phrased in terms of problem-solving, the examples flowed, suggesting that these individuals equated problem-solving with learning. This situation could be due to the fact that every day these people are faced with a myriad of new problems. Unique in their own right, these situations may bear only a slight resemblance to the issues of the day before. How these ranchers (a) view change, (b) gather information, (c) employ networks, (d)access mentors,

(e) experiment using trial and error, (f) exert self-control, and (g) evaluate their progress all are part of what they define as the process of problem solving.

Dealing with Change

Common mainstream thought generally is that this rural way of life is antiquated. At worst, it is a remnant of the past which cannot or should not be replayed, and at best it is a portion of the world that can be "saved" through electronic technology and its information systems. Such a view holds that these people, their values, and their approach to life will continue to be anachronistic unless they immediately endorse and adopt electronic technology and join the world-wide web. However, the ranchers interviewed see limited application for the changes being brought by the world of virtual reality. When the lambs are scouring or a calf needs pulling, the virtual world is quite remote because issues of life and death and their own survival are at hand. Such situations are not solved by endlessly gathering information or theorizing about outcomes. Instead they require thoughtful responses.

Obviously these families have dealt with change, or else they and their families would not have survived on the land for at least two generations. In that time frame some basic perceptions have changed. All but one of this group spent childhoods in which the man in the moon was the smiling round face evident when the moon was full. Two of

the group would have been teenagers and the balance adults when the man in the moon would become the man on the moon with the Neil Armstrong's moon walk. All of the group, including one 95-year-old woman who would have been a teenager at the time of the Russian Revolution, have witnessed the disintegration of the Iron Curtain. They all had lived with the political reality of the "us versus them" mentality spawned by the power struggles of the communistic Soviet Union and the capitalistic United States. Over half of the group had grown up in an era of horse-powered transportation and yet now utilize a transportation system that allows them to easily travel in six hours from Circle to Great Falls in order to attend an agricultural trade show.

Perhaps more important than the global changes that these individuals have witnessed is how they face changes in their learning context. Change is an important element in the lives of these people, popping up frequently as a topic of conversation. Daily changes occur in their lives; many come without warning. Weather changes are the most frequently referred to, and nearly 80% of the ranch homes visited had some type of view on the direction from which the storms come. Talk about the weather then is not just idle chat but is part of a recurring theme that occurs within the bounds of their lives. The question that is continually asked is how to deal with the changes that are

not only the result of nature but which also include those effected by the outside world.

Not only is change a part of their every day lives, but it is viewed as circular, not linear. Several individuals voiced this idea when they said, "The old becomes the new." Their thoughts are echoes of what Steiner (1980) found in his study when one of the ranchers he interviewed said, "We get by on 'homemade' energy, you might say, the old way. And the way the cost of energy keeps on going up, maybe soon the old way will be the new way" (p. 5). A 67-year-old woman elaborated on the same idea:

> I guess I believe in change. Everyone got so upset when they started plowing the country, but I had seen it plowed and I had seen it unplowed, and now I see it plowed again.

This same person also pointed out that more time on the land also reinforced this circular view of change. "The older and the more you see of changes and what happens. Things that look devastating when they happen . . . and then you see the regrowth."

Still several of the ranchers voiced reluctance to change. A 76-year-old man said, "Some of it you hate to see happen," and a 61-year-old woman said, "I never want anything to change." This woman's 64-year-old husband was an example of the other end of the spectrum for he gave many examples of changes he had effected and admitted, "I am open to change, real easily." Yet, when queried, this same man regretted the loss of several historic structures in the area and in order to help his wife preserve memories of her

past had commissioned a painting to be done of her childhood home. Resistance to or acceptance of change in this group does not appear to be driven necessarily by age. In one family, it was the 64-year-old mother who had first adopted and endorsed the idea of changing from Hereford cattle to Gelbvieh cattle to meet the changing market demands. It was the 28-year-old son who still seemed reluctant to accept that change, questioning whether there really had been a positive financial gain when all the factors about the new breed were weighed.

In some way, all of these individuals have been the agents of change themselves with the work they have done on their land. They have cleared brush and trees for pastures and farmland, updated old buildings, and bought and sold additional land. They have looked for alternative ways of planting and seeding crops and have researched genetic lines and breeds of cattle to find the animals that will best suit the individual ranching operations.

Such changes are in response to a wide range of evolving circumstances. A 46-year-old woman pointed out how outside events had affected how and why they may do things differently.

> The situation changes. It has changed since we've been married. There is no comparison between our childhood times when our parents were making a living off of it to our time. It is really tragic because it has now got to the point where you yourself cannot do the work necessary to make a living. You need outside help to have that much land.

A 54-year-old man said, "You have got to just keep learning because times are changing all the time." A 65-year-old woman who had returned to the family land pointed out how much she had to learn on her return even though she had worked at home during the summers and holidays:

> When I came home after Dad died, I was running all the cows. It was different from when I was a kid. Things had changed. It is amazing the amount of change there is. What you do, how you do it. The cattle themselves have changed.

Several ranchers noted how even the long-honored concept of self-sufficiency had been altered. Change had extended to the point that one of the ranches now has access to garbage pickup service from a nearby town. However, this ranch's 64-year-old owner also added, "They tell us one of these days they won't let us do that [dump garbage]. But as long as we can do it, we'll do it."

However, even with change becoming so much a part of their lives, these people do not see the land itself as altering. A 54-year-old man said, "I can't really say that the land itself has changed any, but the environment certainly has." This change is a two-edged sword. Electricity and telephones have altered forever their lifestyles. This same individual pointed out that now they have telephones, power, and running water. However, with the change came a tradeoff and that was the burden of fixed costs that they then assume with those services. He remembered that as a child, "we could survive on nothing, but nowadays you can't survive on nothing." He went on to

explain that now there are insurance bills, heating bills, and other monthly obligations that before they could take care of on their own. Although all of those businesses provide a service, they also impart a burden. Even so, this rancher maintains that "the land is still the same. It is just that it costs so much more to operate."

The response of these ranchers to this particular problem of economics has been to become increasingly adept at looking for ways to use their resources to make additional money to meet these costs. Ranchers have switched breeds of cattle--from Shorthorn and Herefords to Angus, Saler, Gelbvieh, and crossbreeds in response to cattle buyers wanting a certain type of calf for the feed lots in the Midwest. A number of ranchers have opened up old bunkhouses for hunting parties in the fall with one 60-year-old rancher even letting the hunters camp in his corrals that during the rest of the year are used in handling the rancher's herd of Longhorns.

Information Gathering

In the face of such change which can occur rather rapidly, these ranchers need to access a wide range of information. One 60-year-old rancher gave the sage advice, "Accumulate it, accumulate it." Sometimes they must do that very quickly. To fill this need, these individuals gather their information in a number of ways. Some methods are formal, and others occur much more informally.

Because of the tremendous distances, formal classroom instruction is often difficult to find. A 50-year-old rancher, who had received a bachelor's degree from a college in California, mentioned that he had taken several college classes that were offered locally. One of them, a marketing seminar that had been offered by an area community college, was one of the best classes he had ever been to. "It was exceptional. The teacher was interesting. Really knew the stuff. I probably learned more from him in 16 weeks than all my other college." A 46-year-old woman had taken a slightly different approach. She had completed correspondence courses because there were no colleges close enough for her to attend to get the information in which she was interested. She had taken a writing course from Iowa State University and a photography course from New York "simply because that is the only way that I can get the information I needed. You do want you can do."

Although some of the individuals interviewed believed that there was always some type of class available that could provide them with needed information, a 67-year-old woman remarked about what she saw as the difficulties that people in her area had had in accessing information. She believed that to really become well acquainted with new information, more time was needed. This is a commodity that she and her neighbors could not afford.

> You can't leave one of these places and stay in town long enough to learn how to run a computer. So you get the computer and you get the book and

> you sit there and make a lot of mistakes. But eventually, it all starts to come together.

In one community's case, a 60-year-old woman who was interviewed had suggested to several people interested in computerized bookkeeping that they contact the Extension Service to send a teacher to their town to teach the basics of Quicken. The result was a successful seminar that helped the adult students learn how to computerize accounting books for their ranching operations.

Classes, sponsored by other agencies such as Extension Service, are one way that nearly half of the individuals have gathered information. Although several ranchers did not use the Agricultural Extension Service and the Soil Conservation Service at all, others mentioned that the Extension Service has offered winter classes which they have attended. A 46-year-old woman mentioned that the local school had finally opened up the school shop for adult education classes which had nearly 40 people attend. She noted that those individuals did not have the money or space resources to have shops in their homes and that "unless the school had said, 'We are going to do this,' it wouldn't have happened."

Several ranchers mentioned that the fertilizer dealers and chemical companies often give more formal classes and that they gathered information from salesmen. Although to mainstream learners this avenue may seem fraught with problems, to the Responsive Learner such an information source does not have inherent concerns. After all, any

information received, whether from a salesperson or not, goes through close analysis in terms of their own experience and their own situation.

One of these informal class sessions was observed in a cafe in a small town. Two feed salesmen were meeting with an Angus breeder, who was investigating feed supplements. The feed salesmen were trying to sell "texturized" feed, a new kind of supplement feed. They provided the rancher with a great deal of information beyond sheer cost, including how this feed would put weight on faster and more evenly, emphasizing how such a margin is important in times when the calf market is depressed. The salesmen also commented about being able to measure and distribute the feed with a self-feeding system. Finally, the rancher, who had remained silent, spoke. He said, "Well, I don't know if I like that. I like to get in there with my cattle and see how they are doing." He then pressed for information on the results that other ranches in the area have had with the product. The salesman reiterated the effectiveness of liquid supplement. At that point the rancher replied, "Well, I don't know about that. How would you like to stick your nose into liquid at 40 below?" The class seemed over.

Tours and field days are another information-gathering source. A 53-year-old man, who was raised on a cattle and wheat ranch, had joined the Pea and Legume Cooperative. He participated regularly in their annual field days that included both speakers and tours of places where peas and

legumes were being raised as either a cash crop or for green fertilizer. Other individuals mentioned attending Soil Service Range Days in which they learned about plants and grasses in the area by visiting a variety of sites.

Meetings and clubs were another source of information gathering with ranchers mentioning offerings of the Montana Stockgrowers, Homemakers Clubs, the Vets Club, the REA, elevator meetings, and agriculture shows. One 49-year-old woman remarked that those kinds of more structured learning settings provide a way for her to meet people and get to know them better. This same individual believed that the classes offered in this kind of setting provided her with a structure that helped to motivate her. Several people noted that there used to be more of this type of semi-structured learning organized in the local community. However, now high school sports events had precluded a great deal of it with more and more people choosing to follow the sports activities and not attend other community-based events. One 45-year-old woman pointed out that in their world things come up suddenly, some relatively minor like an animal showing up in a pasture where it doesn't belong, while others may be life and death like a cow having problems calving. She noted that no matter how flexible the course work or meeting times were, she had often seen both she and others in her family having to cancel attendance at a scheduled learning event.

All of the ranchers interviewed, including the 95-year-old, said that an important part of their information gathering was reading. They listed such sources as books, agricultural magazines and newspapers, telephone directories, and flyers received in the mail. However, the information gathered in this way needed to be held up for scrutiny because as a 73-year-old man said, "You have to sort that out because half of that you can't believe." A 54-year-old man mentioned having "to pick through" the ideas. A 65-year-old man pointed out the need to be open to the ideas but at the same time to be ready to alter them a bit: "They may not always be quite right for you, but you can make them work." A 76-year-old man mentioned writing to companies for further information if he had more questions.

All of the ranchers relied on some type of electronic news. They watched television news and listened to radio reports. Others remarked that they got information from the farm wire service, DTN. One 61-year-old man added that this service supplies him with agricultural information even before the newspapers receive it. One 50-year-old rancher used educational television, the DTN, and the Internet to provide him with information, saying, "Between those three I'm about as smart as I'm going to get."

Questions about computers elicited a variety of responses from this group of ranchers. Some individuals had computers while others did not and had no interest in learning more about them. Several mentioned that their

exposure to computers was linked with their children's use of them in school. A 46-year-old woman endorsed what she saw as a trend to use computers to link schools in the smaller communities with schools in the larger and more urban areas. One 49-year-old man noted that the only computer instruction that he could get was from his children and that they used a computer at school for this purpose. However, the method had not worked too well up to the present because the children were so far ahead of him and had other interests.

The majority of the ranchers expressed in some way concerns about how computers will affect their way of learning. One 61-year-old woman voiced the worries of many when she posed a question about computers changing their traditional landscape. A 64-year-old man was concerned that in communication between individuals, computers do not allow for personal interaction and that at the present they do not allow people to "read their face, see their smile." He also echoed other individuals in his feelings that although valuable to help a rancher keep track of a purebred herd or keep the financial books, computers would cause problems for the person working the land because, "you do lose touch with what is really happening." In talking about using a computer, he elaborated:

> I think it is easier to miss where you are at. . . . You can look at numbers . . . but in just your feelings . . . you feel like this year you can't spend money because of cattle prices. You get that from your own mind. You don't somehow

> get that out of a computer. It is just figures there.

In discussing the use of computers, this same rancher touched on the issue of locus of control. He believed that all the information he needed to do his work was inside him: "I know everything I have to know." This statement did not appear to be bragging because it was voiced by other ranchers. Instead, it reflects his sense of feeling confident in his ability not only to identify needs and to gather the information required for his particular situation but more importantly to analyze information and synthesize it as a whole. He had retained the control of his frame for information gathering.

Employing Networks

Much of the information gathering in this group of ranchers was accomplished using the more informal system of social networks. In fact, one 76-year-old man seemed amazed that networking was included in the questions about learning because he viewed going to other people for information as the natural thing to do. Such a method seems natural for these people because as one 64-year-old man said, "We see our neighbors on the road, and we at least wave. And we always stop to talk. So it is something you take as a little more high priority." This same rancher contrasted such a life to that of his daughter who lives in a big city, who does not know her neighbors, and who is very careful in

whom she addresses. His wife added that she and her husband do not feel that same fear at reaching out to people.

These networks evolve. A 59-year-old man noted that one of the chief advantages of having lived on their land for more than two generations was that their network had grown larger over time, encompassing a great range of people and knowledge. Another rancher remarked, "There is always somebody out there that you can get in touch with, and they're willing to help you if you don't know the ropes." Little is formalized in such exchanges, and the lines of role differentiation between information giver and receiver often disappear.

