# THE EDUCATIONAL INSIGNIFICANCE OF TECHNOLOGICAL ATTENDERE

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# ABSTRACT

In this dissertation I describe the nature of intentional experience with educational technology, showing the educational insignificance (absence of meaning) within this experience. I do this by using a hermeneutic phenomenological approach. After recognizing the promotion of educational technology-use in educational technology discourse, I question the potential educational inadequacy promoted by this discourse. I begin by bracketing preconceived notions of education as they exist within the discourse and then, using a variational method as a first-level analysis, I reveal four invariants (essences) of education: dwelling, communication, revealing, and *attendere*. Then, in a second-level description and analysis of the educational invariants dwelling, communication, and revealing, I show the significance of the lived corporeal body within educational events. With this second-level analysis I begin to note two ways of experiencing educational technology: these are technological and non-technological experiences. In a third-level analysis of these technological and non-technological experiences I show the potential movement from one discourse to another. By describing human encounters in educational situations, I reveal the significance of a discourse that pays heed to both the body and 'Being' in educational situations as well as the insignificance of a discourse that pays heed to technology and technological 'being' in educational situations. I then examine how the language of educational technology contributes to this educational insignificance in technology discourse. This allows me to suggest a new way of understanding educational technology by re-cognizing and adopting a bodily/corporeal language in which 'Being' and a bodily/corporeal awareness play a greater role in the educational technology-use.

What we're learning in our schools is not the wisdom of life. We're learning technologies, we're getting information.

(Joseph Campbell, 1988, p. 11)

# DEDICATION

To my parents, for whom there could not be found, I am sure, a language
that could express what their love and encouragement has meant to me.

## ACKNOWLEDGMENTS

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# Introduction

According to United States' President Clinton (1996), as stated in his 1996 State of the Union Address:

> In our schools, every classroom in America must be connected to the information superhighway, with computers and good software, and well-trained teachers. We are working with the telecommunications industry, educators and parents to connect 20 percent of California's classrooms this spring, and every classroom and every library in the entire United States by the year 2000.

In an earlier speech regarding Educational Technology and Connecting Classrooms, Clinton (1995) remarked:

> Here are its guiding principles: modern computers in every classroom, accessible to every student from kindergarten to 12th grade; networks that connect students to other students, schools to other schools, and both to the world outside; educational software that is worthy of our children and their best aspirations; and finally teachers with the training and the assistance they need to make the most of these new technologies. . . . What we are doing is the equivalent of going to a dusty adobe settlement in early 19th century California and giving every child a slate and a piece of chalk. . . . Let today mark the start of our mission to connect every school in America by the year 2000. If we can connect 20% of the schools in the largest state in the nation in less than a year, we can surely connect the rest of the country by the end of the decade.

In a White House Conference on Community Empowerment, United States' Vice President Gore (1996) added:

> today we are in the midst of another revolution. Whether we call it the information revolution or the technology revolution or the digital revolution: the fact remains that the new tools becoming available are now rapidly changing the way we work,

the way we teach, and the way we learn. In short, technology is revolutionizing our

lives, our society, and our world. And, we simply cannot afford to sleep through

this revolution.

These remarks reflect the United States' Government initiative Goals 2000 (1996)

document in which National Education Goals are promoted and expected to be achieved by

providing leadership, vision and strategy in the infusion, coordination, access, awareness,

availability and use of technology (Part C, Sec. 231. Purposes).

While government initiatives currently encourage schools to adopt technologies,

schools have not been idle in technology adoption during the past ten years. According to

the National Center for Educational Statistics (NCES) annual report in the Digest of

Educational Statistics (1995):

> The total computer usage rate of students at school increased from 27 percent in
>
> 1984, to 43 percent in 1989, to 59 percent in October 1993. The rate at the 1-8
>
> grade level increased from 52 percent in 1989 to 69 percent in 1993. The computer
>
> usage rate was 58 percent for students in high school and 55 percent for students in
>
> college. (Chapter 7)

Indeed, many students spend a substantial amount of time learning about, and using, these

technologies. I begin this thesis with the recognition that many influential people (from the

highest government officials to teachers in the classroom) have been, and continue to be,

eager to promote the use of computer-based educational technologies in schools. I conclude

this thesis after revealing the nature of intentional experience with educational technology,

showing the educational insignificance within this experience,[1] and describing a significant

non-technological comportment in educational endeavors in which technology is present.

This not only contributes to our understanding of technology-use but also provides insight

into new possibilities for approaching and understanding educational technology. These

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[1] The term intentional experience used throughout this dissertation refers to deliberate action. As will become clear in the body of this work, the more basic mode of comportment is activity. This distinction between action and activity is made by Heidegger (See Dreyfus (1996), pp. 57-58).

new possibilities are proposed as an adoption of language that gives voice to the corporeal/bodily existence in 'Being.' This is ultimately an attempt to make our use of particular educational technologies either more educationally significant or obviously inappropriate.

I will begin with three forms of discourse (in written form) taken from a variety of sources, which broadly typifies much of the discourse regarding educational technology. These include the academic, public, and business or vested interest discourses, all of which are readily available to those in a position to decide on the use of computer-based technologies in schools. I will then counter these writings with an analogy to educational technology discourse which will give a sense of the nature and direction of this dissertation. By discourse, I do not simply mean the speech, written discussion or conversation that exists within the following passages. Rather, discourse is taken to mean a way of thinking and acting that implies a world view. In other words, to be involved in a discourse is to be involved in a world view represented and shared by the thinking and acting, speaking and writing of those involved in the discourse. It represents not only the meaning that is articulated in experience but also that which may, as yet, be latent or inarticulated.

The first passage gives us a sense of the tone of academic discourse surrounding the educational use of technology. It is a discourse that is often skewed toward a functional understanding (how the technologies operate within a particular milieu, or how individuals use computers) rather than an experiential understanding of technology in the school (how the child or student experiences the technology). It is a discourse in which we are often called to interpret technologies as a means of attaining preset ends rather than recognizing them as being artifacts embedded in language and activities that fundamentally alter what those ends are and how those ends are experienced. An example:

> The present study empirically investigated the *relationship* [all italics in this and the
>
> following three passages are mine] between computer familiarity and cognitive

*ability* in an attempt to identify cognitive ability as a *variable* that may account for *differences* in computer familiarity and usage. *Results* indicated that high scorers on the cognitive ability tests were significantly more familiar with computers. (Arthur & Hart, 1990, p. 457)

This is a discourse that questions relationships, abilities, variables, differences and results-- a discourse that 'views' experience from the outside.

The second set of passages, taken from two different newspapers, typifies what we might consider to be more suited to public discourse, a familiar discourse to teachers and parents in the public school system. Here we find represented a fairly pervasive attitude about the use of computer technologies in schools as recently portrayed by journalist David Roberts in the Globe and Mail (1993):

Birds Hill School

Like many North American schools, Birds Hill and its staff recognize the need for its children to *adapt to a changing workplace*. But few are as single-minded about providing hands on (sic) experience in new technology and problem-solving.

Birds Hill, although part of the public River East School Division, marches to its own drummer. "We call it *education entrepreneurialism*," says teacher Norman Lee, the program's prime mover. "We're saying there is a marketplace called education. What an entrepreneur does is look at the *marketplace* and sees that there are needs not being met out there." To achieve its goals, Birds Hill has enlisted an *army* of "*stakeholders*" from its school community. These include parents who participate in a busy lineup of plant tours, workshops and after-four classes. Winnipeg businesses such as Northern Telecom have signed on as volunteer "mentors" for these *knowledge workers* of the future.

Set on the windswept prairie north of Winnipeg, Birds Hill school doesn't look like an education *innovator* from the outside. The architecture is modern elementary school. The community is primarily upper middle class.

But inside the brick walls, something different is going on. The school is *spectacularly* well-equipped with *information technology*, thanks to the generosity of its business contacts. The computer laboratory contains scores of donated personal computers, as well as a mini-robotics lab.

In one corner sits a $50,000 mini-mainframe, given by the manufacturer. It could run the local school board's entire data base. Birds Hill plans to use it for a big electronic bulletin board. (p. 17)

Also, quotes taken from the Vancouver Province, in an article entitled *Tykes ' n ' bytes: Even two-year-olds are logging on the computer craze*, written by Barbara Meltz (1994), further exemplify an attitude toward the use of computers.

Study after study shows no negative effects from playing on the computer, as long as the programming is good and appropriate, according to child developmentalist Caniel Shade, who specializes in technology for use by young children. . . . (p. B8)

"Computers are a major tool of our culture," [says Gwen Morgan of Boston, who researches young children and computers]. "A child who is not computer literate will be at a disadvantage in his or her world." . . . Morgan has been helping to place computers in some child-care centers. She tells a story of walking into one and seeing a two-year-old sitting in front of a blank screen

"Shouldn't something be on that?" Morgan asked.

"I'm waiting for the C-prompt," the two-year-old said.

Morgan was thrilled. "This child is becoming literate in her culture," she exclaims. "She'll have competence in it." . . . (p. B8)

. . . make sure that by age four your child gets computer exposure at a library or a friend's house, advises Robert Calfee, a professor of education and psychology at Stanford University. (p. B8)

The discourse represented by these newspaper articles is comprised of a language, a way of thinking and acting, that draws us into a way of imagining education. This is a language that makes computer-use meaningful, providing and implying a ground for its use. This is a language that calls schools to eagerly adopt computer-based technologies, encouraging teachers to have students spend a substantial amount of time learning about, and using, these technologies. The discourse encourages teachers to believe that students must adapt to the technologies of the social milieu--the "changing workplace." The discourse is one which recognizes and emphasizes such things as the rate at which knowledge is doubling,[2] the myriad of societal changes due to technology use (Toffler, 1971), and, that we live in an information society to which we must conform or be consumed (Nazbitt, 1982). We are lead to believe that technology can substantially improve learning, making that which teachers and students do more efficient and effective. It is a discourse that construes knowledge as being something discrete and workable (student as "knowledge worker") and that education is business within a "marketplace" of "stockholders." The leap is made from increased information to increased knowledge. "[W]e find ourselves in the midst of the greatest knowledge explosion in the history of mankind" says Caissy (1989, p. 42), continuing with, "information is proliferating at a phenomenal rate and information processing has become the backbone of a whole new era" (p. 42). Within this discourse, we find that skills needed to cope with this technological phenomenon must be "emphasized in our school curriculum in order to prepare our students to perform adequately in the high technology information age" (p. 42). It is from this perspective that we hear how students can become scientists by collecting data from around the world,[3] how students can build their own intellectual structures by accessing and manipulating

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[2] Conley (1991), referencing the Association of Teacher Educators' Blue Ribbon Task Force's (1986) estimation that knowledge is doubling every forty months, suggests that this rate is much more rapid than the ability of schools to react to it, much less incorporate it.

[3] National Geographic (1992) offers a telecommunications program called Kids' Network which is designed to have students engage in scientific data gathering with other students from around the world.

computer data,[4] and how computer game simulations can model cultural phenomena in a way that is stimulating and fun for students.[5] In short, we are oriented toward understanding how a computer works as well as using a computer to manage, gather or manipulate information.

The third discourse, the business or vested interest discourse, represented by a passage found in a special feature in <u>Business Week</u> (1993) is an affirmation from Lou Gerstner, Chief Executive Officer for IBM. This quote typifies the characteristic concern that we find advertised by persons with vested business interests:

> Technology is a tool, not an end objective. It lets you do something--once you've set out what you want to accomplish. Information technology makes it possible for people to become true *knowledge workers*, to increase their *output* and change the nature of their job, and that's exactly what we want to do with students. We want to increase *outputs* and change nature (sic) of their *job*. Their job is not to be worked on, but to be the worker. (unpaginated)

Here we find the language of business--the language of inputs, outputs, and problem solving--a language that is consistent with the language of school reform. Within this discourse, children's education is interpreted within a business model of inputs, outputs and job action. "Schools must change their curriculums to reflect the changes technology is making in the workplace," Dede (1989, p. 23) tells us. Technological tools "empowering" the workplace call for similar shifts within education. We are told that information processing skills should be formalized into problem solving processes and then integrated into existing curriculum content. Curriculum is concerned with defining problems, collecting and analyzing data, forming and testing hypotheses, and forming, evaluating and applying conclusions (Caissy, 1989). We are told that partnerships should

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[4] Papert's (1980) *Mindstorms* has been a source of inspiration for much of the computer community.
[5] Tom Snyder (1986), creator of computer games such as Where in the World is Carmen Sandiego, discusses the use of computer simulations in his book *In Search of the Most Amazing Thing: Children Education and Computers.*

be established between business and education with the inclusion of new and effective technologies so that education can be transformed rather than reformed (Charp, 1991). And in the end, the outcome, once educators confront their "deeply held beliefs about schooling" and "enter" in and "adopt" the "beliefs and practices in technology-rich classrooms" is ultimately to discover more powerful learning experiences--experiences which utilize the tools of technology (Dwyer, 1991).

These passages allow the reader to recognize the discourse that one becomes accustomed to as a teacher who is concerned with using computers in the classroom. What is included is not necessarily false or bad. Indeed, each example points to one way (or one variation) of understanding educational technology. Recognizing this, we might begin to follow Heidegger's (1977) lead as he strove for a more complete ontological understanding of the essence of technology. Heidegger shows us that, although different ways of viewing technology are not necessarily incorrect, the limiting nature of holding one view discourages us from seeing the whole truth. In other words, what we know is only a partial truth. Our understanding is inadequate. We risk taking a partial truth for being more than it is. This partial truth, by concealing a more adequate truth, becomes functionally untrue. Striving for a more adequate truth (a more complete ontological understanding) is a recognition that phenomenologically, according to Levin (1985), "there is no such thing as a final, absolute, and complete ontological understanding" (p. 15). It is, Levin continues, "always possible for us to go *more deeply* into the *logos* of the phenomenon" (p. 15). "Taking correctness for truth," as Ihde (1979) says in his interpretation of Heidegger, "is like a fallacy of taking a part for a whole. Comprehension of the whole is a necessary condition for recognizing what is a part" (p. 105). Thus, in consideration of the previous discourses, there may be more to be explored than these passages indicate. To strive for a more adequate understanding of educational technology, we can strive for a more comprehensive understanding than that which we find in empirical statements in quantitative research regarding people's interaction with educational technologies; a more

adequate understanding than the tradition concerned with efficiency or future employment; and, a more adequate understanding than we are offered from those people with vested interests who promote computer use. I use these passages to suggest that these views are correct only in as much as they represent one world view, and that adopting any one of these views conceals what may be a more adequate truth. What is necessary is to move away from apodicticity (that which seems to show itself as certain, becoming our taken-for-granted belief) to relative adequacy (an adequate comprehension of "the whole").

Before setting out toward achieving relative adequacy in understanding educational technology I will counter the three previous discourses with an analogy to the educational use of technology, an idea that I borrow in part from Ihde (1979, p. 53).

Imagine that a man goes out into his orchard to see if the fruit on the trees is ripe and ready for picking. We can imagine that he is able to directly experience the color, feel, taste, and smell of the fruit. He cares for the fruit, recognizing that the fruit has been good to him and his family. At times he stands and looks out at his orchard, sensing its beauty and thinking of the way he has lived with this orchard in the past, feeling a rapture that such an existence can provide. The experience is direct and essentially unmediated. Now, let us imagine that he asks his child to check the ripeness of the fruit. The child, being too short to reach the fruit, uses a stick to extend his reach. The child's experience is mediated by the essential nature of the stick; that is, the stick transforms the nature of the child's experience. While the stick mediates and transforms the tactile experience, the stick also allows for an experience that might not otherwise be possible by extending the child's reach. Now, let us imagine that in time the transformed experience becomes that upon which the child and the father focus. In time the child's father, recognizing the new transformed and mediated state, forgoes teaching his child about the tactile and historical experiences with fruit, concentrating, rather, on experience with the stick.

We can see, in this passage, the child's direct experience with fruit has been mediated by the stick, transforming the nature of the child's experience. We see also that the stick has been valuable in extending the child's reach. Focusing on the stick, however, in its transforming and extending state, alters the relation to the fruit, leading to a partial and inadequate understanding of fruit, obscuring what might be a more adequate, and even essential, nature of what it meant to be an orchard dweller. The stick has allowed for a different approach to orchard dwelling, providing for the development of a different history and a different way of life than the one lived by the father. Furthermore, being immersed in the language accompanying stick-use might obscure other possibilities of checking the fruit, such as using ladders to extend one's reach.

Now consider that the child standing in the orchard with the stick is a child to be educated about fruit. Imagine that somewhere during the orchard dwellers' educational history it was forgotten that the use of the stick was intended initially to touch fruit that was out of arm's reach and that now the stick is used to recognize the ripeness of all fruit. Imagine that spokespeople, especially those who had a personal interest in selling or promoting sticks, advertised the unmitigated importance of the stick. And, imagine that those entrusted to the education of children adopted these views and spoke in such a way that they advocated the ability to use the stick as being absolutely necessary to function in society, disregarding tactile experiences in the advocacy. Rather than having children come to recognize the ripeness of fruit by allowing them to first touch the fruit and use the stick later, children simply started off with the stick, trained first to hold the stick, tap fruit with the stick, and then to knock fruit off the trees with the stick. Imagine, too, that the majority of researchers and academics were asking questions such as, "What types of hands handle the sticks better than others?" or "What are the variables in fruit that can best be noted with sticks?"

I have, with this analogy, foreshadowed what this dissertation concludes--that is, with the adoption of a technology (in the case of this dissertation, an educational

technology) a discourse is established through which experience is interpreted and education is guided. Let me here clarify what I mean by adoption. By 'adoption' I mean a taking and following by choice or assent. Adoption is a taking up of action and assuming that action as one's own. By assenting to a course of action made possible by our educational technologies, our educational technologies enframe us in such a way that we, as educators, involve ourselves in a discourse created more by our use of educational technologies than by our students and our world. In the end, that which I offer is a more complete, perhaps even different, discourse from which we can begin to understand education and the educational use of technology. This dissertation is written in such a way that the reader is encouraged to enter into a form of discourse that strives for diversity and originality. It is written in such a way that the reader is encouraged to step outside his or her taken-for-granted language-use and to adopt language that may lead to radical understandings of education and educational technology use. In the same way that an analysis of the orchard dweller analogy reveals that the orchard dwellers could, upon stepping outside of their taken-for-granted ways of understanding orchard dwelling, recognize other ways of recognizing the ripeness of fruit that are potentially more appropriate, we might, as educators, upon stepping outside of taken-for-granted ways of understanding educational technologies, come to recognize other ways of educating children that are potentially more appropriate.

Let us return to the analogy. In the case of conflicting discourses (i.e. conflicting world views) as to the most appropriate ways of orchard dwelling, the question, "has the adoption of a technology fundamentally altered what it is to be an orchard dweller?" arises. If the orchard dwellers are to pursue this question, they might ask (and here I say 'might,' for the philosophical questioning of world views is not confined to any particular course of questioning) how they might best come to recognize the current state of 'checking the ripeness of fruit.' Further, they might question the state in which they educate about fruit. Within this frame of questioning they might also ask how they might recognize if that

which they are doing is in the best interest of their children? Is using the stick really the most appropriate way of orchard dwelling? Dó the adults bring a different background to technology-use than the children? Furthermore, how might they best come to understand the nature of their educating with and about the stick? First, they might ask the question, "What is the nature of our education with the stick?" Second, as a result of their questioning, they might attempt to find a research method that allows them to adequately question the nature of this education. Third, they might attempt to state clearly what it is they are experiencing both with and without the stick. To do so they might look back to people's experiences prior to using the stick or examine how people's educational experiences seemed to change when the stick was first introduced. They might set aside some of their basic assumptions about what is taking place and attempt to describe the nature of their experience with the stick. They might attempt to recognize the way they interpret stick-use and the way they actually experience stick-use. They might attempt to show how others who have gone before them, presumably having had the bodily experience with the fruit prior to using the stick, use the stick while recognizing the bodily sense of the fruit. Finally, they might attempt to understand if educating with the stick is actually in the best interest of children. This, in its analogic form, is the nature of this dissertation. Understanding the ripeness of the fruit is that to which we aspire educationally. The stick refers to our educational technologies. And, the taken-for-granted use of sticks refers to our taken-for-granted assumptions about using educational technologies.