The use of networks works well for ranchers according a 64-year-old man:

> Ranchers are supposedly quite independent. And yet they can talk about it to another rancher and pick up ideas without swallowing their pride. They can take this and say, "Oh that is a pretty good idea." And they just go home and do it. They don't have to say, "Oh I was wrong and made all those mistakes." They can keep their pride too and their independence. And still go ahead. And yet gather information. It is actually a very good way to do it, and I think a lot of people use it.

This same individual provided several examples of his use of information that he had gathered from other people, remarking, "I think any time ranchers get together, they talk about ranch stuff. And you do learn a lot from things like that." As one 54-year-old man said, "A big source of information is other people. You visit. They tried this. It worked pretty good."

This "Pick Your Brains" approach (Stephens, 1991) often can be seen at use. One of these situations was observed in a roadside diner. Several men had met for morning coffee and were talking about the depressed price of cattle. One of the individuals had been to a recent auction in Billings and was telling the others about how buyers from Arizona and Missouri had been there and their bidding had inflated the prices. In an area of great distances, such information brokering becomes important. In this case the man who had gone to the sale was bringing information back about cattle prices. The small group was soon joined by another man, who sat quietly off to the edge of the group, until one of the them asked, "We thought you were here to give us something," meaning a piece of information. The man laughed and said, "Well, I came here to pick <u>your</u> brains."

It is through such networks that ranchers obtain a myriad of information. It could be news about a new seed to avoid or a new strain of alfalfa that has worked well. A 64-year-old rancher explained how in spite of traditional management thought that touts the efficiency of running a solely cow-calf operation, they learned about a new marketing system for their calves:

> We kind of found out about that through different people. Talked to different ranchers to see what they did. Course most ranchers are death on feed lots, and bankers tell you that you'll go broke doing that.

Another example of this method of learning is the Block Management Program which is a Fish, Wildlife and Parks

program that pays ranchers for every hunter and every day of hunter access. Although the money paid does not even come close to approximating the cost of pasturing the wildlife and the state agency dictates access rules, an increasing number of ranches have enrolled in it in an effort to recoup some of their costs. Ranchers may hear about the idea through neighbors but rarely do they adopt the program immediately. Instead, they admittedly "watch over the fence" before they try anything new. As one 53-year-old rancher remarked, "Now there are so many changes to keep up with, I guess there are some things you just kind of see what is happening over the fence and go from there."

Many of the people do not consider such configurations of people to be a network, but instead they view it as their observations of a variety of individuals, as simply visiting, or as part of their daily business. One 67-year-old woman remarked that her husband is one of these learners. She said:

> He loves just to go stand around the grocery store or service stations and visit, "How are your crops doing" and this and that. And neither of us are much for using the telephone because we grew up without them. Unless you got something really important to say to somebody right away, you don't just call them.

Such individuals do not consider networks to be out of the ordinary because they mix frequently with the people who form their networks. Business and learning become intertwined. One 59-year-old man recounted how as a child he and a friend had for a summer travelled from neighbor to

neighbor, working cattle and learning to rope. It could be said in that case that the network of the community had looked after the two young boys, taking turns at parenting. Another example of networking becoming intertwined with other business was given by a 76-year-old man. Once when swathing his own hay, he was asked to swath by a neighbor who heard he was cutting hay. He agreed to help, moved his machinery and completed job. When the payment for this work did not come, the man had that neighbor pasture cattle for him for a time that would equal the swathing work.

The value of being able to discuss something from the variety of perspectives that a network affords was emphasized by a 64-year-old man who said:

> I think you learn a lot when you talk to other people. Just getting their expressions and their doubts, their ideas. You throw them around in your mind. Interaction is really good, I think.

Still another man who did earth-moving work said that he had done most of his learning from talking to other people. However, he emphasized that ultimately he was the person who pulled the information together:

> I never went to school to learn surveying or slopes on dams; it was just things that I picked up from working with other people. The SCS technicians, other contractors. Something was there, and you needed it. You noted it. That [pointing to his head] is your computer. You have to retain it and have it with you.

This idea was voiced again and again of these ranchers actively seeking in a specific learning situation the individuals who know most how to help. In such situations, the burden of responsibility falls directly on the

individual. As one 73-year-old man pointed out, one can always find someone who might know about specific tasks but the overall responsibility falls on the individual, "As far as the ranching went, you have to do that yourself."

A few ranchers gave examples of situations in which they felt that networks do not appear to work. Most of these cases involve the fear that the information may be harmful. Several persons interviewed drew the line between networking through visiting and exchanging information and the opposite pole of idle gossip. One 53-year-old man pointed out that if a ranch has trouble with a noxious weed or a resistant disease in the cattle, those are not situations that necessarily one wants to share with the world of the network. In those cases, this man uses the services of a professional to solve the problem.

Several individuals described their networks as being quite well organized. One 67-year-old woman described a community that used its networks in several different ways. She recounted how a network of people had saved a community hall that since homesteading days had been a meeting place for Memorial Day and Thanksgiving celebrations in the community. The local people had provided the physical labor to fix the structural problems and then had sold memberships both locally and to former community members who had long since left the area. This effort created a savings account to generate interest income for future repairs to the hall. The woman giving this example stressed that the network of

people involved in this building was larger than those who are living in the present: "The people before us have scrimped and saved, to keep it in as good a shape as it's in." Similar community solidarity was shown when a child of a community member was badly hurt in an accident, and the family had to be with her in another state. The local network grouped together with some individuals conducting a letter writing vigil to the patient while others oversaw the harvest, fought off the grasshoppers, and watched out for the ranch in general.

This same feeling of an extended bond was voiced in other parts of the area where the interviews were conducted. One 65-year-old woman in another county noted that the oral histories are what keep alive the connections between the people, the land, and each other even after the people have moved away.

> They thought the man wasn't living anymore because they hadn't heard from him for so long. There's nothing left there anymore where he grew up. We farm the land. There's no buildings. No fences. Nothing. But we remember the name.

The networks then are more than information providers because they also stimulate action. A 76-year-old man told the story of his seeking the help of a mechanic in town in a project to adapt a piece of machinery. Although the mechanic was not able to provide any direct help in the project, several questions he asked stimulated the man's thinking so that on his return home, he was able to solve the problem. He said, "It was just somebody to make you

think a little bit about what it could be." Along the same lines, a 67-year-old woman said, "Any learning is a help--no matter where it comes from."

The network also provides needed information in crisis situations, offering other people the opportunity to help and bonding them to each other through that effort. One 49-year-old man, whose nearest neighbor is now eight miles away, said:

> If my neighbor calls and says, "Hey I need you right now," you drop what you are doing and go do it. And that's just it. There used to be people within a mile of each other, and now its five miles. You have to rely on each other to survive out here to a certain extent.

In another example, a 58-year-old woman noted that she was part of a storm warning system. Because they are so isolated and are in a blind spot on the Doppler warning screen, they have had to devise their own warning system: "We call each other when we see something coming. Then one of us calls the Sheriff's Office. Then the National Weather Service calls them."

This theme of the network extending out to help was echoed again and again. One 65-year-old woman remarked about how people run to help and have always run to help in the event of a prairie fire: "You stop doing what you are doing instantly and go help fight the fire." She even was able to retrieve an article that was written about this response in the past and read it aloud:

> At the first sight of smoke in any direction was a signal for all hands, north, sough, east or west, far and near, to drop everything, to mount the

> fastest saddle horse and ride night and day until you came to the fire.

Such a response is still expected at the sight of smoke on the prairie although neighbors now use the telephone to track down where a fire may be and to help spread the word. Participation in this type of network action was stressed by a 95-year-old woman who said, "Responding to a fire call is part of your responsibility living here."

As more and more families sell their ranches and move away, the increasing distances from neighbors have stressed these learning networks, making the interchanges that do occur more difficult. Many ranchers felt that the weakening of the networks had made life harder, saying that they wished that there was more trading of information. As a 76-year-old man said, "I wish there were more of that, where you get together with your friends and could talk over different ideas." A 46-year-old woman remarked that she felt that there was less time for such a leisurely exchange of information and that "people used to take time to visit." Others remarked that the intrusion of television has impacted how people visit and that the coming of the telephone, much as it was welcomed, has reduced the face-to-face contact. One 54-year-old man remembered how he and his family had gone regularly to visit the neighboring family, the head of the family had taught him how to weld before he ever had a chance to go to shop in high school:

> When I was a kid, we would go two miles to a neighbor's place, and they would visit and play cards once or twice a week--or maybe they would

> say it is your turn to come to supper next week. Now we have better roads and automobiles, we have access to go to town. You are more apt to see your neighbors in town than you are at home.

One 46-year-old woman called this process the "neighborliness of learning." She referred to it in the case of young wives who move into new communities and how they become part of that community. She observed how home economics clubs used to serve the role of providing the opportunities for the women to get to know each other and form networks. About those women who never got involved in the club, she pointed out:

> They have never become a part of the community and it is because they have not been forced into that neighborliness of learning, of getting to know the people, of having to do things together. It makes you part of the community.

This same idea of a network of learning was found in the comments of other individuals who had attended formal classes to gather information and noted that often a great deal of information came from the other learners.

The networks present in these people's lives are not only used to directly gather information from other people, but they are also used to gather information in a passive way. Many of the ranchers spoke of just listening to what people happened to be saying or observing "across the fence" what people were doing. A 61-year-old man explained that in this way they could observe the outcomes and then decide whether or not to apply it to their situation. Along the same lines, one rancher indicated that he did not use networks to gather information. However, later in the

interview, he said that he learned from other people through observation and then used trial-and-error to apply it to his situation:

> I am always watching things that other people do and see if I can learn and improve on it. I do that a lot. Maybe what they are doing isn't successful for them, but I can figure out a way to make it successful.

Networking appears not only to be a successful learning tool, but it also reflects part of what these people identify as special about their world. One 49-year-old man said:

> What I like about Eastern Montana is the people. I can call a guy over in Circle. I may know his name, but I don't know him personally. He will probably tell me what I want to know.

Again and again, though, there were comments about how communities were changing. Fewer inhabited ranches mean greater distances between people. Moreover, as nearby ranches are sold to absentee owners who are not really a part of the community, the lines of communication between the individuals within the community are stretched. A 67-year-old woman observed that if they were living in the community all the time, they would be more apt to become part of it. Moreover, with fewer and fewer neighbors, the opportunities for learning by observation have diminished. However, it appears that at least several of these ranchers are applying their knowledge of how to network to an even larger community. For some, this is international. One ranch collects and runs yearlings from as far away as Calgary and Mexico City. Another rancher makes guns for

individuals in Washington and Oregon, and still another rancher sells his cattle through a network that extends as far away as Texas.

The networking process in these areas has developed as a way in which the circles of learning can be enlarged. Example after example was given of networks like homemakers clubs, equipment dealers, and even casual conversations in the grocery store providing information from a variety of different perspectives. In all the cases, it seemed as if the learner is in the center of a panoramic picture with the webs and connections emanating outward from the center. As the learner moves and shifts position to use a different connection, the framed view changes giving a new perspective.

Accessing Guides and Mentors

In a similar informal accessing of learning experiences that occurs in networks, ranchers also use mentors and guides. However, most of those interviewed were uneasy with the two words. One 59-year-old man even remarked that he was "too much of an individual for that." Even though age was not mentioned in the question about mentoring, another 50-year-old man noted that age has nothing to do with such a relationship. He saw that "younger guys know things that the older guys don't." These learners felt more comfortable describing a system made up of a series of people whom they accessed for information with perhaps one person serving a

larger role than the others. All of the individuals interviewed responded most favorably when the idea of one-one-one learning was mentioned but was not assigned a title. One 64-year-old man said that he believed that such interaction is "more dynamic or real because you aren't with so many people all the time. So that when you are with somebody you are more intense."

Parents played a big role in the lives of these people, providing in many cases mentoring relationships for both men and women. Although they spoke of learning from a parent one-on-one, they did not verbalize that the parent had learned from them. However, on the other hand, what the parent proffered in a learning experience was not necessarily taken without trial applications. One 64-year-old man who had assumed responsibility for the land from his father and who was being helped by his son said:

> When you're growing up on a ranch with your father, I guess you'd have to say that he teaches you a lot so that that would be your first experience of seeing what he does and seeing how that tests out with other things.

Rancher after rancher mentioned parents, a father or mother, who served as a mentor. In some cases it was a grandfather or a father-in-law who had taught them about the land, about the animals, about how to read the weather, and about how to make a living on the land. Several men remarked about how neighbors who knew a different skill had provided the opportunity to learn. One 54-year-old man said:

> The son of another Norwegian immigrant who was my grandparents' age taught me welding. My dad

> wasn't mechanical, but the neighbors were. So while my dad was in the house visiting, I would go out to the shop and see what was going on and if they were welding, I would weld. And if they were working on a motor, I was more than happy to be right in the middle of all that.

However, one 53-year-old man remarked that although the land itself does not change, circumstances surrounding their land and themselves are changing so quickly now and demanding so much more information that often they no longer can rely on what they were taught by a parent. Instead, they have to do as one 54-year-old man did and seek out a neighbor for help. This individual had been raised with dairy cows and knew about that kind of livestock. When he and his wife purchased a small herd of range cows, he discovered that he needed help. He turned to the neighbor who helped him learn how to manage the beef cattle, showing him about handling, feeding, pulling calves, and in general helping him solve a different set of problems presented by a different type of livestock.

While most of the individuals interviewed could describe a relationship from which they learned a great deal, they were reluctant to express in that relationship they had offered much in return, which is included in the classic definition of a mentoring relationship. When considering what they had to offer another person, these ranchers were genuinely reluctant to call themselves mentors, insisting that they were only answering questions. One 67-year-old woman said:

> I wouldn't want to claim to be smart enough to be a mentor. My folks were. They were the ones with the experience. They lived here till they died. We didn't always agree with them, but we knew it was for the best. And we listened to them.

This reluctance to identify themselves as mentors could be related to the fact that every rancher interviewed acknowledged in some way an understanding that areas of land are unique. This is a fact they see on their own ranches. Because of this uniqueness, no one solution will work in all instances. As a result, these ranchers are quick to only tell what worked for them, appearing uneasy at any attempt to label themselves as an authority on a subject.

There were a few exceptions to this reticence to identify themselves as mentors, and even those individuals found it difficult to actually name the skills or knowledge that they had passed on to someone else. One 64-year-old man said, "I think that everybody is in a sense a mentor. Someone is looking up to you." This particular individual reads a great deal and also serves as a community pastor, so he felt that people naturally asked him a great many questions. Even so, he did not go so far as to describe himself as someone's mentor.

In another case, the wife of a 53-year-old rancher mentioned that she felt he had served as a mentor to the parade of young men who had worked on their place. "The kids really like him." In order to be able to afford additional help, this man had started a system of finding inexperienced young men, whom he then trained to work in the

manner that fit his ranch. He has found that although the extra hands do help, there is a tremendous investment of time. It is so much that in sheer volume he can accomplish more work on his own. Still he continues with the system since he feels it is rewarding to both parties. He said, "It is nice to see them learn how to do things and feel good about what they're doing." Currently this rancher is working with a young man who was raised on a farm but did not work on it. Over the last few years, the young man decided to reach out and learn the things he had missed earlier in his life. The rancher said, "When he first started here last year, there was very little that he really knew how to do. So he has learned to do a lot of things here. Now he's going home, and a lot of things work." When asked what he got out of the relationship, the rancher replied that he enjoyed working with the young man, they get some work done, and the work he needed done was completed with relatively little hard cash outlay.

To whatever degree the mentoring relationships were pursued, an important aspect of them was that there was a nurturing of the person and a mutual respect for the individual. As one 58-year-old ranch wife said, "I had a home ec teacher in high school who was a mentor. I don't know if she actually taught me so much in information. She was just a very warm and caring person."

Experimenting and Trial-and-Error

No matter how much information is gathered and reflected on nor how many individuals consulted, there comes a time in the rancher's world where the responsibility lies with what the individual does. Because every situation is unique whether it is in place or time, this action may well involve some degree of experimentation. As one 76-year-old man pointed out, "There isn't anything really definite that you can pick up and read and say, 'This is going to be the answer.'"

However, the Responsive Learner's trial-and-error is not the same as the mainstream learner's hit-and-miss. The Responsive Learner draws from an unbounded frame with breadth of view. Current information is gathered from a variety of contemporary sources including observations of the land itself and its potential. Traditional information is accessed from the past and provides a depth of knowledge and experience. Each piece of information is then considered and weighed against all the other pieces of information in a process that resembles what has been called critical thinking (Brookfield, 1986). It is against this backdrop of information gathering and reflection that the action begins.

When asked how they learned to do something new, the ranchers over 60 years of age mentioned that they would just start doing the task. As one 73-year-old man said, "Everything I know is right up here" and pointed to his

head. He added at another point that he learned "from blunder and error." In a similar vein, another rancher described how he had learned to develop water springs by first watching the cattle gather at water holes and examining the nature of different soils. He then used that knowledge to solve the problem of the cattle plugging the water flow. When summarizing his process of observation, analysis, and creative problem solving, he added, "Yeah. And if you do it wrong, don't do it the same way twice."

A 53-year-old man echoed this belief that although one can learn from others, the responsibility for learning still is an individual and experiential matter. "I guess you learn from your parents, your family, acquaintances and neighbors . . . and I guess from good old experience." This same rancher observed that often because of the great distances in that area of the state, the learner is alone. "You're by yourself, and you've got to learn some things on your own." In such a situation the general view seemed to be that one had to find information from just about any source possible. Because of that method of gathering information, each individual really needed to analyze, to test, and to examine the information in order to determine if and how it could be adapted to the unique situation of the land occupied for every ranch is different.

In this kind of action-based learning, there is an element of risk, because these individuals are acting with little assurance of the outcome. As one 58-year-old woman

said, "It is all a gamble." Learning how to live with the risk and turn it to an advantage are important. One 64-year-old man said, "If you can learn from experience, it would be good." A 67-year-old woman pointed out that she felt that trial-and-error was a necessity in learning:

> Isn't that how we live? If you don't do that you are wasting a hell of a lot of years. The life itself forces you to make decisions. It forces you to learn things whether you want to or not. It forces you to go out and do these things.

Such risk-taking in learning situations is related to survival. Faced with ever-evolving circumstances, the Responsive Learner must constantly reevaluate and redefine goals and methods. In response to the market demands some years ago for bigger, "growthier" calves, many ranchers developed livestock breeding programs built on large-framed animals. Several ranchers mentioned that now they see the trend shifting to smaller animals which is a move that impacts their current breeding program and needs their immediate attention. In this particular case, it is not that they do not know about genetics or their cattle. Instead, they must heed the pressures of time and the vagaries of the outside market.

It is situations like this that cause a 50-year-old man, who had lived in an urban area of California, to observe that he believed that ranchers had to "try different things more than urban types of people. You have to try in order to survive." This same man echoed several others who had either not been schooled in agriculture or had been away

from it for some time and found themselves in a situation in which they had to basically "learn on the run." He said:

> I never took any agriculture in college, so whatever I know I have learned by doing. Learning by doing, making some terrible mistakes. We virtually rely on limited rainfall and during a dry period you might look at what works for other farmers.

In any of their information gathering stages, the individuals interviewed realized the uniqueness of their situations. Because of such individuality, different solutions are needed in each case. These ranchers see that information can not be taken across the board and adapted, or as one 59-year-old man said, "You don't take what they say as gospel." Although reading is a primary way most of these individuals gather their information, they do not accept the written word as the unchallenged answer to their particular situation. The idea first has to be tested. Even then the test might not accurately reflect the whole ranch because of the different zones of soil that exist. In most cases, weather patterns add another variable to the mix. One 53-year-old man mentioned that they had been experimenting on a small acreage plot with peas for several years with only moderate success. In spite of the less than stellar success of the test plots, for the past three years he had continued planting a pea crop because he believed that each year he had added to his knowledge of the crop and that each year the conditions were slightly different.

However, even with their willingness to use trial-and-error, these ranchers were cautious in their

experimentation, trying a little project first to see if it would work in their particular circumstance. A 61-year-old man told about adopting no-till methods of drilling to help retain the moisture content in the soil. Even though initially he was convinced this new method would work for them, he started his experiment out with just a half section of his land, using the equipment that he already had. Because he was one of the first ones in the area to use no-till drilling, he did not have anyone to rely on for information. Early in the experiment, he found that he did not have the right equipment, but he tried and eventually found the right piece of equipment to make it a successful venture. As it continued to prove successful, he added ground to the experiment until now he does not summer fallow any ground. He continues to follow this method because he feels that it saves him money. Even though he has had others ask about this method of tillage, he was quick to stress that the method had worked for him, implying that any generalization to a wider application would be inappropriate.

In addition to helping these individuals improve their financial situation while they found new ways to do their work, experimentation also carries a challenge and provides interest for them. One 65-year-old man said, "I like to invent a few little things. I like to change machinery. It comes just natural." A 76-year-old man echoed this spirit of adventure when he explained about constructing several of

his out buildings. After reading about tilt-up cement-walled buildings and finding the concept interesting, he had applied it to his place by building a garage and a shop with that method. In fact, he said, "I did it because it was sort of a challenge."

Such experimentation has its costs. There are times that even the staunchest proponent of trial-and-error has concerns. One 76-year-old man said:

> I have been a little bit hesitant about doing some things because I don't think I know how. And then a lot of times I'll do it anyway, and I find out that maybe I do better than trying to get someone else to do it for you.

Such continuing to push forward apparently feeds self-confidence and positively reinforces them to keep on experimenting. However, any such positive feedback must also carry these individuals through their failed experiments. In a rather laconic way, a 73-year-old man summed up the measurement of success in mechanical trial-and-error when he said, "Sometimes, if everything works when you are all done, you're all mechanic. If it doesn't work, you don't know very much."

Sometimes the individual must not only deal with the personal internal issues but also with the fact that a great deal of money may be invested in the experiment. One 54-year-old man recounted how many people had changed to exotic breeds and then how they found out that during drought years these bigger breeds could not find enough feed on the range to survive. He stressed that one has to listen

to what the land can do. "On this land you have to have smaller cattle" even though that may fly in the face of acknowledged agricultural practice which in this case was the move to bigger and heavier cattle.

Continued experimentation in the face of such costs indicates beyond doubt that these individuals learn by doing although they identify the process as solving the daily problems at hand. A 46-year-old woman pointed out that living and working in their landscape is often the driver in this trial-and-error process:

> You are usually trying to find out what works best. What you are going to have to do. You are looking for information you plain flat don't know or else you are looking for what will work so you won't have to waste time and energy doing something that eventually isn't going to work. You don't have the time or energy to waste.

This mode of problem-solving was learned in childhood. Example after example was given of children learning how to deal with problems from an early age--moving cattle to different ranges, tipping over a three wheeler and having to get it running in order to return home, learning not to go further in any vehicle than what was within comfortable walking distance, or learning how to quickly reassemble a father's gun before he returned home. The ranchers expressed their appreciation for this type of learning. In talking about learning in a context, a 60-year-old rancher tied it to learning in a classroom when he said:

> Now they try to teach you this and this and this. When I went to school, they kind of taught you <u>how</u> to learn this and this and this. So if you need something when you get the hell out of there you

> can still go and get it. And now so many people come out of school and they only know how to do this because that was what they were taught. Can't do another damn thing. Can't screw a nut on a bolt.

Long-term exposure to experimentation helps in forming the individual that both survives and thrives on the land. A 59-year-old man said:

> Let's face it . . . ranching in this part of the country, you are faced with various challenges, some extremely difficult as time goes on. It's ever changing; it's never the same. You're used to meeting these challenges and figuring out ways around whatever happens.

Not only do these people utilize trial-and-error in their learning, but the process also often involves some type of severe time constraint, taking the experience out of the realm of a leisurely learning process. Since these individuals are on their own, learning is almost a given because if they have not synthesized the information gathered, then not only may they themselves, but also the plants and animals under their care, not survive. The situations come suddenly. For example, one rancher told of a cow close to calving breaking through the ice covering a small pond of water in 20 degrees below zero weather. The condition of the pond bottom prevented her from getting out and by the time she was discovered only her head was above the water. The nearest neighbor was nine miles away and the ranch house and help were at least several miles away across terrain blocked by snow drifts. Another rancher mentioned a situation of being alone bailing hay in a field, which was at least two miles from the ranch buildings. The sky filled

with ominous clouds that spelled rain on the prime, second cutting of hay. Only two more rounds of the field would have finished the job, but the baler jammed.

In either situation, there was little time to think through a range of solutions or to consult a specialist. A wrong decision could kill the cow or, in the case of the baler, result in the loss of an arm. Any experimentation to solve the situation must be based on an immediate recall of a range of information along with the ability to be open to and to adapt to a range of factors. As an example of this, one 46-year-old woman mentioned the situation in which an FBI agent was killed in an accident while driving on wet, gumbo roads north of Jordan. This woman felt that his death was due to his refusal to observe the road conditions and to heed them. She said:

> If we were to go into a city situation, which would be the opposite of the FBI situation, I would say we would learn quickly to lock our doors and protect ourselves, to adapt to that situation as compared to those people who came and refused to adapt to the situation they were in. This is what living in the country does. It really does make you a learner, and a fast learner.

Such life and death examples would point to the fact that important elements to these individuals' problem solving technique of trial-and-error involve adaptability and openness. Both of these characteristics are found in the context of their learning. As one 64-year-old man said, "Things don't always work out the way you want, and you have to figure out something that does work." Being able to meet those twists of the unexpected involves asking questions and

examining issues from all sides. One 76-year-old man told a story of trying to fix a hydraulic connection with no success. All the solutions that had been suggested to him did not make sense to him, so he kept seeking solutions from the knowledge base he had.

In all of these situations, the Responsive Learners do not see their surroundings and the conditions under which they live as limiting their learning. Instead they believe that the expanse of their frame helps them to develop their problem-solving capabilities. As one rancher said, "I just take a certain subject and mull it over in my mind till I come up with the right answer."

Exercising Self-Control and Freedom

Of prime importance to these Responsive Learners is having the freedom to direct their own learning, seeking in the process the solutions to problems that lie in the context of their existence. Freedom in their lives becomes more than simply the freedom to think or the freedom to express oneself. It encompasses the freedom to respond. Not only do these individuals want this right for themselves, but they also try to allow it in others. Because of this tolerance, they often find it almost confusing when they are faced by situations or people who try to control their ranching lives through an increasing array of permits and hearings.

This belief in personal freedom could well be a reason that so many rural children leave the family ranch. Although it is true that the life is hard on the ranch and greener pastures often beckon, the young people are usually given the freedom to make their choices about the future. As one 67-year-old woman said:

> They never in any way obligated us to the place. And I was determined that that would be the same for my children--they would get their educations; they would make their own decisions; if one of them ends up here, fine.

This same belief in choice and freedom also could explain why the ranching community generally stands as an advocate for private property rights. As this same rancher said:

> I don't want to lose the right to decide what I can do on my place. I'm paying the taxes. If I want to do something, if I want to kick somebody off, if I want to build something, I want that right. Therefore, I don't feel I have any right to regulate. Because I don't want to lose mine, I can't take away theirs.

These individuals' sense of freedom mirrors their environment and the open spaces in which they move. It is both tangibly and intangibly a part of their heritage and their lives. One 54-year-old man said, "It [freedom] is a part of growing up and a part of life." A 67-year-old woman said, "I can do what I want." This thought was echoed both by a 50-year-old man who said that he had to have the freedom to move around in his work and a 59-year-old man who said, "I've never been pinned down to any one place. I was born and raised mobile." This freedom of movement provides them with the opportunity to schedule their own work and the

knowledge that they and they alone are responsible for that. A 64-year-old man said, "You make a living, and then you get the value of living where you want, having your own schedule to some degree." Another 73-year-old man said, "You are always on time. You don't have to work to someone else's schedule. You're free to have your own schedule. Wherever you're at, you're right on time."

The freedom of movement that marks the lives of these ranchers also helps to relieve any sense that they might have of feeling isolated. None of the individuals appeared to feel that isolation was an important factor in their lives. One 64-year-old man echoed what many others said, "We never used it [the word *isolation*] . . . never even think of it." Another 61-year-old man when asked about the isolation in their lives said, "I would say it expands your view." Other ranchers indicated that the only times that they felt isolated were when they were around people who viewed them as isolated or during times when the roads are closed and their movement is hampered. In fact in looking at the photograph of the hillside suburban setting (see Figure 3), one individual remarked that there was no clue as to where the roads were or what kind of access the location had. Weather can also impact these perceptions. One 49-year-old woman said, "When the snow is up to your armpits, you feel isolated. But it hasn't been that high for along time!"