Before moving on, there are two more analogies that will help in showing the direction of this dissertation as well as providing clarification for some of the other major ideas contained within. The first is one that I borrow from Merleau-Ponty as described by Grosz (1994, p.p. 90-96) that I will adapt from Merleau-Ponty's 'body in space' to my 'body assuming the technology.' Merleau-Ponty (1962) says, when explaining the body's access to and conception of space:

in the figure-background structure . . . every figure stands out against the double horizon of external and bodily space.

By considering the body in movement, we can see better how it inhabits space (and possibly time) because movement is not limited to submitting passively to space and time, it actively assumes them, it takes them up in their basic significance which is obscured in the commonplace of established situations. (pp. 100-102)

This sense of the body "actively assuming" space and time might be easier to grasp when we consider a situation in which an object is observed in three dimensional space (see figure 1) compared with the same object observed in two dimensional space (see figure 2).[6] The lived body actively assumes the constraints of the space difference.
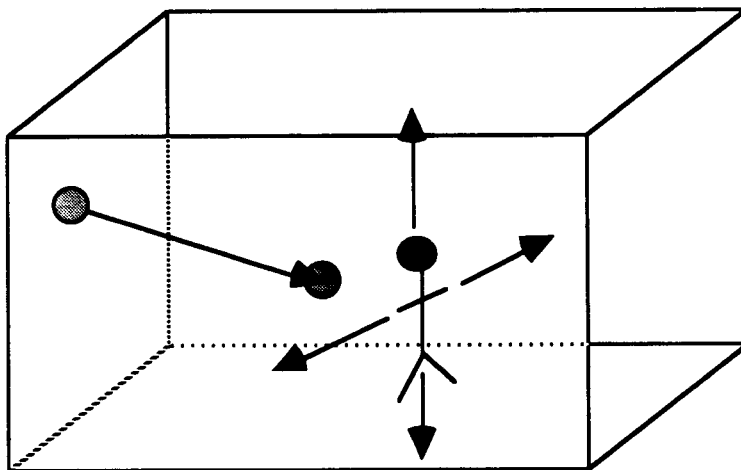


*Figure 1. Three dimensional space*

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[6] There is a certain amount of irony in the use of stick figures in that this epistemological representation and ocularcentric understanding is that which I am opposed. Stick figures will, however, afford an access for some; but, in the end, as will be sensed, it will be necessary to let the stick figures go.
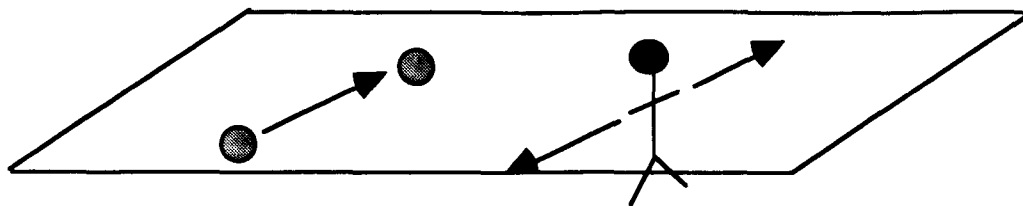
*Figure 2. Two dimensional space*

A body actively participating with an object in space also participates with the horizon in which that object has meaning. The "figure stands out against the double horizon of external and bodily space," according to Merleau-Ponty. The object may be understood as moving only in two dimensional space because we can compare it with our understanding of three dimensional space. However, when we participate with the object, we also assume its space. The bodily horizon merges with and assumes the object's horizon. In this dissertation the body is taken to actively participate within horizons which are meaningfully re-presented by the discourse. The figure, within a discourse, stands out against the double horizon of the figure's discourse and bodily discourse. The two merge, so to speak, in that the lived body, rather than formalizing the discourse into an objective reality, lives the discourse to the extent that both can be considered one 'flesh,' the resulting ground of the two horizons. I borrow this from Merleau-Ponty's (1968) later work, The Visible and the Invisible.

I would like to take one more example from Merleau-Ponty (1968) when he asks us to consider that throwing a pebble into a pond, or scratching an itch on one's back, is an entire act integrated into a whole. Levin (1985) put this nicely interpreting Merleau-Ponty to say:

> The movements I make are not simply the addition of various successive
> mechanical movements of a Cartesian or Hobbesian body-machine: the pebble and
> my picking it up and throwing it are integrated into a unified relation to my body as
> a whole. For example, it is not by means of access to a Cartesian abstract or

geometrical space that one knows where to scratch in order to satisfy an itch. This

is true even if I use an instrument like a stick. From this point, Merleau-Ponty

claims, the stick is no longer an object for me but has been absorbed or

incorporated into my perceptual faculties or body parts. (p. 91)

The significance here is that it is the horizon of the body in space and the itch that ground

the awareness of the stick. In this way, "the stick is no longer an object for me but has been

absorbed or incorporated into my perceptual faculties or body parts." What I am suggesting

here, going back to my initial analogy, is that touching the fruit with the stick, checking for

its ripeness, is the same as the itch if the orchard dweller experiences a merging of the

bodily/corporeal horizon with the fruit's horizon. Subsequently the stick is absorbed or

incorporated into the orchard dweller's perceptual faculties or body parts. Further more, if

we recognize the sense in which the double horizon of fruit and body meld into one 'flesh,'

we can recognize the body actively assuming the horizon of the fruit. If, however, the body

is oriented with the stick, the relationship between the body and the world of the orchard is

obscured. Now, in terms of educational technology, I am foreshadowing a shift that I hope

to show within this dissertation in which it is possible and appropriate to engage in a

discourse in which technology-use is grounded by bodily activity. I conclude, that if we are

conscious of the predominant orientation to technology, we can reorient ourselves to

absorb and incorporate technology into our perceptual faculties or body parts in ways that

are already apparent with artists, poets and musicians. In this way, rather than having

technology ground education, which seems to be the case with the initial three discourses

that were previously provided, we can have an education of the corporeal body-in-the-

world grounding our educational technology-use.

In Chapter 1 of this dissertation, I clarify the question and the method of

questioning. In the same way that the orchard dwellers may have been confronted with a

conflicting discourse, I attempt to step out of the prevailing discourse associated with

educational technology and submit new questions and new ways of interpreting the

predominant use of educational technology. Simply, the question that provides the impetus for this dissertation is, "are we engaged in the most appropriate way of educating when involved in the discourse substantiating educational technology?" Appropriate, here, takes on two meanings: one, the most complete; and two, genuine (a shared ground). The method I use to step outside of the predominant discourse and question the significance of education is phenomenological analysis.

In Chapter 2, I phenomenologically analyze a school day, or more specifically, educational events within the day, moving from first concerns with moments of educational experiences toward the more general structures of the field of education itself. In this first-level analysis I determine the structures of education to be Dwelling, Communication, Revealing, and Attendere. These structures become the topics for a second-level analysis in chapters 3, 4, 5 and 6. Like the orchard dwellers who attempted to see more clearly their current state of orchard dwelling, it is in these chapters that I attempt to re-cognize the educational structures that give meaning to our educational practices. In Chapter 6, in the analysis of Attendere, I examine people's experiences with technology, describing these experiences in ways that do not typify the predominant educational technology discourse. These are the experiences of artists, poets and musicians. Like the orchard dwellers asking those who had experienced the orchard prior to the technology, those able to elicit earlier bodily/corporeal experiences while using the technology, I too call upon people who use technology, showing how bodily/corporeal experience is integral in considering education and the use of educational technology. Here we find descriptions of technologies being absorbed and incorporated into perceptual faculties as well as descriptions of the technological discourse contributing to non-incorporated ways of being. In Chapter 7, I examine the discourse that contributes to the technological ways-of-being and bodily/corporeal ways-of-being. I examine how discourse alters the experience and interpretation of experience one may have. It is this analysis of language-activity that shows why these structures described previously are hidden. And it is through this analysis of

language-activity that we become aware of how a language that speaks the corporeal body could potentially offer a great deal to renewing our engagement with educational technologies. Finally, in Chapter 8, I discuss new possibilities for educating with technology.

  To summarize, this thesis begins with the recognition that many schools have been eager to incorporate computer-based technologies (in a way that I have analogized with the stick), having students spend a substantial amount of time learning about, and using, these technologies. This thesis ends with a revelation of the nature of experience with educational technology, the educational insignificance of this experience when a technological consciousness prevails, and a re-cognition of a bodily/corporeal comportment manifested in language that contributes to new educational understanding. What lies between is an attempt to reveal, through phenomenological analysis, what is essential in education and how educational technologies change that essence. This is done so that we might come to know what is true rather than what is simply correct.

# Chapter I
# Méthodos

We ask a question and then proceed so that we might arrive at an answer, at something that satisfies our questioning. We search for a response, a reply. It is in the questioning and the proceeding that we find method. Method is the 'way' of proceeding. Originally from Greek *méthodos*, it is a pursuit, a way, a following after. But the 'way' of proceeding, the advancing, takes us different places; we arrive at different answers, in different spaces of possibilities. By method, we are moved. And after method, in our arrival, we are no longer the same. Our understanding in the world has changed.

## Question

The question giving impetus to this thesis is, "are we engaged in the most appropriate way of educating when involved in the discourse substantiating educational technology-use?" There are a number of sub-questions that comprise the consideration of this question, each to which I will respond: (1) Are we clear about what is happening when we use educational technologies? This relates back to the question of adequacy. Are we engaged in a discourse that, as Heidegger might say, allows us to be aware only of partial truths?; (2) Are we caught within a discourse that obscures our educational experience? Does the language that articulates technology-use lead to partial truth?; (3) Are we caught within a discourse that makes it appear, perhaps unjustifiably or inappropriately, that our use of educational technologies is in the best interest of the children we teach?; and, (4) How do we best explore these questions?

The first sub-question considers the extent to which we are aware of the context in which educational technologies are used. Simply, is the context in which educational technologies are advocated and used the same context which gives meaning to education?

We may be reminded of the adage, "It wasn't the fish who discovered water." This is to say, that which is most immediate is often the most difficult to notice. To be more specific, our understanding of education and educational technology-use may be biased, with aspects being obscured within educational technology discourse. If we are to develop a comprehensive or adequate understanding of the state of our educational technology-use we will be required to become aware of that which may be obscure. We must look at educational technology-use in such a way that precedes current classification and systematization--we must move beyond our taken-for-granted ways of looking and understanding. We must recognize the limited context giving meaning to educational technology discourse and re-cognize this in a context that includes the corporeal body in educational acts.

The second and third sub-questions (Are we caught within a discourse that obscures our educational experience?; and, are we caught within a discourse that makes it appear, perhaps unjustifiably or inappropriately, that our use of educational technologies is in the best interest of the children we teach?) suggest that the language we use, and the activities in which we engage, may be responsible for giving us an inadequate or incomplete impression of what is happening when we use educational technologies. If our understanding is inadequate, that which we do as educators is deficient. These sub-questions point to an enframing--a way of being oriented in action toward a particular end or a way of being immersed within an activity that is framed by a particular artifact. This suggests that our discourse orients us toward, and encourages us to inhabit, particular experiences with, and uses of, educational technologies. What is also suggested is that our use of any particular type of educational technology, be it word processing, graphics manipulation, or Internet use manifests itself within a part of a larger (taken-for-granted) tradition of thought. Thus I question (in detail in Chapter 6), "What is at the root of our taken-for-granted ways?" And, in chapter 7, by examining the way in which language activity itself can alter our engagement with technology, I further articulate technological

attendere. It is in this chapter that I reflect on the language activity of this thesis and how this language activity exemplifies the new language I espouse in the final chapter. I conclude in chapter 8 that technological language-activity is technological attendere and that in order to see differently we need a theory (theory as a refined form of seeing) that speaks the world differently.

These sub-questions, including the fourth (How do we best explore these questions?), reflect something deeper than simply questioning the way we use computers in schools or the effect of using computers in schools. These questions involve notions of what it is to educate, what it is to be with others, what it is to learn, and what it is that grounds or substantiates the use of educational technologies in schools. As a result, to gain some insight into educational technology requires a method that allows us to reveal and describe that in which we are immersed, as well as that which we are trying to achieve educationally. Thus I am lead to ask: "What is the essence of education?" and "Does educational technology affect that essence?" The former question is the topic for Chapter 2, the latter, the topic for Chapters 3 through 6.

## The Direction of this Study

In this dissertation I shift my orientation away from analyzing educational technology from an observer's standpoint, and move the analysis toward understanding that which grounds our experience of technology. I reveal relations[7] (or structures) lived by the body--relations which become apparent only in the analysis of our experience of educational technology. This is a move away from analyzing the objective body's experience with educational technology and a move toward describing the phenomenal body's experience with educational technology. By 'objective' and 'phenomenal' body I am guided by Merleau-Ponty's (1964) differentiation of the human body as being phenomenal (my body for me) and objective (my body for others). It is the body which "I"

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[7] See Ihde (1979) chapter two for a more thorough examination of relations.

experience. In Heideggerian terms I am speaking of Dasein, a being here and being there in the world--Dasein dispersed in a body. This being is made corporeal, in a Merleau-Pontian way, so that the world is experienced by, and revealed through, a corporeal, sensual, body. This is a corporeal body that reveals the way we are in the world through the intellect, spirit and its lived history. Thus, in the case of this dissertation, the experiences in question are experiences revealed through a body-in-the-world rather than a body that views or perceives objective representations of a world. As Merleau-Ponty says, "My body has its world, or understands its world, without having to make use of my 'symbolic' or 'objectifying function'" (pp. 140-141). Examination of the phenomenal body is a way to understanding Being. I consider the phenomenal body while searching for relations to avoid observation from a privileged position. In searching for relations the phenomenal body is placed, and accounted for, within as many different contexts deemed necessary to reveal the desired relationships. This is not an objective body that stands outside of, and witnesses, relationships taking place, but rather, this is an analysis which deliberately accounts for the phenomenal body within situations. Upon analyzing the situations which the phenomenal body inhabits, the relationships themselves become apparent. As stated earlier, in this dissertation I question: "are we engaged in the most appropriate way of educating when involved in the discourse substantiating educational technology?" In keeping with a necessary recognition of the phenomenal body-in-the-world, examining the essence of education requires the question, "How do we, as phenomenal bodies, experience educational situations?" followed closely by the questions "How do we, as phenomenal bodies experience educational technologies?", "How does technology contribute to a discourse in which we as phenomenal bodies are oriented and which we experience?" and "How is this experience educationally significant?"

The questions I pose are of an experiential and pedagogical nature. They are questions that recognize the advantage of a hermeneutic phenomenological approach for they question the way we, as phenomenal bodies, experience and find meaning in the

world in which we live. They are questions that recognize that what the observer observes and interprets from a predetermined privileged perspective, and what the observer living within situations experiences (experiencing a myriad of relationships), are often very different. In other words, this dissertation states that to understand what educational technology means requires more than observational examination of objects (objects which include human bodies) from a single perspective. It requires an approach that questions and reveals aspects of experience that are lived by the phenomenal body so that we might reveal essential relationships of the way we are in the world.

These questions recognize that we participate within certain traditions or ways of life; and, that this participation may be to the exclusion of participating in other ways of life, ways that may be obscured or, in time, forgotten. In this dissertation, by examining our educational technological tradition, I attempt to describe more fully the way that educational technology has affected our educational experience. By revealing the way in which we experience educational technology, I am able to show the way in which a technological orientation frames the way we educate our children.

In this dissertation, I question the way in which the human (phenomenal) body has, according to Johnson (1974), "been ignored and undervalued in Objectivist accounts of meaning and rationality . . . because it seems to have no role in our reasoning about abstract subject matters" (xiv). Grosz (1994, pp. 8-10) helps substantiate this in her articulation of three lines of investigation of the body that are manifest in contemporary thought: the body regarded as an object; the body regarded in terms of metaphors; and, the body regarded as a vehicle of expression. The body regarded as an object is one in which the specificities of the body are ignored. The body is "understood in terms of organic and instrumental functioning in the natural sciences or is posited as *merely* extended, *merely* physical, an object like any other in the humanities and social sciences" (p. 8). The body in terms of metaphors reveals the body in metaphorical fashion. Within this line of investigation the body is construed as "an instrument, a tool, or a machine at the disposal of

consciousness, a vessel occupied by an animating, willful subjectivity" (p. 8). In the third line of investigation, the body is rendered a conduit of information in which information from outside the organism is conveyed through the body's sensory apparatus, or "a vehicle for the expression of an otherwise sealed and self-contained, incommunicable psyche" (p. 8). Here, the body is commonly considered a "signifying medium, a vehicle of expression, a mode of rendering public and communicable what is essentially private (ideas, thoughts, beliefs, feelings, affects)" through which the subject can "express his or her interiority" and through which "her or she can receive, code, and translate the inputs of the "external" world" (p. 9).

As will become evident in this dissertation, educational technology discourse articulates and understands the body in ways described by Grosz. The discourses most commonly encountered within the dissertation regard the body in terms of metaphors and vehicles of expression. In this dissertation I reveal a human body that lives educational technology discourse. This is a human body that has actively assumed and inhabited the horizon of the technology discourse. I do so by describing experience within technologically oriented ways of life, activities and situations. What I find is a technological embodiment (a different rendering, and a different experience, of the body) that may be encountered when participating with any educational artifacts whether these artifacts be related to writing or to computer-based technologies. I show how our ways of life that give meaning to educational technologies not only affects the way that we are in the world, but also affects the way that we are with others. I show also what these effects are.

In this dissertation, I concern myself with the educational essences of 'dwelling,' 'communication,' 'revealing,' and 'attendere,' (essences that I will later consider in detail) and, moreover, the shape that these take when we participate with technologies and the discourses given meaning by participation with these technologies. I describe how we are drawn out of the ways of life that have been substantiated by bodily (phenomenal) action in the lifeworld--those 'ways' into which we presumably ask the child to dwell-- and into

'ways' that technologically re-embody us. I show how we are drawn into and re-embodied by our acting within a technological field (a field that is substantiated by an orientation to educational technologies), by our participation in the technological (the systematic treatment of the arts and sciences), as well as our participation with technological language (language that arises from a technological orientation). A recognition of this technological participation is crucial so that we might not only understand its effect on 'dwelling,' 'communication,' 'revealing,' and 'attendere' as they figure in the educational experience, but so that we might also provide the most appropriate educational experience possible for our children.

The purpose of this inquiry is not to define and conceptualize any particular technological artifact. Rather, the purpose is to re-cognize the phenomenal body in educational situations in which educational technologies are used--to regain a sense of the action and passion involved in education (a sense that is often lost in the observer's analysis)--to relearn the bodily intentionality in education. These recognitions will help us to understand more adequately the use of educational technology.

In my questioning I adopt a phenomenological methodology. I describe how educational technologies affect the essence of education by juxtaposing technological and non-technological embodiments of education.[8] I provide phenomenological descriptions of educational situations in which educational technology is, and is not, used. I do this so that we might, in our pedagogical concern (a concern for others, rather than a concern directed toward a formal curriculum), recognize technology-use that is educationally insignificant. From this, I provide a greater understanding of how we can most appropriately educate our students in technology-rich environments. Thus, this dissertation is a hermeneutic

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[8] I recognize that there are Heideggerian critiques of this type of position stating that the technological is always with us when examining the essence of technology. Mine is not an epistemological juxtaposition but rather an ontological layering revealing technology-use within educational possibilities. I show that within educational possibilities the technological is not always with us. This moves me outside of the typical phenomenology of technology.

phenomenological analysis of the way in which the body experiences, understands, and attends to educational technologies.

## Initial Clarification of Terms and Method

To begin, I will clarify some of the terms used in this inquiry: i) attendere; ii) educational technology, the technological, and technological discourse; iii) the body, relationality, and the consensual domain; iv) education and pedagogic concern; and, v) phenomenological method. While at this time I attempt to clarify these terms so that we might move on, each of these will be dealt with at greater length throughout the dissertation.

### i) Attendere

I use the term *attendere* to bring out what I interpret to be a way of being whereby the human body, the intention, and the situation takes one particular shape. *Attendere* is an etymon of 'attend' meaning 'to listen to' or 'to pay attention to.' Literally, *attendere* means 'stretch to' or 'apply the mind to.' This is not a mind separated from the body--a separation of mind from body that has, according to Grosz (1994), "been long anticipated in Greek philosophy since the time of Plato" taking "a position of hierarchical superiority over and above nature . . . [and] the body" (p. 6). This is the Greek *ménos*, meaning intent, purpose, spirit, passion. This is the mind we find in 'noticing,' or 'turning one's attention to.' It is mind with body that not only touches but is touched, that not only sees but is seen.[9] In attend, we also find the sense of consider, and observe. Observe not only gives us the sense of 'watching over' but also, perhaps more importantly here, 'to follow in practice.' Thus the term *technological attendere* allows us to sense 'the turning of our

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[9] This is much like Merleau-Ponty's conception of 'flesh' with the addition of will.

attention to the technological,' 'stretching or applying our intent, purpose, spirit and passion toward the technological,' and 'following in practice the technological.'