In a reflection of how important freedom of movement is to these individuals, one rancher put an interesting twist on the perception of isolation when he said:

> You are probably more isolated in town than you are out here. In town you got to keep all your doors and everything locked. You're on that little quarter of a block or whatever it is. Around here it's different.

An 80-year-old man not only spoke to the issue of isolation but to a related one of choice when he told the story of what his mother said when she first arrived in the area 100 years ago. She looked around, shrugged, and said, "I walked in; I can walk out." Another 59-year-old rancher also tied together the concepts of freedom of movement and choice when talking about how he and his wife can choose to go anywhere in the world. They are not on the edge of the web but instead are the center of it:

> Anywhere you want to go, you can reach from here. Within 12 to 36 hours you can be any place in the world. So any place you want to go, you are accessible. It doesn't matter where you are--this is the hub, the center.

The expression of this need for freedom was perhaps most evident when observing the response to Figure 2. One 65-year-old woman equated the image with loss of freedom, remarking, "Leaves you with that optical illusion of going to a narrow point with no hope." She indicated that this place was far worse than the squeeze chute in a corral. Several of the ranchers remarked that they would be very uncomfortable there because they would not have the freedom to pursue ranching, and one 54-year-old man simply could not

fathom living in a place where he could not choose to make his living the way he did. Several individuals indicated that they would leave because it would put constraints on them and what they did. Such a situation is uncharacteristic of their lives. One 59-year-old man said, "You are never bottled up. If they think they are going to bottle up a rancher, they'd better start learning."

Freedom for the learner brings its consequences and responsibilities. First of all, the initial responsibility for assuming the task of learning lies with the individual. "You are more or less forced to figure out things for yourself--due to the fact that you are out this far." A 67-year-old woman stressed how this unescapable sense of responsibility motivates them to act: "It is hard to understand somebody that thinks, 'Why should I care?' They don't feel a responsibility. We are ingrained; it's ingrained in us. It's brought from babyhood." Rancher after rancher echoed this feeling of responsibility to not only discover solutions but also to respond with actions. One 53-year-old man remarked, "I've been doing this for a long time . . . being responsible."

Time on the land seems to offer these individuals not just the responsibility of stewardship but also the chance to learn. Giving a response similar to what was verbalized by all the other ranchers, a 73-year-old man said, "As you grow up and get older, you learn more about how to take care of your land. The responsibility does force you to learn

more about your land." A 49-year-old woman pointed out that in such an environment there are fewer distractions of people and events, but there is also no way to escape the responsibility for one's actions. Such a situation in itself can add stress to any learning situation. A 53-year-old man observed, "I guess most of my life, I have wanted to learn how to do things so that I could do it all, and it's probably too much. You know you can't do everything."

This sense of responsibility in learning and doing is related to a "hoe the row" approach to life in which work comes first and those jobs that are started must be finished with each plant carefully and completely spaded. These ranchers themselves were raised in a work ethic and they have also raised their children in a similar fashion. Responsibilities are assumed at an early age. A 59-year-old man said that by the time he was five he was not only visiting his friends some 8 to 10 miles away but also was moving cattle to summer range, which was a distance of up to 16 miles. Most of the individuals attended for at least some of their schooling small country schools, which in their classroom configuration demanded the responsibilities of self-directed scholarship. A 49-year-old man told of working from an early age as his grandfather's sheepherder while another 67-year-old woman said:

> My dad never followed us to a field or never followed us on a job. If we were going to hoe the garden, he'd give us a hoe and say, "Go hoe the garden." If we were going to plow a field, he'd

> help us set up the team and tell us what field to get into. You had to rely on yourself. You had to rely on getting there, getting the job done, and getting home.

Furthermore, the ranchers passed this sense of self-responsibility on to children and grandchildren. Those who had children mentioned the need to instill this trait. One 59-year-old man told of grandchildren being placed on horses by the time they were a-year-old while others spoke of children owning and being responsible for cattle, sheep, and horses. A 64-year-old man said:

> I think that the responsibility is so direct because if you don't do it, it falls apart. Nobody else is going to do it. In big business or whatever, there is somebody else going to pick it up. So we teach out kids that. Like our daughter . . . when she was little, we had bum lambs. She had to get up and feed them every morning and evening too. That somehow instilled in her that those lambs are going to die if she didn't feed them. That's all there is to it. . . . That was it. She had to do it. So she grew up feeling that she was responsible to do certain things. What teaches us is that we are somewhat responsible for how everything turns out.

Evaluating Through Productivity

In the type of landscape in which these Responsive Learners work and move, the results and the measurements of problem-solving are evident in the survival of their families and the productivity of the land. Clues to this method of measurement were found in their responses to Figure 5. Although it reminded them of "good cattle country," it also evoked comments about grass and water. These are the ultimate measurement not only of the blessing

of nature but also of good management practices. During the course of the interviews, the state of the grass on the range and the presence of water sources were mentioned again and again.

When looking at land, without exception these ranchers look for grass and water. However, water is the ultimate driver. Several of these ranchers grew up with no well and had to haul water. This search for reliable water was stressed by one 49-year-old woman who emphatically said, "You have to have water." In this measurement of productivity, they are not necessarily looking for an abundance of grass and water. Person after person referred to "a little more grass" or "a little more water." One 59-year-old man described how the country they are in receives about six and one-half inches of precipitation a year. As a result, they have developed a system for bringing water from springs, some up to ten and a half miles away, to supply water tanks for their livestock. Many of these ranchers have seen years in which there has been no runoff from the four or five inches of precipitation that fell. In such circumstances, "if you don't have enough range and don't take good enough care of it to have enough grass, it moves you out." One 49-year-old man felt that these very elements of the grass and the water on his ranch were what gave him a sense of place.

The importance of the condition of the land as a reflection of their work was seen in the words of a

65-year-old man who emphasized that he did not want to use up land by spreading out the buildings too much. This same concern over the productivity of land was evident when the ranchers responded to the images in Figure 2. Many of them wondered how productive a relationship with the place would be although one 54-year-old man pointed out that, "You have to work with what you have."

Although the primary measurements of productivity, grass and water are not the only criteria for this type of evaluation. On looking at the photograph of the abandoned house in Figure 4, a 46-year-old woman said, "When you ranch here, you just immediately say, 'What can I do with this? How can I feel at home? You are responsible for this.'" These individuals look to the state of repair of the outbuildings and the house, to see if there is a road, to determine what could be raised there, and to find where the animals are located. Often for these people, aesthetics and economics become intertwined. This was apparent in a 50-year-old man's description of his ranch: "Our place is nothing spectacular, but it has good production, and I like it."

The productivity of the land is an important end of their problem-solving. It reflects their hard work and becomes their identity, which does not appear to be related to sheer accrual of things. A 64-year-old rancher said:

> I think maybe that a characteristic of a lot of rural people is that they don't intend to make money on other people. They intend to produce something that they think is valuable that they

> can sell. They don't try to somehow manipulate things or people to try to make money. Traditionally, I think that is why ranchers have been so slow to get into the futures market because they say, "I've got this project, and that's all I need."

This same rancher went on to say that he felt the work that ranchers do is a tangible service to a wider community and should be measured with that thought in mind.

> You are doing a service because you are providing food for people. You are providing what they need. I'd have a hard time working on Wall Street where you shuffle paper every day, stocks and bonds and selling and buying. I can't see this waiting for the market to go up a point and sell it and make money. I keep thinking, who does that serve? What good does that do? What community does that build?

CHAPTER 7

METAPHORICAL THINKING

Everything is a subject. Your subject is yourself, your impressions, your emotions in the presence of nature.

Eugene Delacroix

Introduction

In order to nurture the process of gathering information, reflection and action, a Responsive Learner often must be a metaphorical thinker. Taking its meaning from a Greek word meaning *to transfer*, a metaphor is commonly thought of as a descriptive figure of speech in which a name or descriptive term is transferred to some object that is both different from it but also similar to it. A metaphorical thinker is an individual who when faced with a situation can pull two disparate ideas together and find the common threads that relate them. In this process, a new idea is created. The power of this process lies in the viability of the relationship that has been drawn.

The ranchers interviewed in this study live in a vast land, and the vastness of that land becomes in itself a metaphor for how they see the world. They live in a landscape which is powerful and like the ocean in that its surface reality is continually changing, although the deeper essence remains the same. This perspective was pointed out

by a 46-year-old woman who said, "This is the land. The land is unchanging. It still is and it will be. No matter what we do and no matter how great we think we are, it is still there."

As these Responsive Learners move and work in the vastness of this landscape, their very survival depends on the originality and the accuracy with which they draw comparisons in their thinking. This trait of metaphorical thinking manifests itself in these Responsive Learners through (a) their ties to place, (b) the view of the uniqueness of the individual whether it be land or person, (c) the creativity that manifests itself in their thinking and their responses, and (d) the sheer diversity of their responses.

Ties to Place

A strong sense of place forms the foundation on which the individuals interviewed shape their learning. For these ranchers, the land shapes the most all-encompassing metaphor in their lives. Even the 67-year-old woman, who indicated that if she had to chose between family and land, she would choose the welfare of her family, still used the land as the metaphor around which she based much of her discussion in the interview.

Some of the ranchers defined such a grounding in terms of what they call home. All of the ranchers in some way tied the idea of place and home to the land. In most cases

it was tied to family land. One 61-year-old man called it "the first place," adding that "when you get into a big city, you don't know who you are." This idea of identity tied to the land was echoed by a 49-year-old man who described a sense of place as "a place you could call your own. This is mine." A 58-year-old woman said, "I am satisfied where I am. I have no longing to go somewhere else."

Investment of self in the land through work was still another way that these individuals become tied to place. Several indicated that they felt living in town would have changed their work ethic. Several ranchers pointed out with pride some of the work they had done on their place, including replacement of buildings and the development of water sources. A 67-year-old woman tied such a sense of place to pride in what a person had done when she described how her father had felt when he said, "I built this, and I am proud of it."

Several of the ranchers echoed the idea that a sense of place was formed not from what might be considered most beautiful but instead from what was familiar. A 76-year-old man said, "Home to me. . . now that doesn't mean that it is the most desirable place. . . I have never felt that this was. But it is home to me. You make the best of it." Over time, these individuals have become accustomed to where they lived and what they thought of in terms of place. A 65-year-old man indicated, "The longer you are here, the

more tight you are to it." A 73-year-old man sitting at the table in the house where he grew up said, "I've been here so long, I can't imagine being any place else. Fact I'd probably be lost if I was." Others who were over 60 years of age shared this view, and one 65-year-old man said:

> You know a lot of people say, "Now you are 65, are you going to move to town?" Well, I don't think we are going to! We have never even considered it. Our place is here. And it always has been.

There were those who defined a sense of place as a combination of the tangible and intangible. A 46-year-old woman said:

> I think a sense of place encompasses all that [growing up in wide, open country]. It is not just the actual physical part of the land, what you can see visually, touch. It is how it makes you feel as a person and what you have to do to survive in that.

A 53-year-old man echoed that sense of a combination of place and feeling when he said that place is "where you feel at ease, peaceful. And that is usually when I'm out there, working at something, making something." A 67-year-old woman quipped that it was "where you can take your shoes off even if your feet are dirty! Where you are comfortable. You aren't putting on any pretenses for anybody. You are you."

Others tied place to a larger physical area while still others connected place to the community that may have known the individual since childhood. A 67-year-old woman talked about the boundaries of such a place when she said:

> I think all of us have a place that when we are coming home, when we cross that line we are home.

> It doesn't mean that we own that land, we are still home. Anything happens to us now, we'll be taken care of. . . . We're home.

Just over 25% of the ranchers linked sense of place to community. Several indicated that they felt a community stretched back in time. A 49-year-old man said, "There was always lots of family values and lots of people around. Different kinds of people around that were honest, hardworking people. You had to be to live out here. That was brought up through the ages."

Some knew the story of the land itself, including the time before the family had arrived and the evolution of the ranch to its current configuration. There were stories recounted of some of the oldest and most historic ranches in Montana, including the Clemente and N-Bar ranches. Others could tell the history of the ranch in the context of the wider range of history, including the Louisiana Purchase, the gold rush, and the formation of the various territories and counties. Still others see the evidence of their forbearers in the land. A 59-year-old man said:

> You see what your parents and your grandparents worked and what they accomplished. You take it from where they were and go on from there--whether it is irrigation projects and leveling fields or with breeding programs with the cattle.

Most of the ranches visited also carried the histories of the families who had left. One rancher, not unlike many others, mentioned that his ranch at one time had 13 homestead buildings on it. Rancher after rancher indicated that the ties to those pieces of land are cemented even

further by naming those portions of the ranch after the family that was there; one 65-year-old woman said, "We farm the land. There's no buildings, no fences, nothing. But we remember the name."

Memories of their personal odyssey to the present and how it relates to their land also established a sense of place in these ranchers. They talked about their childhood spent on the land. A 76-year-old man talked about how his ties to the place were strongest in a creek area where as a young boy he had spent a great deal of time hunting rabbits. Others talked about how they returned to the family land from time in the military service, how they met their spouse, and how their work on different parts of their ranch have defined their ties to the place.

All of the ranchers are tied to place by the histories of those who came before them. A common language that these people share with each other is the oral tradition of the family odyssey to Montana. Stories abounded of the past--of buffalo robe hunters who stayed in dugout caves, of a grandmother who was an ox drover, of homesteaders coming to Dakota Territory, of moonshiners. A 28-year-old man plans to renovate the grand old house that his great-grandfather built. He proudly told the story of how in the late 1800s his great-grandfather tracked down cattle that had been rustled, confronted the thieves, and brought the cattle home unscathed and single-handed. Another 59-year-old man recounted stories of the volatile period of Prohibition.

His grandfather was the first sheriff of the county and was killed in office. His wife, a petite woman who packed a gun, served out his term and then was elected to serve two more terms of office.

Still other stories about place include reflections of the community in which the family has lived and the ranch exists. Often these stories are interwoven with buildings that became landmarks for an entire community and now have disappeared or are threatened. A 65-year-old woman and her 54-year-old brother, who were interviewed separately, each identified the most significant landmark lost in their area as the buildings on nearby ranch where history had been played out in the early part of the century. As the result of a suspected love triangle, a local man shot and killed another man in a confrontation almost out of "Shane" or "High Noon." Their uncle was one of the first people on the scene and was one of those who went to town and vouched for the man who did the shooting. Although both the brother and sister are sharply aware of the loss of the physical landmark, they each know the story and keep the tie to that part of the land alive through the story.

In another area, the ranchers mentioned the loss of the house of the man who founded the town and the impending demolition of the old schoolhouse. A 61-year-old woman said, "And what about our school? They are going to make us take our school down." In all the areas visited, there were references with regret to the demise of the small, little

towns. Some of these towns are used now as granaries or storage sheds, some may have one or two people left there, and many are alive only in the stories told of the people who used to live there. The roll call of names seems endless--Rothemay, Franklin, Barber, Cushman, Flatwillow, Steve's Fork, Cohagen, Watkins, Albion, Capitol, Ridgeway to name only a few. To the people who live near these places, the connection to those places is still very much a part of their identity.

Not only were towns and buildings tied to history, but also history evidenced itself in manmade landmarks that were no longer used. The railroad, which in another area had made stops at every little community, was one mentioned. People also in several areas noted with sadness the demolition of those huge piles of flat stones known as sheepherders' monuments. For many individuals, such landmarks were visible from long distances and provided them with a sense of reference.

Perhaps the final test of the strength of the ties that these ranchers feel to their land is in how they feel about selling it. One rancher, who lives in an area with an increasing number of individuals coming in to buy vacation or hunting property, described how many of these newcomers had been eying his property. "They're wanting this place. But I just won't sell it to them." Increasing land values often are an enticement, but a 73-year-old man said, "If you sold it for a million, then what would you have? After you

got done paying the government, you wouldn't have very much. And you wouldn't have the million you thought you had." His wife very emphatically added, "You wouldn't sell one of your kids . . . and it would be like selling one of your kids."

The Uniqueness of Individuals

One of the most important aspects of metaphorical thinking is the ability to first see and respect the separateness and uniqueness of the individual whether it be a person, a plant, an animal, or a piece of land. One 64-year-old man called it "character." Understanding the character, the nature of an entity is a necessary step in finding the threads or relationships that connect it to a whole. Difference between individuals is an essential part of finding relationships. "Individuality and relationship are not mutually exclusive. . . . Only what is not identical can be related" (Needleman, 1993, p. xii).

When faced with an image of crowding as seen in Figure 2, these individuals revealed in their interviews that their abhorrence of such places includes more than their concern over the loss of freedom of movement or the lack of productivity in such places. They also show concern over the loss of individuality. To them, the mass blends into what one 64-year-old man called a "hodgepodge." In viewing Figure 3, several mentioned the uniqueness of the red house in the foreground. One 46-year-old woman said, "They could use the houses less close. Just leave that

little red-colored house there." This same woman mentioned that when they had travelled in the Scandinavian countries, they noticed that the farms were very close but were separated with a high row of trees. She said that these rows of vegetation were not so much a wind break but were more of a "people break" because they provided privacy and the separation of identities.

The ranchers are very aware of this concept of individuality in how they give advice. Not only are each of them individuals but also each of their ranches are unique. One rancher described his place as "one of a kind." The peer observer in this study also noted this individuality when he described the ranches as islands, unduplicated and unexpected in the vast expanses in which they exist.

Because each place and person is different, these ranchers do not tell a neighbor to do something or say that their solution is the only answer. Instead, in recognition of individual needs and the possibilities of a range of solutions, they relate how something may have worked for them. Advice is usually prefaced by phrases like "what worked for us" or "what worked on one piece of ground." As a 54-year-old rancher and his wife said:

> Your place is completely different from your neighbor's place. One section of your place is totally different from another section. The types of land you own and how you are going to have to use it with what you are running makes a difference. And the neighbors don't have the same situation. He's running on a different set up.

Part of this ability to respect the uniqueness of the individual is the acceptance of the differences that exists in both the land and themselves. A 67-year-old woman said:

> There are so many differences in the Rims [a prominent land feature] themselves. So whether it is a happy mood or just a getaway mood or what, you can find something up there. And then you just ride. Then maybe you don't go clear out there on the point. Maybe you stop, "Oh this is a good place. I like this. This is my place today." That is your place. It is what feels good.

Because of the uniqueness of place and character, the land and the lifestyle also provide these people with a situation in which the individual does thrive not only because of the freedom of movement but also because of what each day brings. This same woman said:

> His dad [this woman's husband's father] was very pleased because he figured that he [her husband] was of the temperament that he kind of likes to set his own schedule and do his own thing. And then, of course, you're never going to find any more variety. You get up in the morning and you might think you know what you are going to do that day, but you seldom do that.

All of the ranchers mentioned the variety of work they face and how that makes each day different. One 73-year-old man pointed this out when he said, "Half the time, you're your own veterinary. If you got electrical problems, if they're not too big, you do it yourself. Repair problems. Machinery mechanic."

Creativity

One of the critical requirements for metaphorical thinking is the ability to see existing similarities in

concepts that may on the surface appear diametrically different. These ranchers are forced because of their separation from the mainstream to think more creatively. One 65-year-old man said, "I think isolation makes you have to be more creative. You have to learn a lot of things." Because of lack of materials or facilities, they often need to think outside the lines of what may be considered accepted thinking.

This type of thinking evidences itself in many ways. One way can be found in how these individuals adapt ideas to their situation. An example is the 76-year-old man who believes that there may be merit in applying on his ranch the technology of fabric buildings used by hog-growers in the Mid-West. A 48-year-old man who raises sheep recounted how once when he was in a Radio Shack store it had occurred to him that their security surveillance system might be applicable to his situation. He envisioned installing a camera in the lambing shed with the monitor in the house enabling him to watch the ewes that were due without his having to go out in the cold.

In a simple illustration of how metaphorical thinking was used in the application of a new technology to an old problem, an 80-year-old rancher talked about the method he had devised to get a ewe to accept a lamb that wasn't her own. This process, which the cattle breeder must also know about, can become a frustrating one involving a range of techniques to transplant the scent of one lamb to another.

This particular rancher had solved the problem by spraying a ewe's nose with Right Guard deodorant. This solution, which prevents the mother from smelling anything and so detecting the switch, bought time for the ewe to re-bond to the new lamb.

Metaphorical thinking is also required in the success with which many of these ranchers utilize the pile of scrap metal and machinery that every ranch has out back behind the buildings. To access and use this jumbled resource to its fullest, they must be able to, on one hand, hold the picture of what they need and, on the other, match it with the crazy array of materials that the scrap pile holds. The result is seen in how cleverly a piece of scrap cowhide can be nailed to a gate and a post to form a workable and lasting hinge or in how a piece of scrap tin off of a piece of an old combine can be used to make a new muffler to keep an old truck running.

Creative and metaphorical thinking is also found in how these ranchers analyze situations and ask questions of what may be considered universally accepted. This ability to think creatively is seen in how many of these people deal with an increasing array of regulations. A 59-year-old rancher said that his success in dealing with them lay in "second guessing what they might be looking for and working around what they might be actually going to do."

Analyzing what may be considered a given is another way in which these ranchers think creatively. Recent trends

have been to insure that cattle are protected by many different types of vaccines. Not only are cattle vaccinated with multiple vaccinations, but they are also given many antibiotics for a wide range of health problems that may arise. One 53-year-old rancher mentioned his awareness of this trend. However, he has also noted that cattle have become increasingly susceptible to a wide range of problems. He has put together the two situations that would appear to be separate and has raised the question that perhaps they are vaccinating cattle too much and too frequently.

Another way that their creativity shows is in how these ranchers view their world and how they express their feelings for what they see. Many mention the colors in the sky and how the cloud formations resemble different animals or people at times. A 95-year-old woman shared a poem that she had written about her home. It expressed her feelings about place and identity, interweaving the two:

> Awakening to the sound
> Of coffee being ground
> In the mill on the wall,
> With aroma beckoning all.
> After breakfast exchange
> Bring milk, and cream, and butter
> To the shelf in the water.
> Water clear flows down
> To the big trough on the ground
> Then trickles over on its way
> Down the creek
> In Montana.
>
> With leathers I ride
> Over countryside
> Pick wild rose for boutonniere
> Prickly thorn and have no fear.
> Songs of meadow lark, and killdeer,
> Curlew, flying near.
> Return with mail from far and near

To log house and family dear
In Montana.

Chore time comes,
For cows must ride
In the pasture wide
Looking here and looking there
Repeating poems of yesteryear.
Ride to pines atop the crest.
Where did cows at moment rest?
Returning home at last in the eve
Glorious sunset in the west
In Montana.

Enjoy peace of the night
E'en on high and stars so bright.

Often, however, these individuals go beyond pure description in speaking of the land. There are deeper significances seen. For example, a map of the land can become a tool to remember the stories of how people came to the area. In talking about how she enjoyed looking at maps, a 65-year-old woman explained how a map could serve as a way to learn a story.

> I don't just want to know how they got from point A to point B, I want to know <u>how</u> they got there. There are tremendous differences in what route they might take. What they might run into. It is like in life. You don't just get here. . . . You don't just get there. . . . You have to travel the mountains and the valleys in between.

In that example, there is a comparison made between a map and life, two very different elements. This same woman, who lives near to a prominent landmark called the Divide, drew a direct comparison between the landmark with its changing moods and her working the ground:

> It is sort of like farming ground that has never been farmed before. It looks different as you make this round and then you turn back and go the other direction. As you are moving down the field, it takes on a different feel because of the

> terrain changing. It is an exploration. It is total, all of it.

This type of creative drawing of comparisons was also done by a 61-year-old man who when talking about the piece of land that he would hold onto the longest, said, "I guess the grass grows in that direction."

The way these individuals see their landscape lends itself to teaching them how to view the world creatively. The 65-year-old woman mentioned above added that the Divide is more than a favorite view. It permeates her family's whole life. This is not just visually, but it also includes the creature comforts of heat:

> If I would be hit with frustrations and would come out, the Divide would take on many different moods. It could be high, low. It could be cold; it could be warm. It could be fog wrapped; it could be clear as a bell. It could look like the dolomites. Of course, if you've ever walked up in there, you know it is much bigger and more vast than you think. The Divide was always kind of an intriguing place. That's where we went to chop cedar wood for the school. We used to have to mine coal in the early days, and that lignite there is what kept you warm in the winter.

In this way, the Divide becomes more than a piece of the earth's surface that has been named by those who live around it. It becomes a symbol of much more; in some ways it becomes life itself.

Diversity in Response

One of the characteristics of metaphorical thinking is the variety of responses that it can spawn. Not only does this type of thinking provide these Responsive Learners with

a tool for survival, but it also provides them with a sense of humor that is a direct result of being able to draw unexpected similarities between unlike situations.

Sometimes the landscape itself provides them with a subject. One woman told about the rock cliff face that she could see out of her window. This particular rock formation resembled the head of an Indian chief. Every day as she stood at the sink in her kitchen she would look at the rock and smile inwardly at the familiar face. Then one day the snow started melting, running off the rock, and then refreezing. As she looked at her rock, she realized that the stone face had developed a dripping nose. The jarring picture of a stoic, proud man with a runny nose produced many smiles in their house.

Every interview was filled with smiles and laughter. Sometimes the laughter was the result of a twist of words or sometimes of a fond or a shared memory. One 49-year-old man found great humor when asked what his most recent learning experience was. His response eventually was that "there's a list that's pretty long." A 95-year-old woman in response to the same question began to giggle and soon had the room in complete laughter as she recounted the story of how on a recent trip to the grocery store she had learned to drive herself around in a motorized cart. When asked how many displays she had taken down, without directly answering, she admitted that she was going too fast, and her daughter remarked, "Well, we lived through it!"

Humor can be found even in serious subjects and hard work. One obviously hard-working 60-year-old man said, "One thing about me. I'm just not afraid of work. I can lay down right along side of it and go to sleep!" Another 71-year-old man expressed his dislike of haying when he described how some day he was going to go on a trip in his pickup, pulling his swather behind. When he reached a place where the people there stopped him and quizzed him about what that strange looking machine was good for, he would know that he had found a good place to settle. He would know that because of their lack of recognition of what a swather was that they did not need to put up hay. An 80-year-old man told story after story of the past; each peppered with witticisms like, "The hand is quicker than the eye and a black eye proves that." This same man, who with his wife, started out their married life living in a sheepherder's wagon, summed up their experiences by saying, "It hasn't been all downhill and in the shade."

With these ranchers, their out-of-the-lines thinking is perhaps most evident in their ability to introduce diversity into their operation. Several ranchers mentioned that diversification had often spelled the difference between their parents and grandparents and those who were not able to make it on the land. All of the ranchers raised several crops, many even more. Sheep, cattle, hay, alfalfa, wheat, barley, oats, timber (both sawed lumber and posts), and pigs are all part of this world. Many mentioned that some

endeavors helped pay for others. One 64-year-old man mentioned that raising sheep had gotten his wife and him started in ranching, had sustained them through the bad times, and then had helped pay to get them started in a cattle operation which required less work.

This diversifying often results as the evolution of another project. One 53-year-old man recounted how as a traditional cattle ranching family they had gotten involved in raising sheep. Their daughters had started raising bum lambs as a 4-H project. However, when the lambs were ready for market and they took them to town for sale, the grandfather bought them back, loaded them up, and trucked them home. The rest has been history as now they view the sheep as a way to possibly make some more money to help support the place. This same rancher said, "When I went to college, the big thing that they were promoting at that time was specializing . . . and I never did agree with that. Because we never did it here."

CHAPTER 8

SYSTEMS THINKING

You can never have the use of the inside of a cup without the outside. The inside and the outside go together. They are one.

Alan Watts

Introduction

One of the key characteristics of a Responsive Learner is the ability to think in terms of a system instead of thinking linearly. As Capra (1982) points out, since Newton, Descartes, and Bacon, Western thought has been guided by the view of the world as a gigantic machine that is best understood by dissembling it and understanding each part. The Responsive Learner thinks more holistically and more in terms of a circle of related parts than a line with a definite beginning and end. In the former view, the sum of the parts creates the whole, where in the latter the part and the whole are inseparable.

When looking at these ranchers, it is quite apparent that they are reluctant to separate individual elements for consideration since everything in their world functions as a whole system. Functioning as a whole does not mean that they treat the whole ranch the same. A 67-year-old woman said, "The whole place doesn't fit in one characteristic." Instead, each part of the whole, each project, or each field

is considered as an individual piece in a system that in order to function correctly needs that component. These ranchers may be thinking that they need to shift their heifers from one pasture to another, but in the process, they also must consider the supplies of grass and water not just for the next couple of months but for the year and, for that matter, for years to come.