The adoption of the term *attendere* suggests that there is something toward which we are oriented or to which we attend--something we listen or wait for. This is a listening, not simply with the ears but a listening or 'paying attention to' with the whole body. Using the term *technological attendere* suggests that in our waiting and listening we are summoned or called toward the technological. We are summoned in that the technological possesses authority, that the technological situation exists and that we are drawn or move into, or find ourselves within, a technological situation. Technological *attendere* suggests also that the *attendere* is itself somewhat technological once the body inhabits situations in which technology is used.

Because this dissertation is an analysis of the 'lived body,' the body inhabiting situations, I use *attendere* in an attempt to avoid focusing on any particular sense attributed to bodily awareness. For example, I use the term *attendere* to prevent predisposing my reader to a visual metaphor which might be suggested by such terms as 'look,' 'view,' 'sight,' etc. Though my use of *attendere* does include these, as well as terms such as 'hear' and 'feel,' terms that might predispose the reader toward other defined senses, I use it to encourage a more holistic way of understanding body perception.

A simple descriptive example might begin to give the reader an initial sense of what *attendere* involves. Here I use the example of a piano player who allows a technological awareness to intrude into his/her experience. We sense this in the concern for hitting the right notes, for following the music notation, in his/her concern with making the piano do what the music says.

As I walk toward the piano I notice its largeness, blackness.[10] I sit on the bench and attempt to get comfortable. I place my fingers on the keyboard while looking at the

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[10] In my phenomenological descriptions I often place adjectives side by side in such a way that the second adjective (as in the case of "color, shape," or "its largeness, blackness") exhibits, through a reflexivity or a re-look at the initial adjective, an additional experience that belongs with it. In my experience, for example, I do not experience color independent of shape.

music score that sits before me. My body feels clumsy. The bench isn't right. The keyboard is too far away. I sense my clumsiness. I do not know where to place my fingers. I look at the music notation, at a chord, and attempt to find the corresponding notes on the keyboard. Three-quarter time. The music notation on the paper appears dense. I am drawn toward the blackness of the notes, the location of the notes on the staves. I count: "one, two, three; one, two, three." I break the music up into smaller parts. Eighth notes: "one and two and three and." Mechanically, slowly: I feel a pulse in my forehead and down the back of my neck. I feel anxious. I want to stand, to move. I search again for a note on the keyboard that corresponds to that written on the staff. I recognize the intervals between the notes. My fingers are pulled in different directions. I force my fingers to conform to the time and duration of the notes. I want to push the sound from the piano. I want to hit the sound from the keys. The sound of the piano interrupts my thought, interrupts my search, as if it does not belong.

In this example we notice a situation, or state, in which music is absent. The attendere is one in which a seemingly novice player is engaged in an act which is predominantly mechanical. In the following descriptive example we witness a different attendere with the performer who is not drawn into the technological to the same extent.

As I walk toward the piano I sense its color, shape. It is large, black, motionless, but familiar. I pull the bench under my legs and set myself with it. I am comfortable. I close my eyes and I imagine the sound of the first arpeggios of *Neige*, the song I am about to play. I visualize momentarily the notes as they appeared on the sheet of music from which I once practiced. I imagine the sound in my head. I am uplifted. Pleased. I feel the sound touch the right side of my face and feel the movement within the right side of my chest. Breathing in slowly and exhaling slowly, I let my fingers touch down on the keys of the piano. I breathe in slowly once more. My foot reaches for the sustain pedal and delicately presses it down. This time I exhale, pressing down the piano keys, one at a time. There is an immediate recognition of the feel of the piano, of the weight of the piano keys.

There is a cool sensation on the tips of my fingers. The sound flows, circular. I am moved by the rhythm. Spaces and accents of sound move me. I play automatically. My body moves with the sound, with the rhythm. At just the right time my body falls into the introduction of the left hand. Only slightly do I sense the placement of my fingers; only slightly am I conscious of what I am doing. The piano no longer has size, only sound. The sound is what has size. The sound of the music now takes me and the piano. We are both enveloped in the sound--unified.[11]

While I described an awkwardness and mechanical-technological sense in the first descriptive example, I elicited quite a different attendere in the second. The second example revealed an attendere of a musical nature, where the player was oriented to, and moved with, the sound rather than a technology such as the piano, or a text that appears in the form of music notation. I will give a third, brief, example to show a technological attendere with a player of seemingly similar technical abilities to the player in the second description.

As I walk toward the piano I sense its color, shape. It is large, black, motionless, but familiar. I sit down on the bench and close my eyes. I shuffle and get comfortable. I imagine the sound of the first arpeggios of *Neige*, the song I am about to play. I visualize momentarily the notes as they appeared on the sheet of music from which I once practiced. I count: one, two, three; one, two, three; one, two three; one, two, three. I begin. Each note is separate. Mechanical. Here, a slur. I listen for the phrasing. Remember, the half note must now be held for its full value.

Within these examples, three things can be noted: one, the different attenderes suggest different embodiments, embodiments of the body and the technological; two, had these descriptions been noted by an outside observer, a particular attendere may have predominated as a result of the observer's attendere. In the second description the embodiment is one in which the technological seems to have receded into the background becoming transparent to me. I am embodied not in the technological but rather in the sound

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[11] Bobby Shew (1991) gives a similar description of unity.

and the way in which I am moved by the sound. The sounds fall like snow, perhaps just at the composer had intended. This is not to say that the technological did not at one time exist, or has been completely eliminated from the situation. Rather, the technological remains as a possible attendere to which I could return, and exists as a different variation on playing music. Three, we can sense the notion of attendere throughout the three descriptive examples.

### ii) Educational Technology, Technological Discourse and the Technological

I use three terms that include 'technology' as their root: educational technology, technological discourse, and the technological. The first term, 'educational technology,' means the artifacts used to educate. These artifacts could include books, chalk and chalk board, computers, or any of the text, sound, or graphics associated with those artifacts.

The second term, the technological discourse, consists of ways of acting and thinking, that is the activity, derived from the use of these artifacts that now substantiate and justify the use of educational technologies.[12] As described earlier, to be involved in a discourse is to be involved in a world view represented and shared by the thinking and acting, speaking and writing of those involved in the discourse. It represents not only the meaning that is articulated in experience but also that which may, as yet, be latent or inarticulated. By participating or living within a technological discourse we surrender ourselves to the practices that exist within, and substantiate, the tradition.

The third, term, 'technological,' is taken to mean a melding of both the educational technology and the technological discourse. This is the interpretation and practice that takes place while participating with an artifact or technologically derived activity that recognizes that the discourse is grounding that practice.

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[12] Winograd and Flores (1986) similarly discuss the "rationalistic tradition" in *Understanding Computers and Cognition.*

iii) The Body, Relationality and the Consensual Domain

The body to which I refer in this dissertation, is the lived body--a phenomenal body that lives with things and others in the world. This is not a body to be examined in its own right, but rather a body that is placed in, and examined in, the context of a world. A body that inhabits the world.

To understand the body as a phenomenal body is to bring together the body and the world. It is to understand the body as being-in-the-world. Macann (1993) summarizes this nicely:

> . . . being-in-the-world cannot itself be understood as a certain relation which obtains *between* [italics mine] a central body and a surrounding world but has to be understood in terms of tasks, actions to be accomplished, a free space which outlines in advance the possibilities available to the body at any time. In turn these possibilities have to be understood not as the possibilities of a perceptual presentation or conceptual representation of the world but as the possibilities of action in a world. (p. 174)

Macann recognizes the body as pragmatic, placed within the world. It is through understanding the body within the world, that we recognize relationality. "To be worldly is to be *in* [italics mine] a relation," (Sefler cited in Gier, 1981, p. 125). "In a word, relationality is Heidegger's ontological [transcendental] ground within which things appear" (p. 125). We may recall the way in which Heidegger described the meaning of a hammer derived from its use in the world rather than necessary qualities. We may also find insight in Wittgenstein's statement, "What I perceive in the dawning of an aspect is not a property of the object, but an internal relation between it and other objects" (p. 125). Merleau-Ponty (1994) adds to the sense of relationality: "I can . . . see an object in so far as objects form a system or a world, and in so far as each one treats the others round it as spectators of its hidden aspects and as guarantee of the permanence of those aspects" (p. 68).

While it may seem that this sense of relationality neglects or displaces the body, it must be kept in mind that relationality is not disclosed separately from the body. The body is essential in the disclosure. According to Mallin (1979):

> Merleau-Ponty insists on the simultaneity of the visibility of the subject and the natural world because it makes the body-subject an intrinsic part of the field that it discloses. . . . The body must show itself when it makes the world visible; otherwise, we would have a case of a separable entity constituting Being rather than Being constituting itself. If the virtual focus of the clearing were not itself incarnate and as material as the rest of the field, then the subject would still be an external source of Being, at best as a pure transcendental ego and at worst as a distinct Cartesian substance. (p. 251)

In this dissertation the concern for relationality recognizes the relationality between ourselves and those things and others around us. This is a reference to, and consideration for, the lived other. And in this consideration we can sense, educationally, a pedagogical significance, a consideration pointed out by van Manen (1990). According to van Manen relationality is moving us toward the recognition of a pedagogical significance, "the lived relation we maintain with others in the interpersonal space that we share with them" (p. 103). This recognizes that we live in a social context that requires a corporeal relation--an intercorporeity with the world and others. We live with others in a corporeal way. We are social, united, we follow, we participate with others.[13] Merleau-Ponty radicalizes the sense of body even further with his notions of 'The Intertwining' or 'The Chiasm' and the notion of 'flesh'--a notion of the human body as an opening (following Heidegger's 'openness-to-Being'). As Levin (1985) writes, "'Flesh' is a notion which finally makes it possible for us to articulate the human body with respect to its ontological dimensionality: its inherence in the field of Being as a whole," allowing us to think, "'carnal being' as 'a being of depths . . . a being in latency' . . . a notion which *releases* the body from restrictive representations

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[13] See also Lave and Wenger (1991) for more on the social characteristics of learning.

and reifications and *opens it out* . . . into the expansive field of worldly being" ( pp. 66-67). Levin points out that this is not a flesh to be "reduced to a familiar term within the metaphysical tradition," but, in the words of Merleau-Ponty (as quoted by Levin), "my body is made of the same flesh as the world . . . and moreover . . . this flesh of my body is shared by the world" (p. 66).

I adopt this notion of flesh when speaking of the consensual domain. I refer to the domain in which we and others live together in a corporeal way as the consensual domain.[14] This is much like Heidegger's Dasein[15] running through the body or like Merleau-Ponty's intercorporeity.

While our current understanding of consensus may tend toward the cognitive (objectivist) with the phenomenal bodily aspects obscured, this dissertation treats the consensual domain as one in which consensus is based on agreement between phenomenal, corporeal, bodies. Not phenomenal bodies which stand apart from the world and one another, but rather bodies that exist in the 'flesh.' We find this sense in the Latin *consensus*, meaning accord, common feeling, to be of one heart. If we look beyond this we find that consensus also has its roots in *consentre*. *Con*, together and *sentire*, feel, think, sense. By describing the ways of life of phenomenal bodies that give meaning to the consensual domain, and by acknowledging and responding to the phenomenal body, we come to understand the body's importance (the body in its entirety) in the development, maintenance, and evolution, of the consensual domain, and the way in which we live within this domain. As consensus, this is a domain, in Merleau-Ponty's terms, of the 'flesh.'

According to Johnson (1974), it is phenomenal bodily understanding that gives significance to things (concepts). And, if we are to follow this line of thought into educational settings, we could say that it is this bodily significance that children must

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[14] I borrow the term 'consensual domain' from Humberto Maturana (1978). His use, however, deals more exclusively with a mutual structural coupling that takes place between organisms.

[15] See Dreyfus (1995, p. 144).

acquire to understand the ways in which humans come to 'be' within the world.[16] This dissertation shows that understanding achieved by participating with the technological, and enframed by the technological, is an understanding shaped by the technological field. Centrifugal force, for example, carries different meanings when experienced by the human body embodied within an activity in which centrifugal force is experienced than when it is explained visually on a computer screen. It is in a recognition of the phenomenal body living within a consensual domain that we get a sense of how the technological calls us to dwell technologically within this domain (as will be made evident in this dissertation). This is not to say that the technological should be abandoned but that a focus or concentration on a way-of-being derived from the technological, at the expense of the body experiencing the world directly, is inadequate. Dwelling within human ways of life requires human bodily understanding.

### iv) Education and Pedagogic Concern[17]

In this dissertation, in addition to revealing the nature of the intentional experience with educational technology, I show the educational insignificance of that experience. By showing the educational insignificance I show how educational technology and the discourse associated with it influences our understanding of education. Thus, in a phenomenological fashion, I initially attempt to bracket any preconceived notions of what education involves from within the educational technology discourse so that I might re-cognize education in a more comprehensive way than might be established within that discourse. In turn, I reveal how and when our intentional experience with educational technology is most appropriate to education. Given this, choices still have to be made as to where that analysis will begin and the field that the analysis will encompass. In other

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[16] Mark Johnson (1974), in his book The Body in the Mind, argues for the necessity of the bodily basis of understanding concepts.

[17] I choose van Manen (1990 & 1991) as a reference for my discussion of pedagogy because he orients us to the child and to bringing children into our adult world--a possible alternative to an orientation to educational technology.

words, I need a starting point at which to begin the analysis as well as some sense of what experiences would be suitable to include in an analysis of education. I will begin here with a definition of education that is, at least superficially, consistent with the educational technology discourse. Taking from Webster's New World Dictionary (Guralnik, 1976), education is defined as the process of training and developing the knowledge, mind, character, etc., esp., by formal schooling, teaching or instruction. What is important here, is that in the educational technology discourse, the process of training and developing the knowledge, mind, and character is accomplished by providing content in the form of information. Furthermore, this 'training' and 'developing' is accomplished using tools and information, all of which is recognized within a world which is objective and understandable, one which we can explain. Within the educational technology discourse, this objectivity is one which can be managed and manipulated, controlled and mastered. This is a world that has been described by Heidegger (1977) in his The Age of the World Picture. My reference to Heidegger will become clearer later in the dissertation. For the time being, Heidegger's description of a world understood as something "placed before us" (vorgestellt) as an object is consistent not only with the sense of education provided by educational technology discourse, his depiction of an alternative thinking which entails an openness to the world that does not fall slave to the control of technology is consistent with what I describe within this dissertation regarding different ways of participating with educational technologies.

My intent in this dissertation is to initially remove myself from the context of educational technology discourse--to bracket, for the time being, the objectivity of this "Modern Age"--while still examining educational contexts so that I can establish a more comprehensive understanding of education. Thus I orient myself to a school domain of education in which there appears to be an indication of a development of knowledge, mind and character.

Underlying this dissertation is a pedagogic concern, a concern for the child. I introduce this concern primarily because children are less likely to have the corporeal/bodily background that adults have, leaving them vulnerable to 'insignificant' understanding. If, projecting into a later part of this dissertation, a shared corporeal/bodily understanding is necessary for education, the child inhabiting the technological attendere is at the mercy of technological language and activity that potentially neglects this understanding. The child's corporeal/bodily being-in-the--world, as well as adult concern for the child's corporeal/bodily understanding, may be neglected. "Pedagogy," according to van Manen (1990), "is the activity of teaching, parenting, educating, or generally living with children, that requires constant practical acting in concrete situations and relations" (p. 2). This sense of living and acting with children in concrete situations and relations is especially relevant when considering our experience with educational technology. An orientation to the technological would seem contrary to the orientation van Manen speaks of that is necessary for pedagogy.

> [P]edagogy directs us and draws us caringly to children, pedagogy occurs in the way we are with children. It is where an adult does something right in the personal development of a child. . . . It orients us to the value, meaning, and nature of teaching and parenting. More pointedly pedagogy orients us to the child, to the child's immanent nature of being and becoming. (p. 31)

Considering the pedagogical significance of the technological experience allows us to question our relation to the child and to the technology. We can question to what extent we are giving up our relationship with the child. Van Manen (1991) reminds us of the caring relation--the sense of leading or guiding, the watchful encouragements--between pedagogue and child, a relationship necessary in pedagogical acts. He reminds us of the way we show children our world, the way we encourage children to enter into our world, leading and encouraging in such a way that we maintain our recognition of having once been a child ourselves.

There is a sense of orienting ourselves to children in such a way that we constantly distinguish between appropriate and less appropriate conditions and actions with and for children. This includes being mindful of what is good and what is not good for the child. In other words, van Manen (1991) says:

> pedagogical life is the ongoing practice of interpretive thinking and acting--on the part of adults, but also and especially on the part of the children who continually interpret their own lives and who constantly form their own understandings of what it means to grow up in this world. (p. 60)

This draws us into another concern when analyzing the technological experience, i.e. what form of experience should the child endure for him/her to form the most appropriate understandings of what it means to grow up in this world? This is a concern for the child's world as well as a concern for the world into which we encourage the child to enter.

Thus, two underlying questions regarding pedagogy are explored in this dissertation: one, what is the pedagogic significance of the child's use of educational technology?; two, does the teacher's orientation to technology alter the way the teacher lives in the world with the child?

## v) Phenomenological Method

Literally, phenomenology means the study or description of phenomena. A phenomenon is that which appears or presents itself to someone. But phenomenology is more than a description of that which appears to someone. "Phenomenology," as Merleau-Ponty (1964) says, "is the study of essences; and according to it, all problems amount to finding definitions of essences."( p. vii). To define an essence is to find a relationship or structure that remains constant (invariant) throughout a number of related situations. Ihde (1990) explains phenomenology metaphorically as a relativistic science in which we attempt to discern the relationships or structures among phenomena, ourselves and the world in which we are situated. An example Ihde uses to demonstrate this is one which places three

trains parallel to one another on three separate tracks. The observer, placed on any one of the trains, and seeing only one other train in relation to him/herself, has an inadequate sense of the trains' relative movement. For example, seeing a neighboring train move forward may give the observer the impression that his/her train is moving backward. However, regardless of the appearance that is derived from any particular train, there is a stability or structure among the trains that can be discerned in more exacting ways as the observer analyses the situation or relationship from each train's perspective. And while we might think that moving the observer to a privileged position, perhaps a tower overlooking the trains, would reveal the relationships we are searching for, the privileged observer's position must also be accounted for, for the observer in the tower is still one of relativity compared to an observer from yet another privileged vantage point. Adequately understanding the movement of trains in relation to one another is less an examination of the trains themselves than an examination of the relative movement that shows itself through the trains. We could, if alternating trains for human beings, attempt to describe the movement, or social practices, of these beings.

This dissertation attempts to reveal the relationships or activities of people being educated with and without educational technology. And in the same way that we can recognize that a train observer situated on only one train, maintaining a number of taken-for-granted beliefs about the overall state of the train situation, this dissertation recognizes that observers of, and participants with, educational technology have taken-for-granted beliefs that inadequately represent the state of educational technology. Through phenomenological analysis, by revealing invariant (essential) structures, essential structures that may have been apparent but have been obscured over time can once again be revealed and reestablished.

Phenomenology begins by describing rather than explaining or analyzing. This is not to say that explaining can not reveal an essence, or that phenomenology does not assist in explanation, but that description precedes explanation. We describe an event before we

interpret and explain what the event means. It is in the interpreting that the hermeneutic of hermeneutic phenomenology comes to the fore. Once again, adopting the train metaphor, we describe the event from a variety of positions in an attempt to account for the underlying structures. Because phenomenological description accounts also for the observer's place within the situation, or what the situation means to the observer, a revelation of essence also reveals the significance of the situation to those immersed in that context. Thus we attempt to 'adequately' describe the situation. According to van Manen (1990), "the essence or nature of an experience has been adequately described in language if the description reawakens or shows us the lived quality and significance of the experience in a *fuller or deeper manner* [italics mine]" (p. 10). As a phenomenological study, this dissertation is concerned with the description of phenomena so that events have been described in a way that essences may be revealed and put back into existence. As Merleau-Ponty (1964) says, "phenomenology is also a philosophy which puts essences back into existence." ( p. vii). Thus, this dissertation will not only reveal something of the educational experience with technology, but will also educate others about the state of educational technology so that they recognize and maintain a new (more adequate) understanding. In phenomenology's description of the lived world, by finding definitions of essences, we are, as Merleau-Ponty says, "destined to bring back all the living relationships of experience, as the fisherman's net draws up from the depths of the ocean quivering fish and seaweed" ( p. xv).

Before explaining the specifics of phenomenological methodology (something I will do by turning to the work of Ihde), there are seven elements that shape hermeneutic phenomenological research as described by van Manen that will provide the reader with a general profile of this research. According to van Manen (1990), phenomenological research is the study of lived experience; the explication of phenomena as they present themselves to consciousness; the study of essences; the description of the experiential meanings as we live them; the attentive practice of thoughtfulness; a search for what it

means to be human; and, a poetizing activity.[18] He continues, saying hermeneutic phenomenological research involves turning to a phenomenon which seriously interests us and commits us to the world, investigating experience as we live it rather than as we conceptualize it, reflecting on the essential themes which characterize the phenomenon, and, describing the phenomenon through the art of writing and rewriting. We begin with that which interests us.

Three questions may, at this point, present themselves: one, how do we know where to begin searching for these essential features that we wish to articulate?; two, how do we identify the relevant aspects of experience that contribute to these essential features?; and, three, when do we know when we have examined an adequate number of possibilities?

Searching Essential Features

To answer the first question (where to begin searching for essential features), we first must recognize that our experiences (that which is noted within experiential presence), and our understanding of these experiences, may potentially offer us more than what our common assumptions and beliefs provide. For example, the person recognizing the act of communication as simply the passing of information between people, can, if shown the added aspect of sharing, recognize communication as both passing information and sharing. Thus, as a beginning, we recognize that experience can potentially show more than our taken-for-granted way of experience. Second, we determine a field of investigation--an area of interest and importance. It is within this field of investigation that we will reveal essential features that will constitute richer meaning in our experience. We turn to the things themselves, the objects or events of experience (things), and the way in which things show themselves within a background or field.

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[18] See van Manen (1990, pp. 9-13).

Husserl says, "Zu den Sachen selbst" (to the things themselves). This simply means that we begin our observation and description with that which first appears within our entire field of possible experience. This is an attempt at non-reflective observation and description. We might say that this begins the 'way.' While the 'way' may not always appear defined in its winding and groping about, there is a method. It is in the 'way' of probing the unseen ground that this method begins to show itself more clearly. It is in the 'way' that the obscure (that which is hidden, concealed or not clear) is revealed. To state, however, that there is a recognized method in the revealing of the obscure is not enough. For to appreciate the phenomenological method in the investigation of world experience, it is well to keep in mind where it is we are to arrive, and what it is about our understanding of the world that is to change. With the phenomenological method we are to arrive at a richer understanding of our 'being-in-the-world.' We are to achieve a sense of the complexity and immensity in our experiencing of things (whether these things show themselves through our immediate perception, memory or imagination). We begin by taking an initial catalogue, or inventory, of an experience that interests us and then through description and re-experience (analysis and deconstruction) we begin to get a better sense of how we experience things (or how we are in the world). But it is not enough to simply describe our experience. We must move beyond the initial description and begin to search out essential, or structural, features of phenomena. This is a movement beyond simple description towards a more methodical investigation. To do this we seek variations in the experience which "possibilizes" the phenomena. In our perception of these fulfilled possibilities, we begin to understand the complexity and immensity of an object's or event's constituted meaning to ourselves. It is in the recognition of variant features that we begin to sense the richness of experience. And it is by unveiling structural features, or invariants, that we sense a resolve to our questioning. We move from apodictic understanding to understanding phenomena as they show themselves in various ways. And

we search and articulate the essential features (essences, those features that remain invariant throughout the various ways of understanding) of lived experience.

With a sense of beginning ("to the things themselves"), way (the probing of unseen ground), and end (a sense of the complexity and immensity in our experiencing of things), we begin to sense the shape and movement of the phenomenological method. In this dissertation I follow a phenomenological method espoused by Don Ihde (1977, 1974). Ihde explains, using the terms variations and invariants, the way in which we are able to move from apodicticity to relative adequacy by examining possible ways in which things show themselves (variations). He refers to this as the variational method. Simply, the variational method is a way of allowing things that arise in situations to show themselves in a multiplicity of ways or in a number of possible ways.[19] To perceive or understand something in another way requires that we put aside (bracket) our initial way of understanding. This is the eidetic reduction. And, by performing the eidetic reduction, as Merleau-Ponty (1964) said, we determine "to bring the world to light as it is before any falling back on ourselves has occurred, it is the ambition to make reflection emulate the unreflective life of consciousness" (p. xvi). After considering a number of variations (possibilities), a re-examination of the variations is taken to determine those aspects which remain invariant through the variations. I will explain this by borrowing a simple line-drawing example used by Ihde (1977) in his explanation of variations and invariants, supplementing these with examples of my own.

The way of proceeding is by way of the eidetic analysis. In our questioning we attempt to open the possible significance of the phenomena. Ihde (1977) comments on possible significance saying, "This opening of the possible significance of the phenomenon is the result of epoché and the phenomenological reductions, which deliberately put aside ordinary assumptions and sediments. . . . in order to free the phenomenon for its essential,

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[19] This is not a qualitative analysis of variance and as a result variational analysis can not be prolonged for too long into the analysis. Initially, variational analysis does allow us to turn back to re-experience and unveil aspects of our being-in-the-world.

rather than accidental, appearances" (p. 105). First, a simple line drawing.[20] When looking at the following drawing
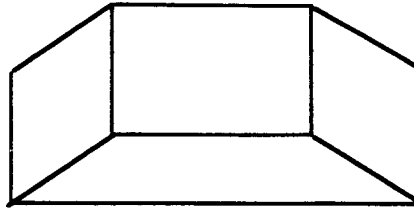


one might see a hallway. Seeing this drawing only as a hallway would be considered an apodictic (singular) way of seeing. However, upon analyzing the drawing, opening one's self up to other possibilities, or actively searching for other variations, one might further recognize a topless pyramid. Being able to see both would now be considered a more adequate way of seeing than the previous singular apodictic way of seeing. The move has been made from apodicticity to relative adequacy, an adequacy that is relative when compared to all the possible ways of seeing. Attempting to see further variations, other possible ways of seeing, such as a headless robot etc., would lead to even more adequate ways of seeing.

The line drawing example is deliberately simple so that we might understand the method. Here is another example of attending to variations that begin to place and account for the observer in the analysis. In describing the game of chess, those aspects comprising the experience may be reduced to an explanation of the rules governing the game. But when we call upon the experience of the players themselves we find that the game of chess may show itself in other ways, in a multitude of variations. Aron Nimzovich, chess player, speaks of one variation to the technological in his participation with chess--the pawn acting as an important component of setting up an attack:

the [Pawn] must be regarded as a dangerous criminal. Against him all our chess

fury must be directed. . . . Such a Pawn must either be executed, or put under

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[20] This is a line drawing and example that I borrow from Ihde (1977), p. 70.

restraint. Accordingly we condemn the criminal either to death or to imprisonment for life. Or we can pleasantly combine the two by, say, first condemning him to death, then commuting his sentence to life imprisonment; or, what is the commoner case, we keep him under restraint until he is quite impotent, and then show our manly courage by executing the death sentence. (Reinfeld, 1976, p. 64)

While chess as a movement of pawns and pieces on a playing board allows players to conditionally[21] play the game, Nimzovich shows us other ways (variations) in which one might experience chess. Here we get a sense of Nimzovich's experience which lies beyond an explanation or the rules. We hear an experience that calls upon human bodily ways. For Nimzovich, the Pawn has an existence that shows itself in human ways. Not only does the Pawn show itself as a dangerous criminal, Nimzovich, too, is revealed in a particular way when participating with the Pawn (i.e. as a courageous manly sort). Within this experience of chess, Nimzovich is able to enter into an activity that allows the situation to show itself in a way that may be particularly meaningful to him, activities that call upon human bodily understanding: condemnation, restraint, impotence, execution, life, death. These are the ways experienced by the body that are not necessarily apparent in the technological playing. We can bodily sense the cowering in condemnation, the holding and bounding of restraint, the helplessness of impotence.

What we sense are variations or possible experiences. Each activity opens a space of possibilities from which situations may become meaningful. Nimzovich, here, seems to find human activity in what can potentially be a very technological understanding. Of course, we are not limited to Nimzovich's understanding. Indeed, Fisher or Spatzky may experience chess in quite other ways. However, being able to enter into the multitude of ways in which 'chess' may show itself, especially human ways, a depth and richness is achieved that surpasses experiencing chess as simply the movement of pawns and pieces

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[21] I use the term condition (as agreed upon by talk) to counter consensual (agreed upon sensually).

on a playing board. And, by revealing chess in numerous variations we begin to sense its richness or fullness.

Our ability to shift our orientations between different possibilities of experience may be shown visually in the depiction of reversible drawings as previously shown with the line-drawing. Dwelling within a particular way of life, and using language made meaningful by that way of life (for example metaphor), we are predisposed toward particular experiences and interpretations. Consider the well known reversible drawing in which the silhouette of two faces facing each other reveal an urn if one is called to concentrate on the space between the faces. Two things may be noted that will become important in this study. First, if one did not know 'urn' the urn between the faces would not meaningfully show itself. Without the appropriate understanding, an understanding that includes not only an image of an urn but also a bodily apprehension of an urn, the reversal may be missed. Second, within activity in which the urn is recognized there exists a language that is partially responsible for our being drawn away from the faces and into the 'urn,' in ways similar to Nimzovich's drawing into human ways of life while playing chess or our ability to recognize both hallways and pyramids.

'Showing' is shown in, and dependent on, a particular situation which is given meaning by the activity and the way of life in which we are situated. We are related to that which shows itself. We 'are,' we 'arise,' within a situation. Indeed, there are many ways in which 'urn' or 'chess' may show themselves--many other relationships that could contribute to our experience of these--depending upon the situation and activity in which we find ourselves. By altering our situation we alter the relations that give meaning to that which shows itself. Just as a single move in chess may be revealed in a multiplicity of ways to the chess player, an urn may be revealed in a multiplicity of ways to the one who participates in a situation in which 'urn' becomes meaningful. It is in our recognition of new relationships that we begin to sense the richness of something. Take Keats' (1994)

poem *Ode on a Grecian Urn.* Keats reveals other ways or life that may not be evident while participating situationally with the reversible drawing.

> Thou still unravished bride of quietness,
>
> Thou foster-child of silence and slow time,
>
> Sylvan historian, who canst thus express
>
> A flowery tale more sweetly than our rhyme!
>
> (Keats, 1994, p. 177)

Keats orients us toward a richer way of experiencing an urn, exposing human activity that speaks to the phenomenal corporeal body. He speaks of the pristine or virginal quality of the urn. He speaks of an artifact handed down by an artist to endure through time. In this we can sense the urn corporeally. We can sense it before us in a way that we might reach out and touch it, hold it, care for it. We can sense how we might position ourselves in front of, or with, the urn. We can sense the texture, the weight. We enter a new horizon.

Keats, as poet (revealer), takes us beyond what we might normally sense as urn. He reveals to us a multitude of variations, a multiplicity of new ways in which we can be with 'urn,' the way in which 'urn' can show itself within complex human ways of life. He moves us toward sensing a whole by revealing more aspects of 'urnness' than we might have previously been aware. Keats reveals relationships that may have been obscure. He reveals ways in which we might 'be' with 'urn.'

Once again, how do we know where to begin searching for essential features that we wish to articulate? We find a phenomenon that interests us, take an initial catalogue of experience, and then through eidetic and variational analysis move from apodictic to adequate ways of understanding.

Identifying Relevant Aspects

The second question, "How do we identify the relevant aspects of experience that contribute to these essential features?", concerns not only relevance but also evidence that lead to essential features. Relevance is a matter of pursuing genuine possibilities. We begin by possibilizing phenomena as a first step. But to reveal genuine possibilities and further, the essential features within these possibilities, variations must be variations of the phenomena. Variations that fall outside the field of the phenomena in question are neither genuine possibilities nor relevant aspects. Genuine possibilities that are recognized and shared with others then act as a form of argument and evidence. Internal relations exist within the fields of our experience. Our ways of life and the language we use create a space into which experience will be framed--a space into which one's action can meaningfully unfold. For example, one can only ask for the meaning or experience of using a hammer from within a field of experience which includes ways of life and a language, both of which open a space into which hammer possibilities may exist. These possibilities may fall within the cobbler's, the carpenter's, the archaeologist's, or the piano tuner's field of experience. Each has an understanding that includes the body. This is an understanding that is substantiated from within the horizon in which each dwells. Each, if dwelling predominantly within his/her own field, may obscure the other ways in which hammer may show itself. Questions concerning hammer can only be meaningfully asked when dwelling within a field in which experience can meaningfully unfold. Likewise, questions concerning educational technologies can only be meaningfully asked within certain horizons, certain spaces of possibilities. It is only within a horizon which opens a space of possibilities that one can ask what the experience is. And it is from within each horizon that things show themselves as they are. We direct our observation at the whole field of possible experiential phenomena. And, in the fulfillment of our intention, we dis-cover that which is discoverable. We constitute valid fulfillable variations, or experientially presentable options. We describe and discern structural features within a region of

existential possibilities. It is that which is potentially there, that which is discoverable, for which we are searching.

Adequate Possibilities

The answer to the third question (when do we know when we have examined an adequate number of possibilities?), varies. Different essences may require different degrees of analysis. However, when we recognize an invariant structural feature, we have performed a phenomenological analysis. After recognizing a number of variations we begin to search for what is invariant (or essential) among the variations. For example the invariants for the line drawings are that they are polymorphous in nature (that each drawing can take on different meanings), that altering the perspective of the visual orientation offers shifts in focus that assist in recognizing different aspects of the drawing, and that the language we use provides a background which assists in recognizing different shapes. With this new understanding, beliefs and prior understanding have been "reshaped," and a new level of familiarity with these shapes has emerged (Ihde 177, p. 120).

To conclude, having given the reader a sense of what phenomenology consists of, it is worth noting what phenomenology rejects. Hammond, Howarth & Keat (1994, pp. 2-3) have summarized this nicely in four points:

1) "the concept of appearance is often defined through an implicit or explicit contrast with that of reality, such that what is apparent, or appears to be the case, is taken to be other than what is real, or really the case." That which is real is often considered to lie behind or beyond the appearance. Phenomena are not that which are distinct from reality but rather how one experiences things. Phenomenology rejects the dichotomy between 'appearance' and 'reality'--the phenomenon and the noumenon.

2) Phenomenology also rejects the dichotomy between an inner world of 'private experience' and an outer world of 'public objects.' The description of phenomena is not the

description of either a subjective or objective realm. For the separation of the subject from the world is philosophically untenable.

3) Phenomenology rejects 'scientific realism,' an account of reality that distinguishes between appearance and reality, associating this with a distinction between two 'worlds' of private experience and public objects as well as ascribing this a privileged status of reality. For phenomenology, the 'real' world is pre-scientifically experienced.

4) Phenomenology insists on a careful description of ordinary conscious experience to avoid the distortion of suppositions and prejudice.

## Summary

In Chapter One I introduced the reader to some of the terms that will be used throughout this dissertation. These included attendere, educational technology, the technological, technological discourse, education and pedagogic concern. I also attempted to give the reader a sense of the questions asked within this dissertation, as well as the method of questioning I employ.

In Chapter Two I begin a phenomenological analysis (using the variational method) of 'education.' This is to say that I carefully describe moments, predominantly within school settings, in which individuals are involved in training and developing the knowledge, mind or character, whether by formal schooling, teaching or instruction (this being the starting point described earlier from the dictionary definition of education). I choose moments that take place within the school setting but not confined to the classroom or any particular method of instruction. This allows me to move beyond any particular discourse of educational understanding. I also link this closely with a historical reading of the use of technology. I do this so that we might recognize other possibilities in which technology contributes to our understanding. From this analysis I determine three invariants of education that will form the basis of further analysis of educational technology. The three invariants are 'Dwelling,' 'Communication' and 'Revealing.'

Chapters three, four and five will examine each of these in turn. These invariants are examined in an attempt to show not only the bodily significance of these invariants but also how these invariants are conceived when social practices that give significance to educational technology grounds our understanding of education. Analysis reveals how the 'flesh' changes when a technological attendere grounds our way of life. I attempt to reveal this transformed attendere and the different sensibilities achieved by and during this transformation by soliciting examples from poets, writers and artists, as well as my own personal experiences to move from apodicticity to relative adequacy. It is important to listen to what these people's experiences tell us for they not only show us the technological and bodily attendere (in that they use technologies in ways that educate others), but they also allow us to sense other educational possibilities from outside the current educational discourse. Furthermore, it is within the current educational discourse that educators deliberately attempt to enable students to do that which these poets, writers and artists do. What I arrive at is a greater understanding of the significance of a bodily attendere in 'dwelling,' 'communication' and 'revealing' and how re-embodiment by a technological attendere affects our pedagogical concern.

# Chapter II
## The School Day

I begin my analysis with observations and descriptions of moments (or events) that take place within school settings in which individuals are involved in training and developing the knowledge, mind or character, whether by formal schooling, teaching or instruction, or simply through social interaction. I choose moments that take place within the school setting but are not confined to the classroom or any particular method of instruction. And, while educational technology is of interest, the invariant structures of education are my initial concern. I survey the educational ground to understand educational technology. I examine not only educational moments in which educational technology is in use but also educational moments in which technology is not in use. I do this to avoid simply describing a technological ground. This is to say that a technology, to be meaningful as an educational technology, must be meaningful within education. And by first deriving structures of education, I am able to reveal how our participation with technology and our activities within technological settings affects our understanding of both education and educational technology.

I begin by taking an initial catalogue, or inventory, of experience within school settings. Then, reflecting on particular experiences, I begin to seek variations which 'possibilize' those experiences. In other words, I deliberately choose representative moments of experience within the initial cataloguing, and then I seek variations of these moments. These variations are sought not only from personal accounts but also from historical accounts of technology-use. Personal accounts contribute to a phenomenological understanding of technology-use; historical accounts contribute to a recognition of experiences or practices that may have been obscured over time. Both offer potential variations. I deliberately attempt to weave together a historical accounts with an analysis of

events that take place within school settings so that both contribute to our understanding of educational technology.

In the cataloguing of experience, the reader will note an apparent movement into increasingly more technologically significant forms of experience. This is a deliberate movement of experience from conversation (not mediated by an educational technology except perhaps in a residual way) through written curriculum. (While computer mediated instruction is experienced during the initial cataloguing of events, I deal with this in detail in chapter 6).

In the re-analysis or deconstruction (in a Heideggerian sense) of each moment of experience I move from apodictic knowing to relative adequacy by revealing concealed 'ways' we are in the world. This move reveals the possible richness of educational experiences and the activity that contributes to this richness. Finally, after a sufficient number of variations are provided, I begin to search for invariant structures among the variations.

I begin with an initial cataloguing of a typical morning at school to determine moments of experience that will later be used in the variational analysis.

Initial Cataloguing

I drive into the parking lot of the school. As I step out of the car a number of students run over to me. They excitedly tell me of things they did over the weekend. The students continue talking to me as I walk toward the door of the school. As I walk along the sidewalk I pass a number of students skipping rope. Some of the students ask if I will join them. I stand and watch them for a while. I listen to the skipping ditties. I tell them that I was an expert skipper at one time and then take my turn at skipping.

As I continue along the sidewalk toward the entrance of the school, I notice a small group of boys huddled around each other. I hear some of what they say. One of the boys is telling the others a story of being blood brothers. After entering the school I greet the

secretary, acknowledge some of my colleagues, and check my mail. I then ensure that my classroom is in order.

Within the classroom, as the period starts, I begin with a story. I tell the students a story that an acquaintance, Lee Bing, told me. The students are quite engaged as I tell them. This was a story that I thought might help student relationships. After the story I ask them some questions concerning the story. As we discuss the story I write important points on the board.

After the discussion I have the students read a story out of their text book. While the students are doing that, I fill in the classroom register.

I then begin working on tomorrow's lesson plans. I begin with science class. I take out the curriculum guide and glance over the unit plans laid out for me. I begin writing out the lesson plan in my book. I look through the Media Resources Catalogue to see if there is a video or a computer program I could use to supplement the class.

As the students finish reading I have them work on an assignment. When all have completed the reading we discuss the story in class.

When the period ends we go to the computer lab. I give a short lesson on the design of the computer.