As the managers of the living plants and animals that the land sustains, the metaphor for perception that these ranchers is not a mechanical clock, but instead it is a living body with its pulmonary, its respiratory, its lymphatic systems. Every day their world is filled with many separate little circles of endeavor, each swirling in its own process of a beginning, a middle, and an end. However, while going through its individual process, each circle in some way overlaps and interacts with other circles in the process forming a larger system. In fact, the past and the present and the future are all systems operating within a larger system, as voiced by one 60-year-old man who said, "Yes, the old becomes the new."

This somewhat circular view was alluded to by a 65-year-old man who, in describing the special meaning of the land where the family first settled and established its ties, told about taking visiting family members on a tour of the place:

> It always sticks in my mind going west and then we make a circle and go to the old homestead. A lot of relatives come out and they got to go in here

where the old homestead was. Of course, this is what we started with.

Systems thinking in these responsive learners involves (a) an awareness of the land and its totality, (b) an understanding of the evolution of systems, (c) a view of the system of the community, (d) an understanding of the self as part of a system, and (e) the resulting humility which allows for the openness necessary to be aware of the land and its totality.

Awareness of the Land and Its Totality

The generational success of the families involved in this study lies in how aware they are of all the systems that make up their world. As several ranchers pointed out, they may only be dealing with one portion of the system at a time, and that temporarily may have most of their attention such as fixing a fence in one pasture or plowing ground in another field. However, in something related to what Hiss (1990) calls "simultaneous perception," these ranchers are able to take in all pieces of information regarding their ranch and treat it as a whole.

These individuals are in tune with where they live. As a 54-year-old man said, "We don't worry about the Dow Jones, the stock market, the politicians. It is Mother Nature and the seasons, the amount of rainfall we get." A rancher's wife said, "It is like when you look outside, you immediately know, as soon as you look that something is different. You just immediately see when you've lived so

long in one place." By observing such elements, these individuals learn from them. A 67-year-old woman said, "I guess by just watching the animals and all, everything has an order, and it's up to you to find your place in this order and do what you can with it."

This sense of the land around them also guides them in their work. The same woman said, "Whether you want to know it or not, you know the fence needs fixing." She also pointed out such a sense comes into play in that, "You plot the path . . . and whether it is a conscious [effort] . . . it's just a knowledge of what's out there that tells you where you're going to go and what you're going to do at that time." A 59-year-old man echoed this belief when he explained how a person can be working on one particular task but still be aware of several others that may or may not be related.

> You know where everything is located in comparison with all this and you see the entire area including the animals, the vegetation that are associated with it, the rock formations, the water, the gumbo formations, everything that is there. You are aware of all of it. You're not concentrating on one specific thing.

Several of the ranchers admitted that often they take for granted this type of awareness that helps them to coordinate the myriad of projects in their lives. Each day holds the ongoing cycle of chores, of feeding animals, of small maintenance jobs. There are also the pressures of the big projects that need completing within a certain time frame. The hay is ready to cut and there isn't a cloud in

the sky warning of rain. The weeds are growing in a fallow field which is a sure sign that it needs plowing. The three mile stretch of fence that should have been fixed last year is really sagging and needs to be addressed before the cattle are moved. The pile of last year's hay needs to be moved to a different spot and the hydraulic hose on the tractor has just broken. This outline of work does not include the planning that is ongoing or any of the necessary negotiating of the twists and turns of the bureaucratic maze, which over the years has grown increasingly intricate and takes up an increasing amount of time and attention.

The secret of coping with everything at once lies in how these ranchers access all levels of understanding. If they can keep their frame open to view the entire picture, they seem to feel that all the multiple pressures are handable. Losing track of the whole picture and in the process losing touch with their sense of the relationships of systems was what one 64-year-old man identified as his biggest concern with the computer. His daughter had asked him how he could possibly run a ranch without a computer, and his response was that he didn't think one was necessary because it would impede his view of the whole. He said, "The only thing I can see as a problem with the computer is that you do lose touch with what is really happening." He went on to explain that he did not believe the computer could give him the kind of information that his hunches or affective side did. In his case, he gave the example of

knowing the right time to sell calves, which in a volatile market can mean the difference of thousands of dollars.

This need to see the overall picture in a holistic way was echoed by one 65-year-old woman who said, "There is an encompassing truth underlying everything. That is the top of the mountain." She went on to say,

> I want to go with the whole thing, a whole overview of where I am going. I may be using logic for each step of the way, being very concise, but I want an overall picture of where I am going. A lot of people I guess can't cope with that, but I want to be on a mountaintop and see the whole thing.

Evolution of Systems

As part of a group of systems, these ranchers see circumstances evolving instead of being the result of hard and fast decisions that may be made rather quickly. Furthermore, since everything is fluid and changing, no decision can stand untested forever. A 67-year-old woman who believes that "spring will come--you have to believe that in ranching," reflected about how such a view of a larger system creates greater acceptance.

> The more you see of the changes and what happens . . . you end up with a terrific admiration and respect for the man who put this all together. Because as it goes on, it rehappens.

Their view of systems also stretches back in time for many of them have a sense not just of their own history but also of the land's story. A 59-year-old man said:

> I imagine that you'd have a totally different view from if you weren't so closely tied to the land, to nature. Through calving and all of that,

> you're very close to the animals and what takes place, very aware of the storms and the losses you can have; the range land. A lot of this hasn't changed since before the birth of Christ. The animals may have changed that are grazing it, but the land itself, the plants, the formations, everything, is the same as its been for hundreds and hundreds of years. Probably thousands.

This ability to sense a slow and evolutionary growth of everything, helps these ranchers in many of their evaluations. Often they cannot see specific progress but must look at the overall picture. A 61-year-old man who had started no-till drilling said, "I can't say that it helps a lot more, but I feel that overall it has helped."

These Responsive Learners see their ranches as evolving and themselves as part of that gradual process. They often started their operation with a few animals. One 73-year-old man said, "I just started out with a few cattle, and I just kept getting more." Another 59-year-old man in describing how the family ranch had evolved over generations recounted the projects and the individuals responsible in developing the current water system for the ranch.

This kind of patient waiting for the turn of the tide is also seen in how ranches are passed on to the next generation. Transitions are not necessarily smooth. Likewise, they are not always assured or do they happen quickly. Sometimes it may take years for a child to mature and return to the ranch and assume the responsibility of operating it. A 49-year-old man who when he joined the service had assured his father that he would be back, said:

> There was a while there in the service when I didn't know if I really wanted to come back to the ranch. There was a lot of people here when I left. There were three families living here.

However, when the telephone call came several years later that his dad was ready to sell the place, the young man came back because, "He [his father] wanted the land passed on to somebody rather than selling to a different person. It had been in his family for two generations. He grew up here as a kid."

To allow time for tides to change, these ranchers have often had to take alternative courses of action. Several ranchers had to lease land out before they were able to return to the ranch, while others had seen children leave and return. Several were still waiting for the next generation to grow into its role. One 76-year-old man is still waiting to see how events would turn out and if one of his daughters would return to assume the responsibility of the land. In another family, a daughter who is skilled and knowledgeable in the work has married a man who is fulfilled with his life in town. She travels back and forth between town and ranch, keeping herself active in both worlds. One husband and wife taught school for 20 years before returning to the family ranch, a length of time that was dictated by the overall picture of the evolving needs of the family at home and of the changing needs of the parents.

The System of the Community

The people and the community form one of the important systems in the lives of these Responsive Learners. As one 46-year-old woman said, "People make the land; the land makes the people. They are too closely intertwined to separate." This close connection was evidently sensed by one of the ranchers, who had found a way to connect his life on his ranch and his life in the community.

> I felt the need to have some churches in this area in which there were none. I felt the only way it could support that was to be self-supporting because everything is so small. You don't have very many people. I like the lifestyle of ranching and the rural area. So I thought that this is what I should do--put the two together. And it has worked really good.

The result has been that in addition to a successful ranching operation, he has become the minister for churches in three different rural communities in the surrounding area.

One of the ironies of life in this area is that although the people are so closely tied to the land, the landscape has been changing with increasing frequency as farmsteads are abandoned one by one and the families leave. Traditionally, the people who are left, those who purchase the land, have carried on the memory of the family by naming the field after those people who first worked the land. A 65-year-old woman said, "We remember those people by those fields. It is not just land. It goes back to the people who lived there."

Recently, however, as the economic situation has worsened and more families have sold their holdings, their land has been purchased by people outside of the community who do not share these ties. As one rancher pointed out, "It belongs to somebody back east, but they don't take care of it. Just tumbling down." Another 48-year-old man noted how the influx of people who are not tied to the land is changing the face of their landscape now, with the dangers of more drastic change in the future.

> The rules that we are living under today, it's not going to work. A couple of Texas lawyers who had been here hunting over there; they bought the place and they'll show up in about a week or so and go hunting for a week and that's what they did it for. Nobody around here will ever own it again. I mean some of these outside people really don't need the money, and then they turn it into a game preserve. And then two or three years into it, if they need the money, then they'll do almost anything to try and get something out of it. There's only so much pleasure you can say, "I got this place in Montana to go hunting on."

A 50-year-old man who indicated that the family land as a whole was what had pulled him back to Montana from California also tied place rather tightly to the community.

> I think that community equates with sense of place. I think place is people knowing who you are. It is not a building or an element. What I feel is not tied to a building or place but to the people where I live. That is probably the most important to me. I will say you have to find out who you are in the context of where you live.

This man and others noted that the communities often built their identities around their schools which were once more than just places where students went to learn to read and write. A 95-year-old woman said, "It was the election

place. It was the dance hall. It was the meeting place for organizations. It was where they voted. Church was held there." The people interviewed noted that the schools closing and children going off to other communities for their learning was the harbinger of things to come. A 50-year-old man said with a sigh:

> The kids go into Circle to school. That is a big change. That kind of thing happens when people leave. The few bars are barely going. The elevator that was open full-time is now only open part-time. The entire community has turned into a different place. A lot of the people who were working there have left for obvious reasons. There's not much to come back to now.

The big question for these people becomes where will the next generation of ranchers come from. As a 48-year-old man said, "I'm third generation, and I'd like to see some of this go on for one more--how do we keep kids on ranches in Montana?"

Self and Land as a System

The most difficult questions for these ranchers to answer were those that required separating the concept of the individual from the concept of the land. At one point, one rancher's wife commented, "He's part of the land," and later in the interview she added, "He's really tied to the land in so many ways that it's hard to differentiate what's the land and what isn't."

This rootedness in the land and its lessons of staying power were expressed by a 59-year-old rancher.

> It's like your roots are way down in the soil, and. . .it's like the winds and the storms come along and try to knock you down but it's like you know so much about where you are at and you're rooted in so deep that you can get through it.

Staying rooted in the land requires work; and like the others interviewed, a 64-year-old man found it difficult to separate himself from the work which was so much a part of him and the land.

> I like working the land, working livestock. I like working. I like to see something happen when you work. I like to see results that I can say this is what happened. It is hard to imagine that you are a cog in a machine some place and never see anything completed.

What the land will do "governs it all pretty much--our decisions."

Just as it is difficult for these people to separate themselves from the land as a concept, they also find it nearly impossible to separate out a "favorite place"--an idea that seemed to them as difficult as asking a parent of four, "Which child do you love best?" One 59-year-old man echoed the responses of the other ranchers. After listing all the different parts of his ranch, he said, "I have never even thought of it that way. Just any part of the ranch. The whole ranch actually."

It also seems that individual identities are intimately intertwined with their land, their sense of place, and, for that matter, how they learn. A 50-year-old man said, "I think being in this occupation has probably made me a better person." A 54-year-old man could not even imagine himself in the other environments of Figures 2 (the crowded urban

street) and 3 (the suburban hillside), because in those places he would not be able to do his work. In explaining this response, he said, "We don't have a job per se. Our job is what we do and what we like doing. We don't do it because it's a job. We do it because it is our way of life."

For all of these people, that way of life provides them with a sense of completeness. One 53-year-old man alluded to this feeling when he defined a sense of place as "where you feel secure, at ease, peaceful. And that is usually when I'm out there, working at something, making something." It is that sense of belonging that causes the response of ranchers like the 73-year-old man who said, "I've been here so long, I can't imagine being any place else."

These ranchers see the land forming a system, the community of people forming a system, and the two intersecting through the individual. This connection of the two systems was made by a 64-year-old man when he said, "I guess you would have to say that it is the land that draws you. But it is more than the land, too. It is a combination of land and people."

Humility and Learning

As a part of seeing the whole and of understanding the inter-workings of the systems around them, these ranchers had gained an understanding of their own small role in the whole drama. This feeling is gained directly from the land.

One 67-year-old woman described this perception in talking about one of her favorite spots:

> If I'm down . . . you go in there, and it's timeless. And you think, "It's pretty stupid to let this get you down. You know you're really pushing it here. . . . You're making yourself very important!" That's the biggest thing I get out of the Rocks is peacefulness. It's quiet. And it's forever. I mean, it's been there for so long that you really feel minute. And it's good to feel that way.

A 50-year-old man also felt that the people he knew who were tied to the land had gained a sense of humility from their relationship with the land. He said, "If humble is on a level 4, we're on a level 5," and he went on to explain:

> It lays you back. Mother Nature changes your attitude. There are a number of things that are involved with that--like not getting what you want for example. It puts you down to a level where you are humble.

Other ranchers mentioned this same phenomena of not always getting what they wanted but of still feeling comfortable with where they are. A 53-year-old rancher said, "I was always going to be a cowboy rancher type. There's things that come against you, and it doesn't turn out the way you kind of wanted at times."

Their sense of humility also stems from an understanding of the frailty and vulnerability of their existence that has been gained from their close association with life and death situations. A sudden and brutal snowstorm can wipe out a flock of sheep. A father goes out and is caught in a blinding snowstorm, never to return. An unexpected hailstorm can destroy the field of wheat that was going to

pay off the debts. Life and death happen. A 64-year-old man pointed out how they not only have the opportunity to see the overall picture but they also see both ends of the spectrum. He described a situation in which a friend was with him when they discovered a dead calf.