From this initial cataloguing, I choose a limited number of moments in time which will now be analyzed more fully. The main situations to be analyzed include 'conversation/coming together,' 'my surroundings,' 'skipping songs,' 'story telling,' 'written stories and books,' 'lesson planning,' 'register,' and 'curricular organization.' Within each analysis I provide three or four distinct parts of study: a variational heuristic, a written phenomenological description with historical insights,[22] a statement of invariants (if appropriate), and an explanation (hermeneutic) if appropriate. The variational heuristic, derived from previous analysis, provides a diagram of the initial variations arrived at in the

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[22] Historical reference provides the potential of uncovering, in a Heideggerian sense, Being that has been covered up. Because of the circular, reflexive, nature of phenomenological analysis, historical insights can provide possible recognitions of that which is hidden within current practices.

experience of each moment (the first being 'coming together/conversing'). The heuristic also shows subsequent variations that are revealed with the process of epoché. For example, while 'familiarity' is something that is initially experienced in coming together/conversation, 'familiarity' is, upon analysis, bracketed so that other aspects, such as 'influence,' might show themselves. Through the process of writing and rewriting I continue the variational method on each one of the initial variations. In an examination of 'greet,' for example, we can sense variations of 'gesture' and 'safety.' These variations then lead to a recognition of aspects such as 'respect' and 'security.'

I then provide the written phenomenological description. This description is what has been arrived at after numerous drafts and analyses. The text is written in such a way that the reader may sense the movement from one variation to the next. For example, "I sense the influence, the flowing into, the merging, the melding of the familiar." The reflexive experience during the writing is reflected in a 'folding back' style of writing--a chiasmic style.[23] The writing and the analysis continually play off one another though the linearity of the text and dissertation format makes it difficult to show the circularity that necessarily goes along with such an analysis. What is provided in the written description is the final product, though the reader will soon recognize that what has been provided is not comprehensive of experience and can never really be final. The possibilities are endless. A new background for investigation is opened up.[24] However, what is to be achieved, the definition of invariant structures within a comprehending of relative adequacy (to educate the reader's understanding of educational technology) requires, not a comprehensive analysis but rather an adequate analysis. Analysis persists until we are in agreement, until it

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[23] The term 'chiasmic' refers to Merleau-Ponty's (1968) notion of chiasm, an application of the folds (the inside and outside) of my body and of things. The reader is asked to read the passages in the spirit that they were written. That is, to let him/herself fall back on terms (utterances) so that the other aspects might show themselves. This might be likened to reading poetry. The way the words are experienced contributes to the overall impression.

[24] It is well to keep in mind, as Dreyfus (1995, p. 35) notes, that overestimating results is a potential methodological problem. Dreyfus quotes Heidegger: "In any investigation in this field, where 'the thing itself is deeply veiled' one must take pains not to overestimate the results. For in such an inquiry one is constantly compelled to face the possibility of disclosing an even more primordial and more universal horizon . . ."

"rings true." With this in mind, we can recognize that within the constraints of any work, adequacy, as the term suggests, is not complete.

Invariants and explanations (a hermeneutic) are provided if deemed necessary. Invariants list any invariant structures that appear through the variations. As structures are revealed and become meaningful through description I provide what I refer to as a 'Hermeneutic.' It is here that the hermeneutic of hermeneutic phenomenology comes to the fore. The Hermeneutic sections contain much of the interpretation that I have derived from the interplay between description and interpretation. The interpretation is an attempt to make explicit the structures that show themselves as a result of this descriptive-interpretive process.

Figure 1 shows the movement through time, (through the school day) listing specific moments to be analyzed.
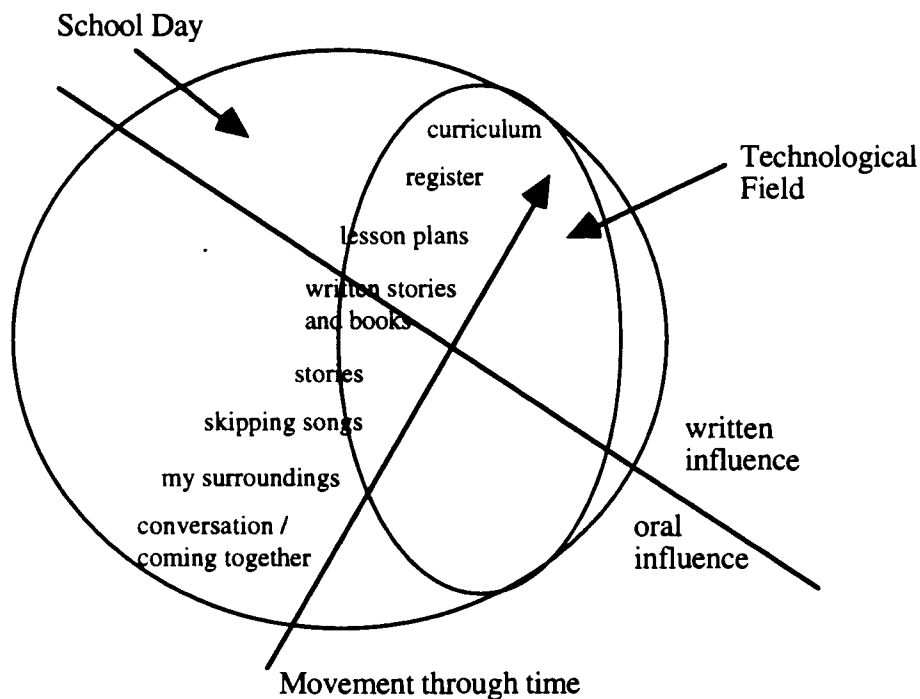


*Figure 1. Aspects Within the School Day*

I have also designated those events which are not influenced by technology as well as those that are directly influenced by technology. Because writing and print have had a significant

influence in education both historically and currently, these events are specified here as being oral in nature (events that are not influenced by writing or print) and those that are technological in nature (events influenced directly or indirectly by writing or print). These will be played out in detail as the chapter progresses.

<u>Conversation / Coming Together</u>

I begin with conversation in the parking lot and playground, drawing out experiences that are predominantly removed from the technological field (events derived without the use of any technology).

Initial Variations
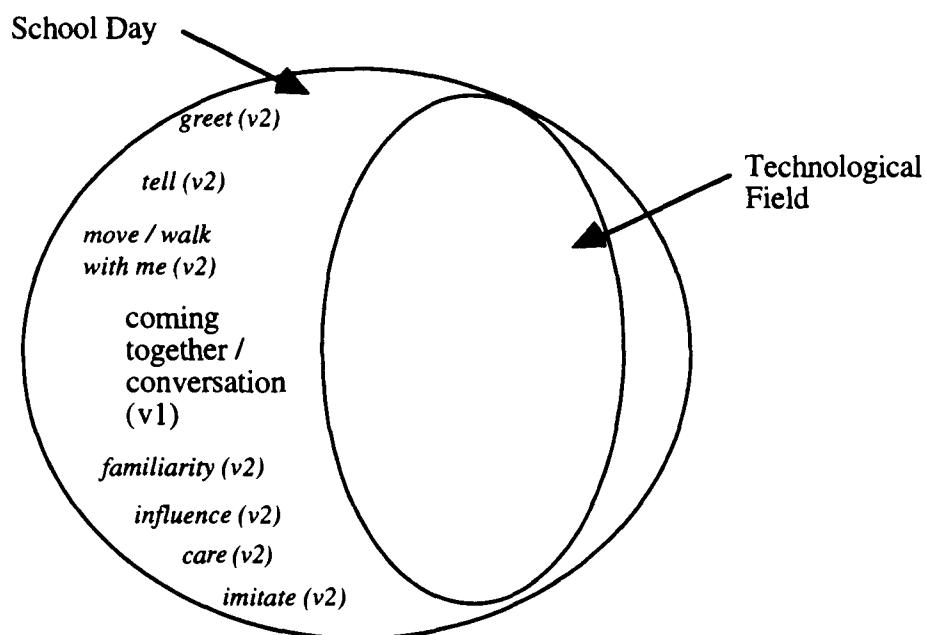


*Figure 2 Initial Variations*

Figure 2 lists the initial (v2) variations arrived at in an analysis of the moment in time called 'coming together/conversation (v1).' Then in a process of reflectively rewriting this initial 'coming together/conversation' a number of times, approaching the moment in a number of different ways, bracketing earlier variations with each subsequent approach, I

achieve a number of variations.[25] We could say that 'coming together/conversation' may involve 'greeting,' 'telling,' 'influence,' etc. Each variation on 'coming together' provides aspects that may or may not be readily apparent. But revealing each aspect through the process of epoché moves us from apodicticity to relative adequacy. The following Variational Heuristic shows further variations (v3, v4, v5) achieved from the initial variations (v2). Here we can sense that 'greeting (v2)' can show itself through 'gesture (v3),' a showing of 'safety (v3),' and involves a sense of 'proximity (v3).' Each of these variations, in turn, lead to further variations in the attempted move from apodicticity to relative adequacy. The following figures list subsequent variations.

Variational Heuristics



*secure (v4)*

*safe (v3)*

Greet (v2) ——————— *some students stand back, some students are more aggressive (v3)*

*gesture (v3)*      *spy: to watch in a secret manner, to look, to view, to examine (v4)*

*respect: re- back: specere - look (v4)*

*act of looking back at one (v4)*

*consider (v4)*     *talk (v4)*

*relate (v3)*     *story, account (v4)*

Tell (v2)

*tale (v4)*

*reckon (v3)*

*recognize, distinguish, know (v4)*

*having effect or force, striking (v5)*

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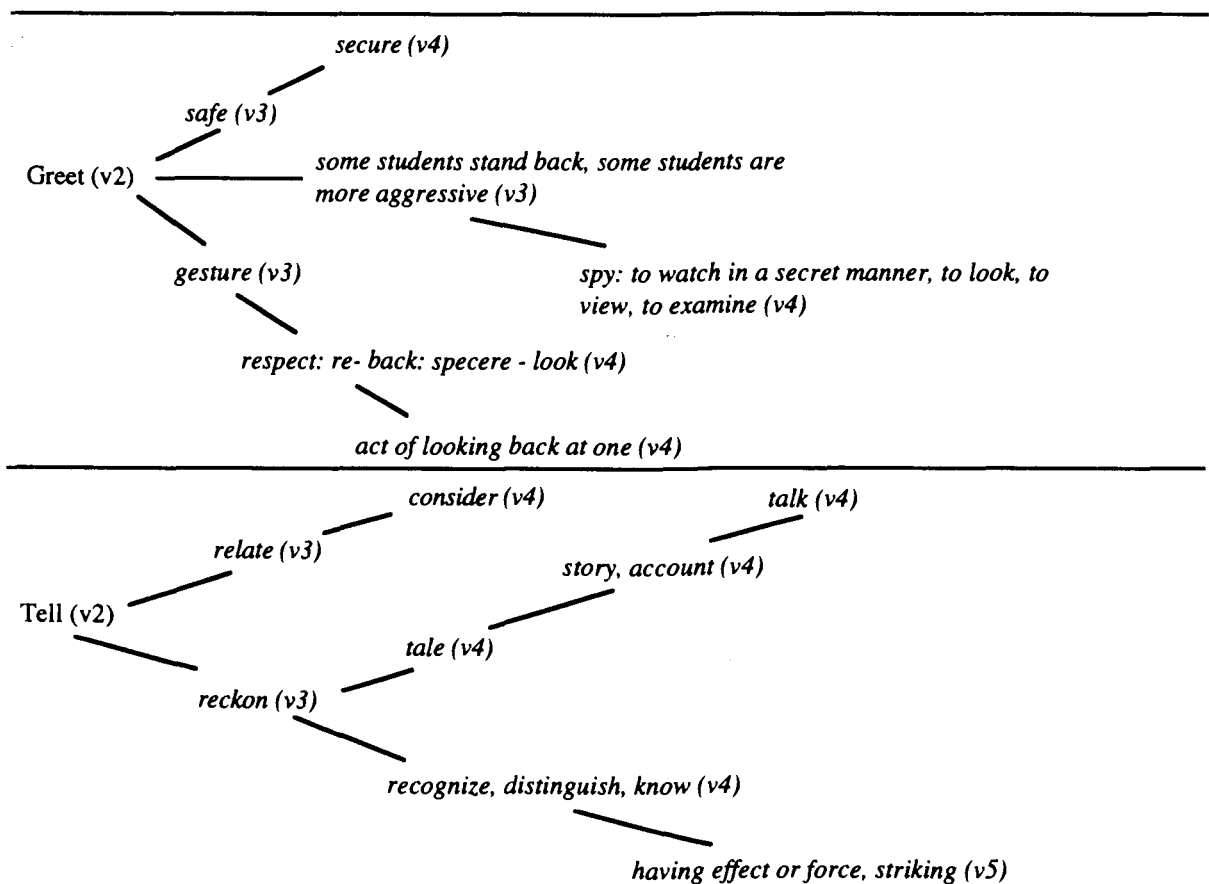
[25] This is more in keeping with Heidegger's unveiling Dasein than Husserl's investigation of consciousness.

nearness (v4)

vicinity (v4)

social (v5)

companion (v5)

in proximity (v3)

join with (v4)

keep company (v4)

in association (v3)

Move / walk with me (v2)

union (v3)

alongside (v3)

unity, oneness (v4)

move in same direction (v3)

to please (v4)

free, love (v4)

intimacy (v3)

Familiar (v2)

make known, announce (v4)

meld (v5)

merge (v4)

Influence (v2)    flowing in (v3)

touch (v4)

Care (v2)    to be concerned about (v3)    belong to (v4)

relate (v4)

Imitate (v2)    strive to be like (v3)

copy (v3)

innundate (v3)

Engulfed (v2)    immerse (v3)

flow (v3)

The written description that follows, while seemingly removed from the variational

heuristic, actually evolves along with what appears within the variational heuristic. And

while the early rewrites are not included, showing the movement through each variation, the reader should, with the initial cataloguing, the variational heuristic, and the written description, get a good sense of the evolution that has taken place.

Written Description

As I pull into the parking lot of the school a number of students from several grades run up to greet me. Some hold out their hands to touch me. Others stand back. All are familiar to me, and I to them. Even students I have not yet taught know of me from their siblings. They are excited to tell me about things that they did during the week-end. Some bounce up and down, wanting to tell their stories. They tell me of hockey tournaments and make announcements of babies and birthday parties. They walk with me toward the school. We are in motion together. I am familiar enough with each of the children to ask them questions about their family members, pets and hobbies. I genuinely care about my students and have a very good rapport with them even if they are not students from my sixth grade home-room class. I encourage them when they have done something worthwhile and show disappointment, concern or sadness when such a response is warranted. I feel as though my life is intimately connected to theirs and their families. I move toward the familiar, I become intimate. I know I have an important influence in their lives. I sense the influence, the flowing into, the merging, the melding of the familiar. And I sense the children move into my lifeworld. I draw the children into my lifeworld. They imitate me. They open up to me, and I to them. We are oriented to each other. We share each other's lives.

Invariants

In the movement from apodicticity to relative adequacy, we begin to sense the bodily significance of influence, imitation, action, care, concern and familiarity, gestural reciprocity, sympathy, and empathy. A number of invariants appear to remain throughout

the variations of this educational moment, and, if truly invariant, would remain for any event in which we are in a situation in which we come together and converse. We can note: 1. Coming together is gestural; 2. In our coming together we can recognize feeling of familiarity and mimesis; 3. In our coming together we are oriented to something or some one; and, 4. In our coming together there is a proximity. These invariants begin to form a structure that seems to ground our experiences of greeting, telling, influencing, caring, or imitating. We could say that the activity is 'gestural,' that we recognize a feeling of familiarity and mimesis, that we are oriented to, and inhabit, something or someone, and that there is always a proximity.

We can also note that what is important within this situation is that it is not dependent on objectifications. Nor is the inhabiting strongly visual in nature. There is a depth, or richness in feelings and movement, that is shared.


My Surroundings[26]

I continue the analysis with 'My Surroundings' using a format similar to that provided for 'Conversation/Coming Together.'


Initial Variations



School Day

sounds (v2)
sights (v2)
feelings (v2)
my surroundings (v1)
allured into (v2)
meaningful (v2)
orient (v2)

Technological Field

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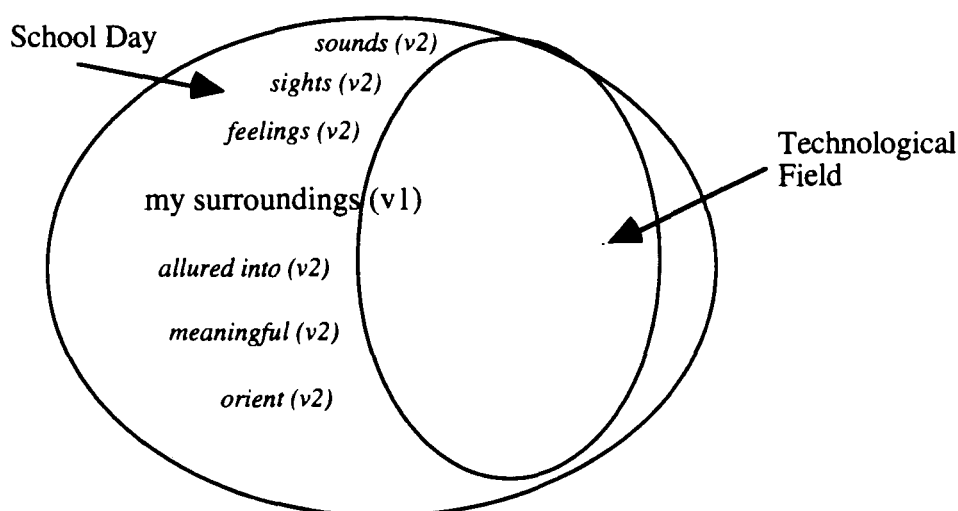
[26] A similar format, as was provided in "conversation/coming together," continues through each of the following moments in time.

Variational Heuristic

come in sight (v4)

come into being (v3)

dissipate (v4)

Sounds, Sights,
Feelings (v2)

emerge (v3)

show (v3)

let be seen (v4)

arrive (v3)

come forth (v4)

---

be pleasant toward (v4)

to call (v3)    charmed (v3)

interest (v4)

Allured into (v2)    attraction (v3)

appeal (v4)

facination (v4)

enticement (v4)

---

Inhabit (v2)    familiarize (v3)

position (v3)

orient (v3)

location (v4)

---

a stretching out, a straining (v5)

Meaningful (v2)    attention (v4)

intend (v3)

purpose (v4)

Written Description

As I walk I am engulfed by sounds, colors and the movements of the children

gathered around me. The sounds of the playground, pass through me. Laughter and shouts

surround me. Children move about, dance about. Actions and sounds come into being and

then dissipate. Bodies delight in sound. Bodies are allured into sound--charmed by sound.

I understand and recognize the play, the movement and motion. I orient myself, my body,

to the surrounding grounds and to the children at play. I inhabit and re-live the surrounding

ground and the play of the children.

I am embodied within sound, movement, and the children around me. And, those

things are embodied within me. That which I experience is meaningful. I sense my

lifeworld. At times I talk and move about in an unreflective way, seemingly taken through

the playground. At other times, as when I talk to students about their families, I am

reflective and deliberate. I feel and consider the situations they describe. Each situation

unfolds--'we' enter into and imaginatively live through the stories together.


Invariants

These communal experiences speak to the orientation and embodiment experienced

during communal encounters. A number of invariants become apparent: 1. Our body is

embodied in a context; 2. Things appear meaningfully within a context and then dissipate;

3. We are drawn toward things; and, 4. We inhabit.

These communal experiences lead to a consideration of, and begin to act as a

juxtaposition to, the more technologically oriented experience to follow in 'skipping

songs.'

### Skipping Songs

I include here an analysis of the way in which skipping songs are experienced,

deliberately looking back to historical examples in which literacy, or the lack of literacy,

influenced people's being. I do this to help reveal the essence of the technological

experience. As stated earlier, I call upon historical examples that may have, over time, been covered up, so that we might recognize other possibilities in which technology contributes to our understanding. Bringing in an historical examination offers us two things: First, we can attempt to gain insight into the uses of technology when the technology was first introduced. Showing the adoption of technology at the time of its first introduction allows us to witness people's reaction to the technology in its most pristine state. This gives us a chance to sense a use in its pre-evolved state, offering insights that may not be immediately apparent in phenomenological descriptions or that are unavailable by examining other present-day cultures, due to the potential contamination of cross cultural technological residue. This is to say, looking across cultures as new technologies are introduced may actually show a culture that has already been affected indirectly by the technology that is being used in a connected culture. Secondly, historical accounts offer other plausible variations. History runs through life rather than simply transcending it. And whether gathered from direct experience or from past experience, we are provided an enhanced terrain from which to derive invariant structures.