> That is one thing you learn--the finality of death as far as this world is concerned. We went down one time when we were calving. This calf was just laying there, a day old or so. It was dead. I don't know why; it was just dead. He [the friend] got out and jumped around on it to see what he could do.
>
> I said, "It's dead. There's nothing you can do. This is it. You can't bring it back to life."
>
> And he couldn't hardly handle that. He said, "This is a great loss. What are you going to do about it?"
>
> I said, "That's the way it is. You got to accept it."
>
> I think you accept things a little better because you see the finality of things like that. That is a good example to me because he didn't accept that; he thought he could do something about it. I guess you learn that you can't do anything about some things.

Seeing how systems evolve through time and understanding the frailty of existence remind these ranchers of their position in terms of a vast landscape. In living in such an enormous scope of space as these people do, they can both physically see and emotionally sense a larger system and their part in it. A 46-year-old woman emphasized that she feels the land is changeless "no matter how great we think we are." She went on to say:

> You top a hill and you can look out and see the Divide so far away. And I know I have thought, this land doesn't care. We are nothing. I can be here today and gone tomorrow, and the land doesn't care. It makes no difference to the land.

By seeing this whole picture and having a view of the system, she believes that she and others like her are more open to the world. She said, "Having grown up here in this wide open country, it makes you less selfish; it makes you more aware of the bigger things in life, the bigger part of life."

CHAPTER 9

NEW FRAMES OF A TIMELESS LANDSCAPE

The real voyage of discovery consists not in seeking new landscapes but in having new eyes.
Marcel Proust

A View from Inside the Frame

Difficult times can be a crucible that holds both danger and opportunity. They can also become a true test of what one has learned. Montana's rural adult learners are no strangers to either learning or adversity. In fact, a description of native grass seeds and their response to drought could be applied to these individuals.

> But there is one thing it [drought] does not kill; it does not kill the seeds of native grass. Those seeds lie dormant, hard as tiny pebbles, just beneath the surface of the cracked earth. They are patient; they will not sprout until the rains come again. They may not sprout for a very long time. (Toole, 1976, p. 138)

Like the native plants in their landscape, these rural adult learners, found in the least populous counties of Montana, are indeed survivors. However, they also represent a group that in spite of their ability to learn and change are being pressured by an outside world. Increasingly, circumstances move beyond their control and threaten not only their way of life but also their relationship to the land. If successful in killing this system, the dominant

mainstream society will also destroy in the process a special breed of learner.

These rural Montana learners are also a reflection of what is happening on a national level to a larger but vanishing and relatively silent population on whose back the welfare of the nation has been built and continues to be maintained. This larger group is also agriculturally based and is made of people still living on family-held farms and ranches. In 1950 this population was counted by the annual census at 23 million people. "By 1991, the number was only 4.6 million, less than 2 percent of the national population" (Berry, 1996, p. 76).

In mainstream thought these family-held operations are often mistakenly identified with the more massive agri-businesses, whose holdings often are extensions of corporate America or a tax write-off. These agri-businesses, often even managed from afar, have developed because of the demand and expectation for abundant, available, and cheap food, all of which are considered the necessary underpinnings for the American way of life and for any "progress" the nation may make. As a result, most of America has access to food shelves that are laden with mind-boggling displays of food all year round.

The family-held agricultural operation, like those found in this study, has been the loser in the rise of this type of corporate agriculture. Malone, Roeder, and Lang (1991) have described what many in Montana's agricultural

community view as nearly 100 years of only sporadically-kept promises made by politicians and bureaucrats. Berry (1977) describes the displacement resulting from agribusiness absorbing smaller operations and the "forced migration of people [rural families] greater than any in history" (p. 63). He compares this movement of people from rural to urban settings in cruelty and damage to any military-mandated, forced removal of a people. He points out how such a trauma results in the loss of both an oral tradition and generations of a way of knowing how to nurture the land. He sees young people who before may have stayed on the land choosing other "more fashionable ambitions" (p. 41). To prove his reference to this inferred bias, Berry quotes former Agricultural Secretary Clifford Hardin, "Because only one person in 43 is needed to produce food, others can become doctors, teachers, shoemakers, janitors" (p. 60).

A loss of identity accompanies such a loss of place when the rural is urbanized and the nation as a whole loses. In the urban setting, work, which is a way of knowing and doing, is often divorced from life with disastrous consequences to culture as a whole.

> A culture is not a collection of relics or ornaments, but a practical necessity, and its corruption invokes calamity. A healthy culture is a communal order of memory, insight, value, work, conviviality, reverence, aspiration. It reveals the human necessities and the human limits. It clarifies our inescapable bonds to the earth and to each other. It assures that the necessary restraints are observed, that the necessary work is done, and that it is done well. (Berry, 1977, p. 43)

The individuals in this study are the surviving members of a distinct group whose identity is threatened by a multi-pronged cultural killer. This threat to a way of living grows out of the demands and pressures of a dominant urban society for homogenization and assimilation into the mainstream. It derives from the erosion of respect for and the rights of a unique group by mainstream thought and action. It is fed internally by the group's own diminishing proactive awareness of its unique and special way of life and learning.

These individuals are the offspring of those people who responded to the government's call for the settlement of a region for various political and economic reasons. They continue to be part of the process that feeds the nation, yet instead of being accorded respect for their contribution, they become the subjects of caricatures or vilification. With no real control over the pricing of their product, this forgotten group continues to supply the cheap food that stocks the store shelves accessed by the very people who criticize them. In this process, they often do without luxuries that the rest of the nation considers necessity.

More than the economics of food is involved in the threat to this culture. Those in rural America often find themselves and their way of doing and knowing bearing the brunt of inconsistencies. Some of these are economic, some are social, and all cast long shadows on this way of life.

For example, they are expected to protect, manage, and feed the wildlife on their lands without monetary recompense. Yet when they choose to either charge for access or limit access to their land, they are attacked by special interest groups. They are required to mark their private property with posts painted a signaling color, yet their city cousins do not have to do a similar act to limit access to their backyard.

The examples extend into other parts of the lives of these people. They face heavy public criticism for use of herbicides in control of weeds. However, tons of Weed and Feed are spread on urban lawns yearly, where with over-watering of lawns, it can be washed into the nearest river. They are required to go through lengthy reviews of any project impacting a stream bank, yet urban developers can subdivide those same stream banks with impunity. Those who raise beef are expected and required to produce animals that meet current public demands. However, these individuals see truck after truck of foreign beef, that may or may not have had to pass the same scrutiny, rolling down the highways and eventually impacting the quality of the product that they have worked so hard to produce. In a state whose main source of revenue is property taxes, these are the people who bear the brunt of the tax burden, yet they receive few of the benefits because they live in areas with few people and which thereby get fewer services.

Still, even with so many pressures on every front, these people with an unmatched sense of balance and optimism gained from their land continue to thrive, not just survive, in "Next Year Country." Some of the secrets for their success can be found in the conclusions reached in this study, all of which point to how the land and a sense of place impact and shape their learning.

From examining the description of the rural adult learners interviewed in this study, six major conclusions emerged. When considered as a whole instead of as separate phenomena, these conclusions become most powerful. They both underscore the importance of learning as a strategy for preservation and point the way to a better understanding of a group of individuals who in adapting to the land and subsequently remaining on the land have developed a unique culture that is reflected in their way of seeing, their way of communicating, their way of knowing, and their way of doing.

Summary of the Study

Linking learning to everyday settings has been examined by educators in an attempt to better understand the learning process. As Daloz (1986) says, "Clearly, human beings do not develop in isolation any more than tadpoles evolve without a pond" (p. 186). Some would agree with the statement that "context is not just an important element in thinking about human learning but is perhaps central to our

understanding of adult cognition" (Wilson, 1993, p. 72), while others seek further understanding of the tacit dimension of adult learning which "is gained through observation and experience, most of which is acquired in the everyday world" (Sisco, p. 182).

In understanding the context for learning, issues of self-directed learning, empowerment, and the development of critical awareness all become important in a world of increasing linear specialization that is with such increasing rapidity bearing out the forecasts of futurist Alvin Toffler (1971). In such a rapidly changing world, it becomes particularly pressing to understand the pull of potentially endangered personal landscapes and how that influence is connected to learning. The essence of the question becomes how a sense of place, which is formed by an unencumbered horizon line, actively shapes those in its grasp by affecting not only how they see their world but also how they learn in that world.

In addition to Freire's concepts on the development of critical awareness and the use of slides to help the learner more objectively perceive the surrounding environment, art theories of perspective and space prove useful as an overlayment for describing the process of learning in rural learners. At issue is the rural adult learner's sense of critical awareness and their sense of place, for if their rural vista, which has formed how they see and learn, is

altered overnight, what then happens to their way of learning?

The purposes of this study were to describe (a) how rural adult learners perceive their landscapes and (b) how their landscapes through distances and untrammeled space have been an active force in their learning. Having lived close to the land, these individuals have developed a way of learning that works for their situation but which with alarming speed is threatened. The study examined how rural adult learners have developed a sense of place and how that has affected their way of learning in such issues as self-direction, the development of a more holistic view to learning, and the formation of networks.

In examining the impact of a sense of place on the adult learner, this study also serves as a reminder of the impact of increasing shrinkage of space and the rapidly accelerating loss of personal landscapes. These two phenomena stand to continue to impact education at large, for cut loose from roots and traditional ways of living, individuals will increasingly need to be empowered to take control of their own learning. This study in its descriptions of rural learning provides further information about the power of the individual learner and the role that learning plays in cementing a sense of connectedness.

This naturalistic study utilized a descriptive design to collect and analyze qualitative data related to better understanding the learning patterns of rural Montanans.

Through interviews conducted on the sites of 22 ranches in five of the least populous counties of Montana, information was gathered that answered basic research questions. These questions were built around: (a) how rural adults define a sense of place, (b) what roles social networks and mentoring play in their learning, (c) what do these adults see in their landscapes and how does that affect their learning, (d) how do these rural adults frame their world, and (e) what role self-direction plays in their learning and how it is it related to sense of place.

This study revealed a portrait of the rural adult learner as a Responsive Learner in tune with an expansive landscape. This is a learner who is not only a reflective thinker but who also takes reflection one step further into action through response. As revealed through this study, this learner can be described in terms of five actions involved in the learning process: (a) frames reality, (b) learns from and in the context of the land, (c) views learning as problem-solving, (d) thinks metaphorically, and (e) views the world holistically as a system.

Conclusions

1. Montana's rural adult learners who were interviewed in this research can best be called Responsive Learners and can be characterized by (a) their ability to frame reality, (b) the fact that they are contextual learners, (c) their view of learning as problem-solving, (d) their metaphorical thinking, and (e) their holistic view of the world.

The Responsive Learner lives in the reaches of a landscape that affords the opportunity to frame their own reality, and they accept the responsibility for that. Living in such broad vistas with untrammeled vision, these learners develop perceptions of balance and aesthetics. Faced with a clear view of where sky meets land, they also develop an integrated sense of where they are. Unimpeded by structures or close mountains, they see a horizon line that corresponds more completely with what the true horizon line is. In framing their reality, they also gain unlike most mainstream thinkers a strong sense of both negative and positive space, an ability that aids them in their holistic thinking. Additionally, because their view is without boundaries, they must create their own focus or frame. Controlling their focus puts them at the center of a scene with the freedom to move at will in close to inspect or stand off to view a whole concept or picture.

The Responsive Learner is also a contextual learner. Learning within a context provides this learner with the opportunity for the observation of people, places, and things. In utilizing such observations, the Responsive Learner needs an open attitude along with the traits of flexibility and adaptability to recognize ideas that may have merit and then apply them. Additionally, these rural adult learners learn through their context the ability to cope; they are often forced to think this way in order to survive. To pursue their goals within their context and

remain on the land, these learners must show persistence, commitment, and patience, all of which are requisites of a nurturing hand. Finally, as a result of their work in their context, these individuals gain confidence in themselves and their abilities.

These Responsive Learners see learning as problem solving. They deal with change on a daily basis because each sunrise brings the new and unexpected and because they must redefine themselves daily. In order to deal with such change, these learners must gather a great deal of information. They do this by employing not only the traditional avenues of attending classes and reading but also by using specialized networks and guides or mentors in their efforts to gain further information. Whatever the source, whether it be a salesman or a trusted friend, they test the concept through trial-and-error because they realize that every situation is unique. Through all this, they must assume the responsibility for their self-control and freedom. The success of their learning experience is then evaluated through the results of their land's productivity.

Responsive Learners are also metaphorical thinkers. Because of their ties to a place, they have developed the ability to draw comparisons between unlikely concepts. In the process, one dominant metaphor in their lives has emerged--that of the land. Through this metaphor, they have gained the insight that not only are different parts of the

land unique, but so are the individuals who live on the land. The ability of these learners to see uniqueness has resulted in their being highly creative people. This creativity expresses itself through a diversity of responses which include a fine art of humor and understatement; additional interests such as photography, the ministry, land-moving, and poetry; and the development of diversified crops on their ranches.

Lastly, these Responsive Learners are systems thinkers. They do not think linearly, seeing their ranches in segmented fragments. Instead, they are aware of the land and its totality. The whole of their land is seen as a system with smaller systems within it, a model which is not unlike a living body. Because of this holistic approach, they tend to see change more as an evolution of systems. Because they see themselves and the land as a system, they find it difficult to see themselves as separate from the land. They also see systems working within the community and understand how the community system works with the land and individual. Their ability to see the whole picture has resulted in their sense of humility, which in turn helps them to remain open to additional learning.

2. Rootedness, or a sense of place, plays a role in learning by not only providing a context for the Responsive Learner, but also by furnishing a frame or focus for use in the learning process.

Underlying all the conclusions about learning in this study is the importance to these learners of having a sense

of place. The land provides the personal landscape in which the individuals in this study move. It provides them with frames of reference, not unlike other peoples who live on wide plains.

> Blank horizons and dazzling sky will clear the mind of its distractions and allow it to concentrate on the Godhead. . . . To survive at all, the desert dweller must develop a prodigious sense of orientation. He must be forever naming, sifting, comparing a thousand different "signs" to tell him where he is. (Chatwin, 1987, p. 200)

The eastern Montana landscape where these Responsive Learners live provides them with such a context for seeing and knowing. In the tradition of Freire's process of conscientization, the open landscape provides them with a frame for reality. It supplies a focus for gaining an awareness of where one stands, both literally and figuratively.

In the context of these learners, this frame is relatively unbounded. How it is altered by being held back for a long view or close up for an short view is at the discretion of the learner and allows the individual to balance the freedom of choice and the opportunity of responsibility. These self-directed, or "self-determined" and "self-managed" (Candy, 1991, p. 122), Responsive Learners meet all of the criteria for the autonomous learner in that they set their goals and plan, exert freedom of choice, embark in rational reflection, show their will power, and exhibit both self-control and independence (p. 125).

The unbounded nature of the unbounded landscape might be considered a threat to the learner who is used to a prescribed area of learning. However, to the Responsive Learners, the landscape provides them with a focus for it allows them to see all the possible range of responses, to see all the elements of their landscape, and indeed to see the whole picture. Not unsurprisingly, this ability is aided by the development of their ability to see in what the artist terms both positive and negative space. This talent is one that accomplished artists strive for in honing their drawing skills. Unlike mainstream thinkers, such artists believe that they can gain a truer picture of the whole image by concentrating on the negative space and allowing the positive image to reveal itself.

3. Learning in the context of the land involves systems thinking and a holistic approach as opposed to the more linear approaches of traditional thinking.

Thinking since Descartes has been linear in nature. The world has been seen as a gigantic mechanical clock full of little cogs and wheels. If the large piece is disassembled and dissected, then the whole can be better understood. Schools and learning have not escaped this world view. Learning is seen as a very linear process--students pass from grade one through eight with little or no falling back or jumping ahead. Textbooks are written from chapters one through ten with even the day being divided into artificial and sequential "periods."

On the other hand, the Responsive Learners in this study see the world in a different way; they see it in a more circular configuration with one element impacting and shading into the meaning of the next. They see their land as a whole, consisting of systems that although independent are interdependent with other systems in the health of the whole body. An excellent example of this idea is found in the human body with its systems such as pulmonary, respiratory, and musculatory. One can understand each system separately, but until they are seen as a whole, there is no human being.

If one views learning as just such an integrated experience, it is easy then to understand the Responsive Learner's perspective. The world, which in their case is characterized by broad vistas, must be understood in terms of many elements. The clouds in the sky are part of a weather system but have meaning in terms of the rain they may or may not bring for the land. The brush on the land is part of a system of vegetation but also has meaning in terms of the shelter it offers to livestock. The animal life, both domestic and wild, each form a system, but both together impact the health of the land itself. Each element then is part of a system, which although recognizable on its own, derives its deepest meaning from being understood as a whole.

In such a world, the Responsive Learner views self as part of the land. As such, it is difficult for the learner

to draw the lines of distinction and to separate self from the land, for each draws something from the other. This circular process is one in which the environment provides the individual with three things: "confirmation, contradiction, and continuity" (Daloz, 1986, p. 192). Through such a process the Responsive Learners in this study learn and become tied in identity to the land.

4. Rootedness is related to "centeredness," for the individuals in this study are not only centered and at one with the land, but also are at the center of the learning experience.

As one of the Responsive Learners interviewed remarked, "This is the hub." By this statement which echoed others in the study, this individual was not saying that he was trapped in the infantile stage of viewing himself as the center of the world nor was he only saying that transportation had made the world a smaller place. Instead, in recognizing where he was rooted and all the potentials and challenges there, he had recognized what has been called "the still point of the turning world" (Richards, 1964, p. 24).

> When the sense of life in the individual is in touch with the life-power in the universe, and is turning with it, he senses himself as potentially whole. And he senses all his struggles as efforts toward that wholeness. And he senses that wholeness is implicit in every part. When we are working at the potter's wheel, we are touching the clay at only one point; and yet as the pot turns through our fingers, the whole is being affected, and we have an experience of this wholeness. (p. 40)

Furthermore, because these Responsive Learners accept the uniqueness of individuality whether it is a human or a piece of land, they accept and expect each learning situation to be slightly different. No book or teacher can cover every situation nor can, in modern advertising lingo, "one size fit all." With the learner's context playing an important part in the experience, the individual is placed in an ever-changing circle of learning. This circle is congruent with a view of constantly having to redefine self in terms of the needs and demands of the land.

Moreover, the Responsive Learner in being rooted by a sense of place retains the locus of control in the learning process. Not only does the Responsive Learner hold the frame on reality, but this individual also retains control of where the frame is placed for viewing. The land and its environs becomes the fixed foot of the compass drawing the arching and embracing circle.

5. Learning for the Responsive Learners in this study is an individual experience that grows out of, takes on meaning from, and is fed by their context which includes their culture.

Each element in the circle feeds the other, and the parts grow more important as they relate to the whole system--learner, context, and subject matter. This conclusion echoes the concepts of Maria Montessori (1984), who observed in her studies:

> And so we discovered that education is not something which the teacher does, but that it is a natural process which develops spontaneously in the human being. It is not acquired by listening

> to words, but in virtue of experiences in which the child acts on his environment. (p. 19)

This interplay of forces is best explained through the model of a gyre (Yeats, 1966). Every element can become the point at which a multi-dimensional circle begins to turn. This is not unlike a mini-whirlwind spiraling upward. As the circle gets larger and larger at the funnel, the center has a harder and harder time holding its form as a circle. When the force of the whirling motion can no longer hold the center, the circular tornado disintegrates. However, at the point that the circle dissolves into chaos, another gyre or cone forms and in a similar action moves in the other direction. One point evolves into another, which in turn gives birth to a third.

Analogous to the gyre, in the Responsive Learner model for learning, the context, which is their land, provides a situation requiring learning. This stimulates the circling action upward. However, as the situation between learner, subject, and context evolves, the circle dissipates and in the disorder of a new trigger, the whole circular action starts in the other direction. One feeds the other and vice versa in a whirling, dynamic whole. An additional irony of this model is that the birth of the first gyre is also indirectly the trigger for the gyre that will follow.

The contexts or personal landscapes of the Responsive Learners are part of a way of learning that works for them and in which they feel comfortable. They gain a sense of self-confidence through their learning process, which

involves an information-gathering phase, a reflection phase, a testing phase, and then final action. However, mainstream thought seems to hold that in order to learn something new, one needs to be removed from the familiar and placed in a new environment that may seem uncomfortable in its unfamiliarity. When out of context, the individual forsakes familiar patterns of learning and acquiesces to the teacher. In this way the teacher can gain control of the situation and the learner.

Historically, rural adults have at some stage in their learning had to leave their context to gain new perspectives. While writers like Zencey (1996) speak to the harms done by "rootless professors" to any developing sense of place, Berry (1977) outlines how land-grant institutions and their administrations have had a disastrous effect on the rural learner.

> The land-grant college legislation obviously calls for a system of local institutions responding to local needs and local problems. What we have instead is a system of institutions which more and more resemble one another, like airports and motels, made increasingly uniform by the transience or rootlessness of their career-oriented people and the consequent inability to respond to local conditions. (p. 147)

Even though this is the manner in which a great deal of learning has been attempted, the Responsive Learners in this study do not need a new context to stimulate their learning. On the other hand, like other adult learners, they learn best when they are comfortable and at ease. The findings from this study clearly indicate that the best place for

these rural adult learners to learn is within the context of their own personal landscapes.

6. The Responsive Learner is not only part of, but is at the center of a web of separate and specialized networks, some stretching back to the past, all of which supply the learner in varying degrees with information, support, guidance, and vision.

Even in the most remote area, the Responsive Learner is at the center of a web of different networks, each of which supply the learner with such things as information, support, guidance, and vision. The learner is more than just a part of these networks. Indeed, the learner stands at the center of multiple networks, accessing any one of them when the need arises. Sometimes these networks overlap, but the one key element that they all share is the learner.

The Responsive Learner may access multiple webs in gathering and finding information or may use only one web. Whichever the case, the network information is all subject to testing through the individual's trial-and-error application at home. Recognizing that all situations are different, the rural adult learner accepts as part of the learning process the need to test and apply. Because of this type of critical thinking, it really does not matter what the source of the information is. Whether it be a salesperson or a trusted friend, it must first be tested to see if it fits the individual's situation. Information does not gain weight or believability just because it is; it gains its credibility through success of application.

Furthermore, these networks exist in more than just the present. One individual called these webs the "neighborliness of learning." The networks bridge a path to the past, including people who lived on the land before and their knowledge. It also stretches into the future, encompassing responsibilities of present generations to pass a way of life to future generations.

The information comes to the present in terms of traditions of how things are done such as how to brand a calf without smearing the mark, how to separate cows and calves in a round corral, or how to loop a rope with one quick movement over a horse's head to form a makeshift halter. Shortcuts, ways of coping, and ways of surviving are sifted through time with the best surviving in the lore and traditions to help the individual in the relationship with the land. Each piece of land has its secrets that are passed to the future through the generations of people on the land. These include such things as how to read where the springs or water are, where the cattle seek shelter, or even near-forgotten places where the pieces of history occurred. Not only do Responsive Learners redefine themselves in terms of the land, but they also reconfigure their pasts by making use of the information. As one rancher said, "The old becomes the new."

All these networks are themselves a system and become part of a larger system of learning for the individual. The

knowledge that they hold and pass on is difficult to redeem if lost.

> A technician or a businessman--given the necessary abilities and ambitions--can be made in a little while, by training. A good farmer, on the other hand, is a cultural product; he is made by a sort of training, certainly, in what his time imposes or demands, but he is also made by generations of experience. This essential experience can only be accumulated, tested, preserved, handed down in settled households, friendships, and communities that are deliberately and carefully native to their own ground, in which the past has prepared the present and the present safeguards the future. (Berry, 1977, p. 45)

Recommendations

The conclusions formed by this study of Responsive Learners would indicate that indeed their relationship with the land provides them with a unique way of seeing, of communicating, of knowing, and of doing. Despite their ability to change and survive, their way of life is threatened by outside pressures over which they have no control. If their way of life does not survive then society as a whole will lose a special breed of learner.

> If we allow another generation to pass without doing what is necessary to enhance and embolden the possibility [of retaining such a culture] now perishing with them [the family held agricultural operations], we will lose it altogether. And then we will not only invoke calamity--we will deserve it. (Berry, 1977, p. 44)

Any action taken to address this situation lies within the learning process, which is such an integral part of these individual's lives.

For the Rural Adult

The continued and generational presence of the families in this study on land points to the success of their learning strategies. Obviously, their way of learning is a viable one and a path which should not be abandoned. Furthermore, each of the situations in which the members of this culture find themselves is unique, calling for creative thought and action.

However, any action to be taken by the Responsive Learners in this study should center around continuing their way of life and in the process possibly serving as a model for mainstream learners who want to learn how to find the course best for themselves and then hold to it. Possibly Vitek's (1996) words of advice to Americans could be qualities learned from the Responsible Learners in this study:

> Slowing down, staying put, opening our senses, practicing humility and restraint, knowing and caring for those around us, and finding our natural place in the natural world are simple yet significant steps in the rediscovery of place and the sense of community it holds. (p. 1)

Such a process of "sticking" could also serve to illustrate to young rural people the value of this way of life, perhaps helping to stem the exodus of the young and the yearning for a solution to the ongoing loss of inhabited farmsteads.

An additional course of action may be to investigate any additional ways to further empower the individual and preserve the way of life and the sense of community. In this process, appropriate questions to ask could be:

1. Am I being treated as if I were the center of the learning experience?
2. If not, what are the circumstances that could be altered to effect that way of learning that is more in keeping with how I learn?
3. Are there locally-driven education programs, such as those offered by a historical society, that can be utilized as the foundation for further learning experiences?
4. Since history seems to be one of the common threads that links us, how can we use the fact that we all know the odyssey of our forefathers?
5. Would a visual symbol of our vision to reclaim our culture help our efforts? If so, what symbols are available to us like an abandoned country school?
6. How else can we identify and continue to pass on traditions that may be assailed?
7. How can we encourage local grade schools and high schools to become more involved in becoming the center for a community renaissance in learning that goes beyond being the gathering center for sports events?
8. How else can we put to use the statement that "the old becomes the new"?
9. How can we nurture the "neighborliness of learning"?

10. How can we best identify and record our language (verbal phrases such as "running cows" and nouns such as "outfit"), tradition, and history?

A final course of action could be more problematic, for there is risk involved. Since mainstream thinking appears to labor under so many mistaken notions of the world in which these rural adult learners move, there may be the need to enlarge the circle of learning in a proactive effort to explain the culture to a larger world.

For the Rural Adult Educator

Even though every situation faced by either administrator or teacher may be different, perhaps the words of Montessori (1974), "Man himself must become the center of education" (p. 20), form the theme for any recommended action. With the individual squarely at the center of the learning experience, it is easier to investigate and recognize any additional ways to help individuals empower themselves in the process of preserving the way of life and the sense of community.

Another implication for educators from the conclusions of this study are that one of the most important elements that the outside educator can bring is respect both for the individual learner and the context. The way of life of these learners creates rootedness and allows the individual to move with the wind, bend, and take on new challenges.

One of the most important implications for educators is the need to follow David Orr's (1996) recommendations for,

"re-ruralizing education" (p. 226). The gyre of centralized education seems to be disintegrating at the top. What will be the new order? Will it include smaller, more local schools that serve the needs of people like these ranchers? In this process, appropriate questions for the educator to ask could be:

1. Am I clinging unnecessarily fast to the idea of a centralized campus as the center of knowledge?
2. How could my physical presence benefit a community of learners?
3. How could ideas like "circuit-riding teacher or guides" help in providing learners with what they have identified as an interest?
4. Am I too married to the idea of electronic technology as the best and most comprehensive answer to problems of distance and learning?
5. Have I overlooked the ethical questions that spin around the possible homogenizing and dehumanizing influences that this type of technological advance may have on learning?
6. How can I best follow the lead of rural learners in their pursuit to preserve their way of life?
7. Have I become part of the problem by urging solutions that pull people from the land?
8. How can I help to validate this way of life?
9. How can I help those learners seeking empowerment?

10. How can I become an urban intermediary and advocate for the rural adult learner?

Summary

Ib'n Khaldun, desert philosopher centuries ago, believed that "men decline, morally and physically, as they drift toward cities." He suggested:

> The rigours of the desert had preceded the softness of the cities. The desert was thus a reservoir of civilisation, and desert peoples had the advantage over settlers because they were more abstemious, freer, braver, healthier, less bloated, less craven, less liable to submit to rotten laws. (Chatwin, 1987, p. 196)

The Responsive Learners of eastern Montana, like Khaldun's desert people, have much to share with the larger and more urban society. The lessons of greatest value lie in their learning process and await the frames of the willing learner.

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