While I begin with the skipping songs themselves, I soon attempt to bracket them so that the body, as it inhabits the sounds and rhythms, is revealed. When the skipping songs are bracketed we find the gestural, phenomenal body partaking in sound and rhythms, experiencing spirit, passion and intent. By allowing ourselves to look back at the pre-literate Greeks we also allow ourselves to sense the preservation and sharing of culture by the use of mnemonic devices. This moves us deeper into the technological field, allowing us to sense how an orientation to, and inhabiting of, the technological offers different sorts of experiences from non-technological orientations. What may be noted is a repetitive nature to the variational heuristic and the descriptive writing as I attempt to rework and extend earlier variations.

Initial Variations

School Day

Bards (v2)

share (v2)

Pre-literate Greeks (v2)

reveal (v2)

skipping songs

engulfed (v2)

orient (v2)

intent (v2)

Technological
Field

Variational Heuristic

immerse (v4)

call upon (v7)

innundate (v3)

catching, appealing (v6)

flow (v4)

Engulfed (v2)

rhythm (v5)

caught in movement (v5)

taken and held by rhythms (v6)

come in sight (v5)

come into being (v4)

retreat (v6)

Sounds, Sights,
Feelings (v3)

dissipate (v5)

emerge (v4)

depart (v6)

show (v4) ———— let be seen (v5)

surface (v5)

arrive (v4)

come forth (v5)

to call (v5) ———— be pleasant toward (v6)

Allured into (v4)

interest (v6)

attraction (v5)

appeal (v6)

facination (v6)

enticement (v6)

Similar variations as those previously examined may be noticed, thus accounting for some
of the repetitive nature of the writing. Such variations have, however, been extended.

familiarize (v3) ——— domesticate (v4) ——— group (v5)

Orient (v2)

position (v3) —— to set down (v4)

location (v4) — marking the limits (v5)

placing (v5)

---

meaningful (v3)

a stretching out, a straining (v4)

Intend (v2) —— attention (v3)

purpose (v3)

---

have in common (v3) ——— consensual (v4)

Share (v2)

make common (v3)

---

Reveal (v2) — disclose (v3)

make known (v3)

unveil (v3)

---

enframes (v4)

Bards / pre-literate
Greeks (v2)

preserves (v5)

technique (v3)

formulaic, patterned (v5)

mnemonic (v4) — aids (v5)

memorable (v5)

worked out (v4)       maintain movement (v5)

calls back to mind (v6)

carefully articulated (v7)

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Written Description

As we walk toward the door of the school a group of children skipping rope invite
me to join them. They chant rhymes as they skip.

Down the Mississippi

Where the men chew tobaccy

And the women go wibby wobby woo.

Everyone in the group is caught up in the rhythms, participating physically and mentally in the movement of the sounding words, moving rope and skipper.

"Down the Mississippi where the men chew tobaccy." As if in a stream, I, too, feel caught in the motion, pulled into the current. The rhythms are catching, appealing. They call upon and hold me. And while I am taken in by them, touched by them, I do not hold them. I am swept up, flowing in the current of the sound. I move with the rhythm, the *rhythm/os*, the flow. I am taken by the stream of sound and movement. I feel the sound and movement.

The children's bodies are taken by the stream of sound and movement. They chant of subject matter that they have not yet fully encountered--matter that, for them, borders, in a playful manner, on the risqué. It is not life on the Mississippi that they come to know in any great detail. For many of these ways of life have not yet been encountered. Yet these ways are not completely foreign. Even in their lives some men do, at times, "chew tobaccy" and some women, do, at times, go "wibby wobby woo." We participate in the rhythms and the images. We imagine. We re-collect images and actions. Movements contribute to the image; and, the image contributes to the movements. We participate together in ideas. There is no deliberate intention to analyze. We are drawn into the situation, into a rhythmic recurrence of images and movements.

The children skip and chant. This is the activity that makes that which has been said meaningful. Within this activity they share and reveal a culture which is immediate to their lives. Here they can share current love interests in a non-threatening manner.

Marisa and Tyler sitting in a tree,

K - I - S - S - I - N - G.

First comes love, and then comes marriage,

And then comes baby in the baby carriage.

Here the ground has little to do with the literal meaning of the poem. All know that the skipping poem does not detail the actions of Tyler and Marisa but is a revealing of, and sharing with others, their attraction to each other. They move and skip toward the adult world. They move about, and are drawn into, ways of life and activities they have observed. They lead themselves forth into the adult world. And in doing so, they are oriented to, and inhabit, the action behind what might be thought of as the understanding one is to achieve. And yet, at hand is a mnemonic that can be re-used in the same way tomorrow, with new actors.

Hermeneutic

For the children, the mnemonic patterns aid in the remembering of these rhymes. This repertoire of verse reminds the children of the consensual, and the purpose, spirit, passion and intent giving meaning to the consensual. Here, the rhythmic ditties force the revealing of certain childhood relationships that may not have surfaced or have been announced without them. Each verse acts as an opening into which the child can enter, participating with the verse so that the consensual domain may show itself. The children, inhabiting the verse in this way, are not focused on the technology. There is no exactitude of thought, no reasoned or rational thought. It is a 'falling-into' thought. But we find also a limiting, an enframing of where and how the children are called to think. The children move about the consensual domain. But they participate with the mnemonic to do so. And while it may not be a deliberate aid to memory, it has the potential to be so. For the children, the mnemonic aids purpose, spirit, passion, intent. These are aspects that the mnemonic technique is to preserve. Yet when orientation is directed toward technique, the mnemonic enframes. It forces its own internal relations. It forces a particular movement with content. As an oral technology, mnemonic technique calls upon participants to dwell in a particular way. Here we begin to get the sense of a technology in an oral situation.

This way of sharing is reminiscent of the Bards of the past.[27] By virtue of dwelling within the oral nature of language the children have a kinship with oral cultures. They share conventions that the pre-literate Greeks lived.

According to Havelock (1963) formulaic thought patterns were essential to the oral Greeks as a means of sharing cultural and social experience.[28] In a primary oral culture (one without any text), mnemonic patterns aided memory (the way in which one could be thoughtful). Because thought could not be preserved in written form, the way to re-think laboriously worked out and carefully articulated thought was to make the thought memorable. Proverbs, alliterates, epithets, antitheses and assonances became primary means of sharing, maintaining the movement through social and cultural ways of action (ways of being). Mnemonic patterns became part of tales' language-activity with which the bards, the singers of tales, could invite others to participate in ideas. The movement of passion, spirit, purpose and intent was that which was to be shared.

> The chilly dew fell,
>
> The green garden blossomed,
>
> The hazel wood leaved in abundance,
>
> And all the little birds began to sing.
>
> They all sang, but one lamented.[29]

These patterns move the body differently than the non-formulaic, non-patterned, non-mnemonic. The patterns call for a participation in sound and in movement. The listener is called to wait for the rhythm to be completed. The listener waits for the flow, the movement, to be fulfilled.

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[27] It may appear in the organization of this dissertation that historical references such as this have been added on to what has been described in the written description. However, in the circularity of writing as previously mentioned, this historical reference contributed indirectly to the written description.

[28] Havelock (1963) writes about transferring cultural and social knowledge.

[29] Song sung by nineteenth century bards in Yugoslavia: Recorded by Lord (1960, p. 56).

Invariants

A number of invariants become apparent when we examine the moment 'skipping activity': 1. We share; 2. We reveal (a revealing seen more clearly with the analysis of the Bards); 3. We can, when stepping outside of a particular activity, reveal and share what we do as technique (bring some kind of organization to action).

<div align="center">Mythology</div>

Initial Variations
School Day

Technological Field

*images (v2)*

*draws (v2)*

*shown (v2)*

*reconciling (v2)*

mythology (v1)

*gives voice (v2)*

*participation (v2)*

Variational Heuristics

*inward reflection (v3)*

*join together (v4)*

*calls upon (v3)*

Images (v2)

*conjures (v3)*

*draws others in (v3)*

*holding (v4)*

Drawing (v2)

*catching (v4)*

*with force, activity, strength (v4)*

Shown (v2) ——— *significance (v3)*

*let be seen (v3)*

Relating (v2)
- *refer back (v3)*
- *telling (v3)*
- *a bringing back (v3)*
- *understanding (v3)*

Reconciling (v2)
- *making consistent (v3)*
- *making compatible (v3)*
- *harmonize (v3)*
- *sound (v3)*

Gives voice (v2)
- *utterance (v3)*
- *call to movement (v3)*
- *symbol (v3)*

Participation (v2)
- *share (v3)*
- *oriented to the body (v3)*

Symbol (v2)
- *saying something (v3)*
- *object(v3)*
- *technology (v3)*

Written Description

As I walk toward the door of the school I pass near a small group of boys huddled in a circle. They sit cross-legged, obviously not wanting to be disturbed. One boy plays the role of the wise one, telling the others how he and a friend became blood brothers. He describes the ritual in detail. The sound of his words, hushed voice and crouched shoulders creates a mystical atmosphere--a mystical image. He conjures up images, he calls upon images so that they appear in the mind. He conjures up images so that the others can feel the imagery. And though the ritual is made up, it is important nonetheless for it draws the

others into his imagery. It draws the group together in a way that kinship and friendship may be shown significantly, meaningfully. This significance, as *significatia*, has energy, force. Energy calls upon activity, force, strength. As spoken narrative, one is called to move with sound and image. The listeners, by relating to, and inhabiting, the activity, not only call upon their own sense of friendship, but also enter into a new sense of friendship. By participating in the story they come to understand friendship in a new way--a symbolic way.

Hermeneutic

This interpretation of myth offers to show us a potential split between inhabiting life and inhabiting symbol. Mythology contributes to a person's understanding of the world by reconciling body with environment, by giving voice to certain phenomena of the body and environment by naming and explaining the phenomenon through narrative. This phenomenon is a realization of some kind that, through mythology, finds expression in symbolic form. For the boys, it deals with aspects these children experience but to which they have not given formal symbol or language. Mythology serves as symbol--a symbol that can potentially be removed (objectified) from those participating with it, or a symbol that enables participants to live that which the symbol calls one to live. But for the boys, symbol is more than "a standing for something else." Symbol is lived. We find this lived sense in the Greek *sym* and *ball/izein*: *sym*, together, *ball/izein*, to jump, throw the legs about, dance. Myth symbolized this way is a call to movement. It is a call to understanding the human ways of life. As the boys participate in the telling of the blood-brother myth, they sense the imagery with their bodies. They inhabit the imagery, and the imagery inhabits them. They share their blood. To participate with mythology is to dwell within the field that makes the myth meaningful. Here one calls upon, and is drawn into, numerous meanings as they fall together into a coherent and dramatic image. They feel the necessity of, and sacrifice required for, friendship. In the call to movement within myth, we sense

being alive. As Campbell (1988) says, in reference to mythology, "I think that what we're seeking is an experience of being alive, so that our life experiences on the purely physical plane will have resonances with our own innermost being and reality, so that we actually feel the rapture of being alive" (pp. 5-6).

Campbell articulates the sense in which mythology assists in our feeling the rapture of being alive. In this he describes the sense of turning inward or outward, in the search for being alive. To return to Merleau-Ponty's pebble tossing example, one does not need to find any particular meaning in the action, nor is the action broken up into parts. Like the myth, the action is lived; and by participating in the action we find the rapture of being alive.

We can begin to approach, by examining myth, the sense in which the body inhabits the technological. In an example adapted from Campbell, we can further clarify the two different ways of life when participating with mythology: experiencing the story as if the actions are our own; and, experiencing the actions and images as if they transcend us. We sense these aspects in the way that mythology of love speaks to the lover.

> On a mountain, in a far distant land there is a fortress of love. And, anyone who enters the fortress through trickery or deceit will be banished from the fortress never to be allowed to return. The only way one can rightfully enter is to be invited in through open doors. (Adapted from Campbell, 1988, pp. 62-63)

Hearing this story from another, while in the rapture of love, the mythology 'speaks' to the lover, calls the lover, pulls the lover in so that s/he might enter in to the image. The "mountain," the "fortress of love," and the "invitation through open doors," has enough relevance to the lover that the lover lives these images. Mythology is a call to understand our own dwelling by revealing internal relations. We are called to inhabit the ways of love by inhabiting the ways of life inherent in acts of honesty, righteousness, and being with others. We are called to inhabit activity (the language and action of love). We are called to inhabit love in such a way that it is not something that can be merely taken. It

is protected. It is something in which one is invited to share. Importantly it is a calling upon our own love. All of these aspects require that we sense the way we live bodily with, and in, others. This is, in part, due to the oral nature of mythology. It does not call for analysis. It is not long or complicated. It is not embellished with great detail. The plot is simple, catching the imagination, drawing one in to participate. While the mythological images are outward, their reflection is inward. The poetic images of mythology refer to something in you (Campbell, 1988).

Merleau-Ponty's notion of reflection helps further our understanding here of how that which is outward turns back on us.[30] In a way that Merleau-Ponty might express, just as we can touch the myth, the myth can turn and touch us back. It is in this shifting gestalt that we ourselves stand before the myth. Just as the toucher can be touched, or the viewer can be viewed, the person participating in the myth can have the myth participate in the person. When symbol turns to saying something, the lived rapture is obscured. Mythology is no longer lived for its own sake but for the sake of something else.

Technological artifacts have the potential to turn mythology into the sake of something else. We can be called to participate with the objectified state of a technological image such as a photograph or drawing of a fortress and mountain so that we inhabit the horizon that gives meaning to images and activities in such a way that they appear separated from our own existence. This moves us closer to understanding the potential ways of the written word.

Invariants

The invariants in this section speak to our sense of orientation (the reversal) and revealing. Invariants here are: 1. We reveal; and, 2. We have the potential to either dwell in a way of inhabiting (belonging) in/with/to actions and images or to dwell in a way of being removed from actions and images.

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[30] See Tuedio (1985) for a fuller explanation of reflexive thought.

The conversations, the skipping and the mythological stories, all called upon the participants to dwell meaningfully within bodily, human, non-technological fields in which a community of people and actions are integral. The participants participate in story, song, sound, movement and gesture. But for the children in the school yard, the 'way' they participate with these will alter when the morning bell rings and the skipping ropes are coiled up and left behind in lockers. The mnemonic formulas, and the dwelling in oral ways of life and activities which give meaning to these formulas, will be left behind, and the way of the written word will dominate. With the adoption and participation with writing, the mnemonic, the patterned, is slowly obscured. And so, too, is the bodily motion that it calls forth.

<u>Stories</u>

Initial Variations
School Day

spell (v2)

dwell (v2)

tell (v2)

exposing (v2)

stories (v2)

exemplifying (v2)

Pre-Socratics (v2)

Technological
Field

Variational Heuristics

reside (v3)

Dwell (v2)

lay open (v3)

Exposing (v2) — set forth (v3)

make known (v3)

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Exemplify (v2) —— demonstrate (v3) —— point out (v4)

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parable, allegory (v5)

consider (v4)        learn (v4)

relate (v3)        yeild actions (v3) — call to movement (v4)

Tell (v2)        draws, gathers together (v4)

tale (v3)

story, account (v4)

reckon (v3)        talk (v5)

recognize, distinguish, know (v4)

having effect or force, striking (v5)

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empathetic (v3)

Pre-Socratics (v2)        contextualized (v3)

participatory (v3)

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Spell (v2) —— story (v3)

speech, discourse (v3)

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## Written Description

I walk into the classroom and all the students take their places. I make a quick note of any absentees. I stand at the front of the class and ask, "Did I ever tell you the story of . . ?" I often begin classes in this way. The students are immediately engaged. They are

relaxed, comfortable. The atmosphere is non-threatening. Many look forward to these stories. And, while some of the stories are true and some are not, they are meaningful.

As I prepared this lesson yesterday I was well aware of what the meaning would be: generosity. Because of a number of incidents between students, I felt that some of the students in my class were less generous to each other than they might be. Through story I could call the children into the consensual, asking them to be kinder to each other, to dwell in a world in which generous actions are recognized and deemed important. I attempt to reveal generosity by revealing generous actions within a situation that is meaningful as a human way of life. I hope that these actions are the ones that become habitual.

I continue the story:

There was a family which had two sons. The youngest son's name was Kond Rong, and he was the youngest of the two sons in the family. One day Kond Rong's parents had some guests at home, and after a while Kond Rong's parents asked him to serve the guests some pears. So he gave all of the guests a pear. And in the end there were only two left, one for Kond Rong and one for his older brother. But one pear was a big one and the other was a small one. So Kond Rong gave the larger of the two pears to his older brother and he himself took the small one. In turn, the older brother, recognizing this generosity turned and traded pears with his younger brother.

For the few moments that I am engaged in the story I no longer think about the lesson plan or that this story was initially intended as an anticipatory set. No longer do I orient myself to the systematic treatment of lesson planning in Madeline Hunter fashion. The oral, bodily, lived-world creeps in and draws me out of the plan, and into the sound, ideas and images of the story. I imagine that I am giving the pears to my brother. And when I, in turn, receive the larger pear, I feel good--I feel a bond, or a connection between my brother and myself that extends to all people. The event does not happen "out there" but rather within myself, my body, in my world.

For a short time everyone in the class is drawn together, gathered together. As the students and I dwell within the life-ways making the story meaningful, we share a way of being, similar to the oral (pre-literate) pre-Socratics. In our experiencing of the utterance, we are embodied in sound. I produce the sound, the utterance, calling upon activity to situate the students. The situating is in a movement of meaning. The field in which all participants dwell is one giving meaning to human action: empathetic, participatory, contextualized.

After bringing the story to a close I begin to discuss the story with the children. The spell is broken. Spell belongs to story, speech, discourse. It symbolizes our participatory state. We remove ourselves from the story that asked for no rational thought, that called for no analysis. "Can anyone tell me what the story meant?" I orient myself to the intended curriculum, to the lesson plan, to that which I had written yesterday. The children orient themselves to a question-answer formality. Both situation and activity are changed. We no longer inhabit the horizon in which the story was meaningful. We are drawn out of the human life-ways that made generosity meaningful. This is not a situation in which generosity is given space.

I continue the discussion. I instruct the students. "Generosity occurs when . . ." I write the word "Generosity" on the blackboard. All eyes are on the blackboard. There 'Generosity' sits in large white letters: stationary, outside. I ask the children to "look" up here at the board. In 'looking,' generosity is up here, out there. Now, generosity has been connected to the school situation, school activity and school way of life. The children and I inhabit the school/curricular field. When oriented to, and inhabiting, the written word, generosity shows itself in a way that we assume writing allows.


Hermeneutic

This popular Chinese story exposing and exemplifying respect and generosity, is one that parents in China tell often to children (Bing, 1994). Tell is related to tale. And with

this tale, this telling, we find the senses of recognize, distinguish, know, to learn. But this is not a direct telling what to do; it does not suggest that there is a problem to be solved; it does not suggest that there is knowledge to be acquired or concepts to be developed nor does it ask for reasoned or rational thought. It asks that the listener inhabit the situation which gives meaning to the story--a situation that allows the listener to live within the consensual domain. It is a call into human ways of life rather than a telling of what to recognize. It is a calling into a way of acting. It is parable and allegory. As allegory, it has an underlying meaning. As parable, it is a way in which some truth or moral lesson is taught. The telling asks the child to participate with the story in such a way that similar real-life situations will yield similar actions. The child hears a story and participates mimetically, being engaged, attracted and bound to the story. The call to movement and the activity in which the child engages becomes part of the child for a day or a "certain part of the day, or for many years or stretching cycles of years" (Whitman, 1965).

What calls the child? What draws one into a mimetic participation? Sound? Utterance? In the oral world the sound of utterance comes into being and then dissipates. The sounding words move. They are not fixed. One's participation with the spoken word is fragile. Because of this fragile nature, the story teller must draw the listener into the story by calling upon the familiar; and, the listener must enter into the story by calling upon the familiar to make sense of the story. It is the way we conceive, the way we understand the 'way of the story,' that allows us to be drawn in. We do not with-hold. We enter. The child does this naturally. The child does not dwell within a field that calls for critique. Nor does the child dwell in such a way that s/he is oriented to the technological. The story is not something to be examined. It is an activity in which the child inhabits the story rather than any articulation of what constitutes the structure of the story.

In many stories the emphasis is on people and action. This is the region of phronesis where the question is: How (with whom) must I act? The story calls one into activity and understanding rather than stating how one should act or what one should

know: the story is one of wisdom. This is not a static (visual) wisdom but rather the wisdom of action. It is a knowing how to be. It is the same sense of wisdom known to 'wise Odysseus'[31]--an acting appropriately in a situation. It is the memory of this acting that calls upon the child to be thoughtful and caring. It is a reconciling of body with society. It is a call into the consensual.

We can sense the emergence of the technological, the shift toward the rational and the analytic. We sense the possibility of inhabiting a horizon outside of, or beyond, the story itself. Tale turns to story, and with this turn, the inhabiting of the situation encountered within the tale turns to an inhabiting of the story, or his-story within the tale. With this we find and sense the *idein*-- that which is seen. When we are asked to inquire into and inhabit that which is seen, or that which is objectively placed before us, the bodily horizon is enframed by a new objectivity.

Invariants

In this section we began to recognize ways in which we lose sight of the invisibility which sustains the visible field.[32] With this shift, ocularcentrism prevails and the body begins to inhabit visual horizons.

Invariants noted are: 1. We reveal; and, 2. In our revealing we call others to act within a context. This revealing can be an encouragement to understand beings in reduced ways. This revealing and calling others to act within a particular context becomes more apparent as we examine stories and books that are recorded in written form.

<div align="center">Written Stories and Books</div>

Writing, in all its forms, is significant in understanding not only our shifting orientation toward or away from the technological, but also in recognizing the ways

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[31] This is a reference to both the way in which Odysseus in Homer's Iliad would understand, according to Ong (1982), as well as the wisdom that the listeners of oral epics would sense.
[32] See Merleau-Ponty (1968).

education has been enframed by writing. This enframing not only has immediate significance but also a an historical significance in our current educational practices.

Initial Variations

School Day

Phaedrus (v2)

Technological Field

Written Stories / Books (v1)

Rousseau (v2)

Variational Heuristics

enframes (v2)     static (v4)

Written stories (v1)    showing (v2)    revealing (v3)

participating (v2)    anticipating (v3)

ground (v3)

social practices(v4)

passion (v6)

prepared minds (v3)    intent (v6)    spirit (v6)

Rousseau / books (v2)    reason of the senses (v4)    bodily preparation (v5)

books (v3)    reason of others (v4)    gestural (v5)

instrument (v4)    memorization (v5)

obscure (v5)

objectivity (v4)

disengaged (v3)

external remebrance (v3)

Pheadrus / writing (v2)

wisdom (v4)          memory (v4)

information (v3)          visual (v4)

static (v5)

permanence (v4)

storage (v4)

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Written Description

I ask that the students turn to a selection in their readers. The story is one that attempts to exemplify generosity. It attempts to reveal another way in which generosity shows itself. It is a story that depicts the social practices responsible for generosity's meaning. These are the relations, the ground, that the author attempted to gather in order to reveal generosity in one of its forms (one of its ways). The author chose the ground and asks that the readers participate with the ground (the movement, the gesture) in such a way that generosity will show itself. The students read. Many of the words are unfamiliar. Some struggle. Bodies shift and tense, clutching the desks. They can not get in. Some do not have the reading skill necessary to experience the story. Some of the children lack a familiarity with the vocabulary to the extent that they are not moved by the story. Some lack the maturity to inhabit the author's ground. As a result, generosity's ground is removed. That which is understood is 'out there.' The practices that are meant to draw the children into the ways of generosity are removed, trapped out there. They are not part of the children. The bodily movement required to show generous activity and gestures is removed. I feel some of the students struggle. I know that they are missing the richness (all that the author intended) of the story. I know they don't enjoy the story. Yet they have to learn to read. Other children read easily, apparently 'lost' in the story. But after the

reading, I will discuss the story, explaining how the author manipulated the ideas and formatted the structure.

In time the children will be tested, not only in a situation where authentic generosity will be called for in life, but where generosity-as-described in the written story will be called for. The latter is what the students and I concentrate on. Generosity, as it exists in the written story, not within the children's lifeworld, is that which they will speak. Generosity for many of these children is generosity in a book. The book enframes.

Hermeneutic

Rousseau sensed the enframing of the book at a time when book technology was becoming popular. "Books, books, books, Rousseau says, "I hate books. They only teach one to talk about what one does not know. . . . Well prepared minds are the surest monuments on which to engrave human knowledge" (Rousseau, 1762/1979, p. 184). To prepare the mind is to prepare the intent, spirit, passion.

Rousseau (during his time) suggests that books are overemphasized in education creating an unnecessary misery for children. Rousseau says that during children's education he would "take away the instruments of their greatest misery--that is, books. Reading is the plague of childhood and almost the only occupation we know to give it. At twelve Emile will hardly know what a book is" (Rousseau, 1762/1979, p. 116). Rousseau is not suggesting that reading is unnecessary, for he also says that Emile will have to know how to read "when reading is useful to him" (p. 116). Indeed, as an adolescent, Emile will study literature, languages and social studies. He will read, but until that time, reading neither promotes thinking or informing, only the learning of words (p. 68). Emile's knowledge is gained through his own efforts and experience rather than through memorization. Knowledge requires activity, experience, the body.

Reading is used to promote thinking and informing in my students. Though, at times, it is obvious that they do not live the things they read. They do not recognize the

consensual domain that gives that which they read meaning. And I have substituted books for those activities that might contribute to such bodily understanding, thinking that they might memorize what they are to do.

Books, according to Rousseau, do not lead to reason and human understanding. Only through the senses does one develop the basis for reason. This is reserved for reason of the sense:

> Since everything which enters into the human understanding comes there through the senses, man's first reason is a reason of the sense; this sensual reason serves as the basis of intellectual reason. Our first masters of philosophy are our feet, our hands, our eyes. To substitute books for all that is not to teach us to reason. It is to teach us to use the reason of others. It is to teach us to believe much and never to know anything. (Rousseau, 1762/1979, p. 125)

Rousseau makes a distinction between the reason of others found in books and the sensual reason achieved on our own. According to Rousseau, belief derived from books lacks the substance necessary for knowledge. At a time when the book was becoming popular, Rousseau was able to sense a different field, a different inhabiting, provided by the book. This difference notes the internal and external resource for understanding.

Rousseau wrote about the body and the way the body understands and participates with nature in a way that could never be achieved by participation with the book. He articulated a distinction between the body inhabiting a lifeworld and one inhabiting a lifeworld objectified within literature, languages and social studies as largely depicted in books. The reliance on books has, in a sense, obscured reality: "I am quite convinced that in matters of observation of every kind one must not read, one must see" (Rousseau, 1762/1979, p. 450). Here we find that Rousseau's emphasis on sense is further reduced, perhaps simply through what may have been at that time a conventional use of language, to sight.

We hear Plato, who was cognizant of the adoption of writing, touching on Rousseau's sentiments 2000 years earlier. Plato has Socrates relate a conversation between Theuth, an Egyptian god who invented letters, and the king Thamus. After hearing Theuth say that writing will improve both the wisdom and the memory of Egyptians, Thamus replies:

> you, who are the father of writing, have out of fondness for your offspring attributed to it quite the opposite of its real function. Those who acquire it will cease to exercise their memory and become forgetful; they will rely on writing to bring things to their remembrance by external signs instead of on their own internal resources. What you have discovered is a receipt for recollection, not for memory. And as for wisdom, your pupils will have the reputation for it without the reality: they will receive a quantity of information without proper instruction and in consequence be thought very knowledgeable when they are for the most part quite ignorant. (Plato, 1973, pp. 96-97)

Writing and print provide a means of maintaining the technological, providing a discourse through which the world can be placed before us and experienced objectively and intersubjectively. To dwell within the consensual domain is to dwell within the shared sensual. To move within the consensual domain requires wisdom (demonstrated by appropriate activity within a situation) and memory. We need memory to dwell meaningfully, care-fully, thought-fully within the consensual domain and we demonstrate wisdom when acting appropriately within the domain. In the absence of the written record, with oral narrative used as one of the elements to share the sensual, thought and care maintains a sense of the bodily horizon. For Thamus, wisdom and memory were of the human body, to be achieved and improved by the body and not a technology.

## Invariants

In our educational experiences with writing we can sense a number of invariant structures: 1. We can inhabit the technological. This is a 'placing-before-us' and an inhabiting of that which is placed before us; 2. Observations can be recorded. This is to say that when ocularcentrism prevails and the world is placed before us and observed, that which is observed can be maintained in a form conducive to the technology at hand; and, 3. Observed actions, recorded, organized or revealed by a technology are done so in a way allowed by the technology. This is to say that the technology provides its own horizon. This can be noted readily by an examination in the following section examining the class register.

<u>Register</u>

## Initial Variations

School Day

tables (v2)

Register (v1)

Technological Field

lists (v2)

## Variational Heuristics

*immobilized in space (v5)*

*thing-like (v4)*

Tables (v2) —— *information (v3)*

Lists (v2) ——————  *information (v3)*

*disconnected (v4)*  *abstract (v4)*

*isolate (v5)*

*reduction (v5)*

*flatten (v5)*
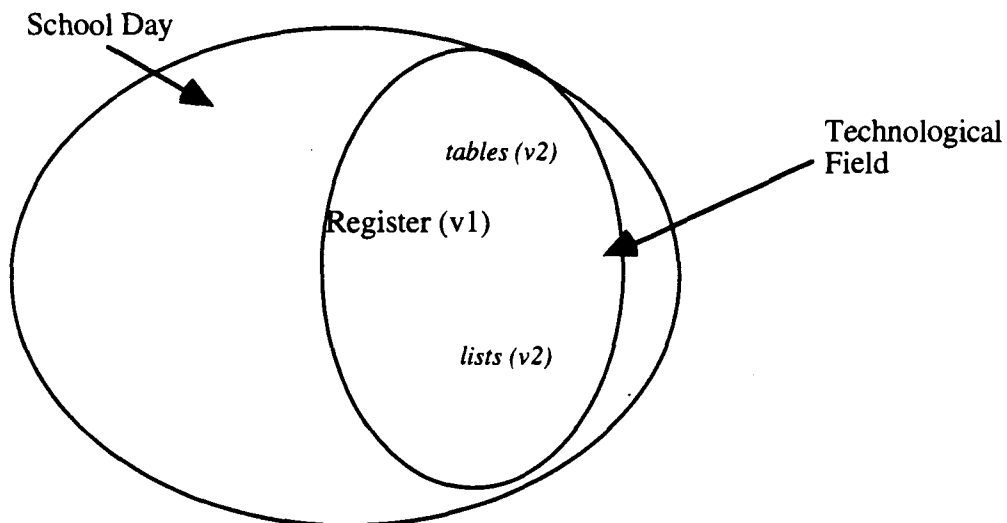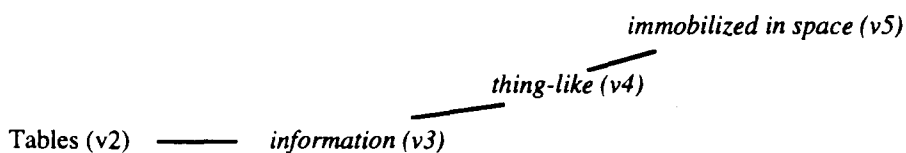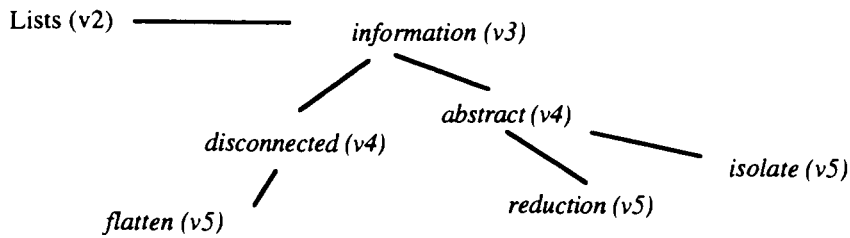
Written Description

As the students read, I sit at my desk and begin to update the register. I look at the different blocks, vertical and horizontal lines sectioning off different parts: date of birth, address, parents' names, attendance. I have colored in holidays with a light blue crayon. Mistakes have been covered over with 'white-out' and rewritten. Everything in the register must be kept up to date and correct. At the end of the school year each page will be signed by me, my principal, and a Central Office staff member. I visually scroll down to the section devoted to test scores and student averages. No longer am I the teacher sharing what I know, inviting students into my world. Now I am the one who records important events in the register.

As I visually scroll through the students' names I pause at the absent student and place a letter 'a' in the box representing today's date. I notice a large number of absent days indicated. I am drawn horizontally along the table representing Cory's attendance. "Cory has missed a lot of school."

Hermeneutic

I no longer participate with the students in a human field. I participate with the technology, within a technological activity, dwelling within ways of life that make the technology--a database--meaningful. No longer do the children present themselves as occurrences in time, utterances seen and heard, actions felt. No longer have they any voice in the calling of social practices that make the children meaningful as children in their

world. Now, presented visually in data-base form, they are thing-like, immobilized in visual space, immobilized in time.

Tables and lists alter our experience (Goody, 1986; Ong, 1982). They present information in a disconnected and abstract way. This visual presentation has its own motion, its own organization, its own structure. The written words, the charts, the tabular format, isolate the children from their own life context. This format reveals internal relations quite different and removed from the life experience. I move about, horizontally, vertically. I follow the lines and squares. Here, each child has his/her own space. Each student is allotted the same area. Here each child is equal, insignificant. I run my finger horizontally along the days. Each day, too, is allotted the same space in the table. And each day the child is absent has the same space allotted. Each day is designated the same meaning. There is no sense of how the child is, and no sense of how the child is absent. Nor are any particular days of absence deemed to be more detrimental than any others. Each absenteeism is simply reduced to sections of time. I sense an all-at-onceness of the days. But that which shows itself as all-at-onceness is a block of time. I move about time sections that are made meaningful in relation to other time sections.

Invariants

The invariants in this section capture the sense of revealing. Invariants here are: 1. Our participation with a technology reveals the world in ways appropriate to the technology; and, 2. When participating with a technology, we are called to move in, with, and as, the technology.

In the next section regarding lesson plans, we can begin to sense how our movement and revealing are enframed by technology.

## Lesson Plans

Initial Variations

School Day

*educe (v2)*

Lesson Plans (v1)

*objectification (v2)*

Technological
Field

*utterance (v2)*

*training (v2)*    *written speech (v2)*

*instruction (v2)*

*Athenian Education (v2)*

Variational Heuristics

*cultivate (v5)*

*curriculum (v4)*

*flow (v3)*

*reveal (v5)*

Educe (v2)

*learning (v2)*

*manipulation (v3)*

Training (v2)

*persuasion (v3)*

pile on (v3)

build (v3)

gather (v4)

together (v4)

Instruction (v2) —————— assemble (v3)

arrange (v3)

action (v3)

rank (v4)

manipulation (v3)    handle (v4)

influence (v4)

language emphasis (v4)

intellectual (v3)    form(v4)

instruction (v3)

structure (v4)

Athenian Education (v2)

training (v3)    discussion (v4)

oratory (v4)

gymnastic (v3)

body (v4)

knower (v3)

known (v3)

separation (v4)

Objectification (v2)

distinct (v3)

identification (v4)

sameness (v5)

review (v3)

see (v4)

Utterance (v2)

knowledge (v3)

outter (v3)    active, practical (v4)

*philosophical , curricular thinking (v4)*

*preservation (v3)*

*organize (v4)*

*analysis (v4)*

*scrutinzie (v4)*

Written speech (v2)

*inanimate (v3)*

*formulated (v3)*

*lifeless (v4)*

Written Description

As the students read, I browse today's lesson plans and begin to write out tomorrow's plans. I am called to action by a scheme, design or method. I lay the plan before me. It is a surface--a projection of the curricular world upon a flat surface.

That which I intend to outer is projected onto surface allowing me to review and see as an object what has been written down. It is here, on the surface that I will make, do, perform. But in participation with the writing and my inhabiting the curriculum, the performing, the doing, is obscured. The written plan calls upon its own internal relations, decontextualizing, removing participants from the context of what was written.

I decide on that which I will teach; I look toward the subject matter in its written form on the page. Here it is distinct from me and the children. I do not sense that I embody the subject matter. I do not sense that the subject matter is something the children will embody. The subject matter is written there before me; and, I am called into the form. The social practices that give meaning to this written plan are the social practices in which I now participate.

My attention shifts away from the revealing and is drawn toward the leading forth. I begin leading students with things at hand, with technology, through curriculum.[33] And in my adoption of educational technologies I am called to dwell within technological fields--

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[33] Here we find Heidegger's "equipmental whole." See Dreyfus (1995, p. 62).

fields which give meaning to the technologies we use to share that which is still obscure to the students. I now write my lesson plans the way that I have been taught, the way that is expected of me by my school administration.

I begin writing:

Objectives first. The students will identify . . ." "Students will notate . . ."

"Students will perform . . ." "Students will demonstrate. . ."

Time-line: Anticipatory set, three minutes; share objectives, three minutes; input; five minutes; check for understanding, five minutes; guided practice, ten minutes; independent practice, ten minutes; closure, four minutes.

My objectives have been reduced to the visual. Not only are the students oriented toward the visual, I too, ask students to do that which can be recorded visually. The students come into being within the technological situation, within technological ground. Students are revealed as objects that identify, notate and demonstrate, those things that I have placed before them. They are not lives that live and share a world with me. What they accomplish must be measured. The lesson plans reveal children not as human body but as technological body; and, technology shows what one 'has' as being static. For I can record each activity that I see.

I reach for the Media Resources Catalogue. "Perhaps a video on force, or a computer program will help explain these concepts." I open the catalogue and look in the index under science. Force, page 97. An abstract with content and grade level is given. I will order this from the on-line service set up on the library resource computer. I will bring the force to me. I begin to think in terms of who-needs-what assistance, information culled from previous tests--the world of writing. I pull, drawing the children in--training them. But this training takes on new form as the drawing is enframed by that which I can see and justify by showing others. I draw students by persuasion and manipulation (in order to bring to a proper or desired form). I focus on that which is 'out there.' And it is 'that-which-is-out-there' that I must see again in the responses of my students. In the

manipulation I instruct: I furnish the students with information. "This is what you need to know." I pile the information on, building nicely assembled arrangements. "I don't have time to get them to really understand the 'subject matter.'" The earlier notion of structure that called for action (*ure* the result or means of action) has altered. The action is taken away from the student and is given to me, the instructor.

Hermeneutic

Here we sense the objectification of subject matter, a separation rather than an identification between the knower and that which is known. Subject, that which lies beneath, is exposed and becomes an *objectum*, an object put before the mind or sight. As Havelock (1963) says, with writing it "became possible to identify the 'subject' in relation to that 'object' which the 'subject' knows" (p. 201). To identify is to attribute identity, sameness, over and over again. We recall hearing Socrates say, "You find them ever repeating the self same story." We find an identity that allows us to stand apart, in contrast to the human body.

As I prepared my lesson plans I thought about the subject matter. I thought about how I might present it. My 'presenting' focused on the visual, a presentation which is distinct and self contained. And while I thought about the students and the subject matter, the students and I remained distinct, abstracted from bodily activity and bodily ways of life. I thought rationally. During Plato's time, it was this abstracting, this "'me thinking about Achilles' rather than 'me identifying with Achilles,'" that would not only contribute to a particular form of rational thought, but would help Plato conceive of knowledge and thus reality, according to Havelock (1963, p. 209), in a manner quite unique to his time. This would be a knowledge that is stationary, static--somehow apart and distinct from the beings living it. This would be "the real." In Plato's words, "Knowledge corresponds to the real, and absence of knowledge to the unreal" (Plato, 1941, p. 184). While writing my lesson plans, laid visibly before, I accept them as real, as knowledge, as truth. "The real" is

visual. The Greek *idea* is visually based. Look, semblance, derives from *idein*, to see. We find, too, that to know (*wit*) is cognate with Latin *vi-ere* to see, and Greek *eidnai* to know, is related to *idein* to see. That which is real loses its sense of the actual, the activity, practical, doing.

While I read over the objectives and look over my procedure, I analyze and scrutinize the situation. These were yesterday's thought, these were yesterday's words. Speech has been preserved over time and space. And with this preservation comes the space in which thinking can be in the form of scrutiny. Preservation of speech allows for the organizing principles for curricular thought. It allows for manipulation, scrutiny. According to Havelock it was with writing that the philosophical thinking Plato espoused manifested itself (Havelock, 1963). Writing, or at least the type of thought that writing allows, provides activity and situation in which an analytic exactitude, showing up in Plato's dialogues (Ong, 1982), and the scope and sequence of my curriculum, can show itself. Philosophical and curricular thinking requires clear, unencumbered formations of ideas--something that is lacking when formulaic clusters of words such as "commotion of a terrific warrior's approach" sung by the bards or "the women go wibby wobby wu" sung by children constitute the organizing principles behind what is said (Ong, 1982).

Formulated, scrutinized argument has the abstracted visual form of written text rather than the e-motional, animate sense of the human body. Like the shadows projected on Plato's cave wall, writing that objectifies (obscuring Being) obscures the light, poiesis, truth. Written speech that concerns itself with itself (i.e. in its represented form) is inanimate, lifeless--a kind of shadow.

When we are oriented to, and participate with, the technology, the technology is taken to be representative of humanness. Reality is not of the body but of the technology. Plato describes inhabiting the technological when he describes his prisoners' experience in the cave and their understanding achieved from such experience:

[P]risoners so confined would have seen nothing of themselves or of one another, except the shadows thrown by the fire-light on the wall of the Cave facing them, would they?

Not if all their lives they had been prevented from moving their heads.

And they would have seen as little of the objects carried past.

Of course.

Now, if they could talk to one another, would they not suppose that their words referred only to those passing shadows which they saw?

Necessarily.

And suppose their prison had an echo from the wall facing them? When one of the people crossing behind them spoke, they could only suppose that the sound came from the shadow passing before their eyes.

No doubt.

In every way, then, such prisoners would recognize as reality nothing but the shadows of those artificial objects. (Plato, 1941, p. 514)

The prisoners' understanding of reality and of themselves is shadow-like because of their orientation to, and inhabiting, what the shadows can reveal. They don't experience that which allows the shadows to come into being. Their language ultimately becomes that which the shadows allow. The children and myself find a similarly obscured human reality within the textbook when the text itself becomes shadow-like.

We can see the recognition of reduction, a bodiless decontextualization, from one of Plato's (1973) earlier descriptions of technologies found in his Phaedrus.

Socrates: Now can we distinguish another kind of communication which is the legitimate brother of written speech, and see how it comes into being and how much better and more effective it is?

Phaedrus: What kind do you mean and how does it come about?

Socrates: I mean the kind that is written on the soul of the hearer together with

understanding; that knows how to defend itself, and can distinguish between

those it should address and those in whose presence it should be silent.

Phaedrus: You mean the living and animate speech of a man with knowledge, of

which written speech might fairly be called a kind of shadow.

Socrates: Exactly. (p. 98)

Socrates speaks of a situation in which the text itself would seem to be inadequate. Written

speech is a shadow of the human. It is lifeless, humanless, in comparison. Here Plato

shows the same recognition that Rousseau portrays with Emile: they both defend an

orientation to human interaction with things and with others.

The technology of writing can create its own space of possibilities, its own

situations and activities. And, when adopted, we dwell within the ways of life making

writing meaningful. We are often called to dwell in the visual symbol and image outside of

ourselves, not making reference to ourselves.

The technology of writing offers a potential into which new situations, activity

and ways of life can come into being. It allows a different inhabiting. Historically, as a

shift was experienced from the pre-literate to the literate field, or in other words, as the

orientation and inhabitation shifted from oral communication to written communication, the

importance of sound and mnemonic formulas diminished. The once fleeting utterances that

poets such as Homer once molded into poetic, formulaic form so that they could be shared

and used as a means of inviting others to understand cultural norms and values, could,

with writing, be represented visually. With an orientation toward this visual representation,

utterance became something other than sound. Logos lost its sense of utterance and the

flesh and became something that could be seen, held and stored.[34] Inhabiting the written

word allows utterance to appear permanent, visual; representation appears less fragile, less

elusive, less immediate than the oral/aural. Inhabiting the written word shifts experience

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[34] For more on Logos and the flesh, see Stenstad (1993).

from moving-in-sound to a moving-about-that-which-appears-visually. The visual gives something to point to. There is a permanency, a timelessness and opaqueness in the visual that has us "move about" rather than "move in." We sense the permanence and are called into a different participation from the non-permanent.

"Before Homer's day," Havelock (1963) tells us, "the Greek cultural 'book,' had been stored in the oral memory. . . . Between Homer and Plato the method of storage began to alter as the information became alphabetized; and, correspondingly, the eye supplanted the ear as the chief organ employed for this purpose" (p. vii). Human orientation was altered; human action was altered. It was not necessary for utterance as sound to set one in motion. One could be lead or drawn into that which was outered. With writing, utterances were eventually broken into written words. Utterances were no longer occurrences that came and passed, events that came out. Being with writing allowed for a participation and orientation that initiated a shift from the acoustic to the visual, from an image-world (in the mind and body) to the abstract-world (outside of the mind and body). Living the written word changed life-ways, activities and situations. Understanding changed. Writing provided a new potential to call us out of our bodies.

Orientation to writing changes the oral nature of the call as well as the movement of meaning. During the adoption of writing in ancient Greece, as the transition was being made from an oral to literate culture, the nature of the technology of writing was, perhaps, more easily apparent than it is today due to our immersion in writing. A shifting between the oral and the written was sensed. Writing was new, and the horizon within which one dwelled was being transformed. This trans-form-ation, the way in which one participated with writing, was a change recognized and questioned. Plato, who lived during the time of the transition between orality and literacy makes a specific reference to the effects of writing in his book Phaedrus. "The creatures of . . . [writing] stand before you as if they were alive," Socrates says, sharing with us his antipathy toward the decontextualizing effects of writing. "[B]ut if you ask them a question, they speak as though they were

possessed of sense, but if you wish to understand something they say, and question them about it, you find them ever repeating but one and the self-same story" (Plato, 1973, p. 78). The creatures lack the impermanence of life and limb. Plato gives us the sense of understanding-as-movement. One achieves understanding by being able to question, to move about meaning within a situation. But with writing, the arresting of situation, movement is hindered and meaning becomes static. The creatures of writing call-you-in to the self-same spell. While they stand before you as if they were alive, with life, body and sense, they are not human. They neither think nor remember. When we 'look at' that which is written we see that the written has its own context, its own life, its own body.

The oral world is one in which people contextualize themselves in human situations. Knowing shows itself within these situations. But an orientation to the technology of writing gives the knowing a showing that is different from oral situations.[35] It gives the impression that knowledge can be structured at a distance from the human body (distanced from immediate experience)--that one can dwell at a distance from the human body. A space is created for information to more simply be itemized and abstracted from the context of human action. Writing calls one to objectivity, disengagement and distancing between the knower and the known, thus learning and knowing do not achieve the empathetic and communal identification one experiences with the known in an oral culture. An orientation to the technology of writing tends to separate the knower from the known and in doing so decontextualizes dwelling from the immediate human context. We are called to orient ourselves to the situation enframed by the writing. This is not to say that all writing encouraged the same sorts of participation. Our participation with different forms of writing such as narrative, poetic, expository texts may encourage a different dwelling within different language. The intention of the poem may be to have us live that which may still be obscure to us, as might the narrative and the expository verse. It is, however, within situations which objectify that which has been revealed in written form, situations in

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[35] Ong (1982), Havelock (1963) and Goody (1986, 1968) write at length about these differences.

which we are called to examine that which has be placed before us, that the intention is enframed by the technology.

Living orally (and this is not an orality that has adopted written ways) calls one *in* to the lived world rather than a represented world. Utterance is meaning in the actual habitat. One participates with and imitates the real existential setting of gestures, vocal inflections and facial expressions. There is interpersonal attraction. Concepts are used situationally, remaining close to the living human lifeworld rather than the abstract. Dwelling is within a language and context of movement, of struggle, of gesture.

Invariants

Invariant: 1. We have the potential to reduce our being into particular bodily modalities. These reductions can correspond to technology use.

Curriculum

Initial Variations

School Day

Curriculum (v1)

*literate (v2)*

*oral (v2)*

Technological Field

*Ramus (v2)*

Variational Heuristics

*bodily experience stands before us (v3)*

Literate (v2)

*scrutiny (v4)*

*examine (v4)*

*manipulate (v4)*

*reason (v5)*

*rational (v5)*

*problem solving (v5)*

*system (v5)*

*mono dimensioned (v6)*

*arrangement (v6)*

*organization (v6)*

*structure (v6)*

Ramus (v2) ———— *cognitive tools (v3)* ———— *organized (v5)*

*system (v4)*

*information (v4)*

*discriminated (v5)*

Written Description

 I sit at my desk to look over the science curriculum guide so that I know what I am to teach next. I think back to last night's staff meeting. We determined that we would make a concerted effort to elaborate the scope and sequence of each subject of study to students, parents, and staff members. By clearly articulating our curriculum content, we would bring students into the school in the early grades and allow them to step through the curriculum material, without repeating components taught in earlier grades and ensuring that the appropriate background was covered prior to entering a course. With curriculum guide in hand, I can see the 'big picture.'

Now I direct the steps of their study. The students will step through the curriculum. And I will cultivate the learning. I will follow along a track, and lead the students along with me. The children are no longer children but rather students to be lead along the path. It is within curriculum that I find the goal toward which we will strive--a completion of that which is set before me. One can only "lead forth" toward that which one can perceive or "share," that which one has. And, that which is shared is largely that which has been recognized visually. In participation with the curriculum guide I can see what the guide reveals; and, I will share what the curriculum guide offers.

I take the Science curriculum guide. Here classifications predominate. I look over the plan. Here science is laid out on a surface. Everything is placed visually before me, with headings, boxes filled with descriptions, graphics, charts and tables, showing what and when each component should be taught. The world shows itself as classified and abstracted. Writing and printed text not only affect the way that I perceive what is placed before me, but also the way in which the content has been revealed historically and the way in which I speak about the content.

I scrutinize that which is laid before me. I question what has to be covered to complete the necessary concepts within the given time frame. I scrutinize the performance objectives. What do the students have to demonstrate to show that they understand the material? I will ask them to write something so that I can compare it to the curriculum objectives. Perhaps I will have them draw the water cycle. This way I can see that they know the material. I put my finger on one of the headings and slide it down a table listing water cycles. I can visualize the water cycle, recognizing the system. The students will experience the water cycle in it's systematic form. They will be able to sit at their desks and get a 'bird's eye view' of the workings of the water cycle. I will point things out. I will show them what happens when water vapor is cooled and falls back to the earth. Now they will understand the system. The social effects will be covered in social studies. We only have to concentrate on the scientific rationale behind the system. The water cycle is

beautifully self contained and can easily be explained during one class period. From this, the students will have a much better understanding of nature.

Hermeneutic

As stated earlier, curriculum is related to flow, current, a course run. With writing we are given a permanence that allows this course to assume a specific form. This is a form that sets the flow. We can see how our orientation to the written aspects of curriculum show themselves, and how these aspects differ from the bodily orientations previously mentioned.

Written speech allows situation to stand still long enough to scrutinize what has been said. We are able to orient ourselves to that which stands before us. But this written speech, as acknowledged by Phaedrus, provides a shadowy sense of situation. In writing, bodily experience is changed into a form of experience that can be examined and manipulated. For example, reason, rationality and problem solving show themselves from within the technological field in our manipulation of that which stands before us. To look critically at, or scrutinize, the story of Kond Rong, the analogy of the cave, or the myth of love, calls upon a different participation than the participation in oral recitation. To look critically, to examine, is to be removed from that which one judges or examines. We aim and point. It is out there. And we speak as if it is out there, following a way that allows for such experience. The orientation is visual. Information is discriminate and organized. This is an organization that has its roots in a way of understanding initially developed by Peter Ramus (1515-1572), a French logician and educational reformer who replaced techniques of memory with new techniques based on dialectical order and a method of logic relying on written schematic presentation. Any particular subject could, with Ramus' method of representing subject matter, appear completely self-contained. The subject could be broken apart step by step in descending dichotomized classifications. Information was discriminated and organized in a way made available by writing (Ong, 1982).

With ways of life organized visually, our orientation is shifted toward the surface of system. We sense correlated principles, facts, and ideas set in place, standing stationary before us. A structure is built upon or around an idea. This is the way. It is a fitting together, a building, assembling, arranging.

## Invariants

The invariants noted are: 1. We can orient ourselves toward, or away from, an educational technology; 2. Experience and things can be organized and revealed in different ways (ways allowed by the technology); 3. The use of an artifact (technology) allows for the way we interpret the past, the present and the future; 4. A technology can enframe, providing its own meaning to events.

## Summary of Invariants

From the analysis of the school day in the preceding descriptions I determined a number of initial invariants. Upon examination, each of these can be found to belong to one of four invariants: dwelling, communication, revealing, and attendere.[36] A number of the invariants suggested a sense of "familiarity," of "getting near," of "moving-in" or "living-in." I will suggest, before doing further analysis in the following chapters, that these invariants belong to the notion of 'Dwelling.' A number of invariants suggested that there was a shared way of living. These invariants belong to 'Communication.' A number of invariants suggests that lives, and things shared within educational events, were revealed in some way. These invariants belong to 'Revealing.' Finally, a number of invariants suggests an orientation or a movement toward things. These invariants belong to 'Attendere.'

As will become clearer in the following chapters, dwelling, revealing, communication and attendere do not belong independently to any educational event. Rather

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[36] See appendix 1 for a diagram showing the initial establishing of invariants.

each belong to the event at the same time and with each other. In other words, when we say that "coming together is gestural," this gestural nature not only belongs to communication, but with further analysis we can sense the way in which this gestural nature belongs also to dwelling, revealing and attendere.

## Summary

Thus far in the analysis, I have moved from first concerns toward the more general structures of the field of education itself (i.e. educational moments appear within a context of dwelling, communication, revealing and attendere). This is the movement toward a concern for structures or invariants.

Dwelling, communication, revealing and attendere make sense of the flow of our experience. These structures shape the possibilities of what takes place within educational events. In other words, the condition and possibility for educating the phenomenal body is the shape and structure of this educational field. Because we dwell, communicate and reveal in an intentional way,[37] we can make sense of educational moments.

Let me return to the analogy of the boy in the orchard to give a sense of where we are in the analysis. If we were to look for structures that made orchard dwelling meaningful we might find that 'the ripeness of fruit' and 'picking the fruit at the most appropriate time' would be structures that make orchard dwelling meaningful. These structures could be found by looking at many experiences of the orchard dwellers and then concluding that we always find that there is an underlying concern for the ripeness of fruit so that it can be picked at the most appropriate time. Recognizing this structure, though, does not yet give us an understanding of the structure. In the case of orchard dwelling, recognizing 'the ripeness of fruit' and 'picking the fruit at the most appropriate time' would now require

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[37] I remind the reader that this is not a Husserlian intentionality with mental content but rather what Heidegger refers to as comportment, 'directing oneself toward' or 'being directed toward.' This is not simply an act of consciousness but rather being (consciousness) in human activity. Heidegger's <u>Verhalten</u> is a transcendence that makes possible intentionality, not intentionality per se.

analysis so that we understand how we live these structures, or how these structures are manifested through us.

What is required now in the analysis of educational technology is a closer analysis of dwelling, communicating, revealing and attendere to get a clearer understanding of the way in which these invariants ground our educational understanding. Furthermore, it will be appropriate to interpret educational technology according to these invariants.

In Chapters Three, Four and Five, in a second-level analysis, I will examine dwelling, communicating and revealing. In Chapter Six, in a third-level analysis (acting as an eidetic reduction of dwelling, communication and revealing), I examine attendere.

# Chapter III
# Dwelling

## The Ways We Dwell

In the initial first-level analysis of educational events I determined dwelling to be one of four invariants of education (the others being communication, revealing and attendere--all of which belong together in any educational event). Now, in a second-level analysis, I examine 'dwelling' and 'ways' we dwell. The 'ways' I examine are: dwelling to understand, dwelling meaningfully, dwelling with others, dwelling within horizons, encouraging others to dwell, and, dwelling consensually. In this analysis I show the bodily/corporeal significance to a dwelling-in-the-world, finding significance from within the ways we dwell. These are ways in which we belong to the lifeworld. I then analyze four educational situations, showing how our use of educational technology has the potential to alter our dwelling. I show that participation with technology potentially alters the bodily/corporeal significance in dwelling as well as the way in which our belonging-to-the-lifeworld shifts to a lifeworld-that-belongs-to-us. In this shift I show a diminishment of the bodily/corporeal experience and subsequently the way in which we live the rapture of life.

What is dwelling? In the preceding chapter I suggested that familiarity, proximity, and living within contexts, were aspects of dwelling. As a teacher, these are ways of being that concern me. As a teacher I concern myself with 'where' and 'how' we live within contexts so that things become familiar and near. As dweller I attempt to get near. To dwell, to borrow a Heideggerian term, is, "to reside" or to be "alongside" in a familiar 'way,' "being-familiar-with" the world. But Heidegger suggests dwelling is more than this. Dwelling is "being-in," "being-at-home-in," "moving-" or "living-in," (Heidegger,

1971). That in which we dwell is, according to Heidegger, 'Being' (the ground which allows everything else to come into existence).

In an examination of dwelling we sense inhabiting something or someone. We can sense being part of (in) someone or something. We can question who, or what, it is that does the dwelling. What inhabits? Merleau-Ponty shows us that it is 'the body' that is the 'being' that is 'in' and 'familiar with.'[38] Merleau-Ponty shows us a body that inhabits. He shows us a sensing and acting with and in things in the world--a consciousness that is essentially an "I can."

To be concerned with dwelling is to be concerned with the lived experience. Pedagogically, it is by coming to know the child's experience that we begin to understand where the child dwells; and, it is by coming to recognize the child's comportment that we begin to understand how the child dwells. When we watch a child using a computer graphics program to visually enhance a story she has written, or when we listen to a child creating a music composition using multi-timbral synthesizers and sequencers, we come to understand the child's dwelling by asking how it is, and the ways in which, the child experiences. It is not enough to assume that what the child produces in the classroom reflects the child's experience and understanding, or that the child's actions are representative of his/her dwelling place. Nor is it enough to assume that the academic discourse depicting educational activity is representative of the child's experience. Child and observer might not understand (stand in the midst of) things in the same 'way.'

In our concern for the child's educational well-being it is not enough to recognize the child's dwelling, we must come to understand our own dwelling. For, as teachers, we are inviting the child to 'get near' and 'dwell alongside' us in a familiar way in our adult world. Thus, we must be sensitive to the child's and adult's ways of dwelling so that we

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[38] As Pinar and Reynolds (1992) say, "Merleau-Ponty returned Heidegger's head to the body and inscribed on the body of phenomenology gesture and sensuality" (p. 2).

might better understand how it is that educational experience will (or will not) contribute authentic and appropriate education.

## Dwelling to Understand

What is it that we dwell with and in? To borrow from Heidegger, our dwelling is in Being. And, in our dwelling, we come to understand. In school we come to understand things (beings). And in dwelling we can recognize the way our body is with things. We can recognize the feeling of 'getting near' in an attempt to achieve familiarity. We reach out to things and draw them into ourselves--drawing ourselves into them. Things show themselves, and when doing so we feel them, sensing them visually, aurally, tactually. We approach things, orienting our body with them. We touch them, taste them, smell them. And with each sensing, our body is held by these things, acting and reacting to and with them. But this sensing is only a part of what constitutes things in our world. We recognize the thing as an object, something to which we can point in a recognition of its identity. But what gives an object its identity? Heidegger (1971) speaks of the thing. A jug is a thing, he tells us. But Heidegger tells us more than that. Heidegger shows us the thingness of the thing, how the thing things, or shows itself as a thing. The jug, as Heidegger shows us in his analysis of what a thing is, can show itself as earthenware that holds the void. But there is more. If our orientation remains toward the jug's material, our ways of being with the jug, our possible actions, are obscured. The pragmatic[39] nature is hidden. To come to know the jug we must also sense the way that it shows itself within activity. We understand the jug more fully when we understand the nature of pouring (the act and the context in which we pour) from the jug--we understand the giving (gift) nature of the jug. To dwell with things requires that we dwell in the background practices that make the thing meaningful. In dwelling, we live the ground which allows jug to come into existence.

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[39] I use pragmatic to mean use rather than pragmatic as being useful.

Understanding the thing is to understand that which allows the thing to be--the thing's Being.

As dweller, we not only attempt to 'get near' to that of which we are immediately cognizant, but we attempt to 'get near' by coming to know that which may not yet be immediately recognized. When we approach things there is more than may be immediately revealed. For within the situation, those aspects which may be readily apparent do not exhaust what is *possible* for the thing to be. As Heidegger showed with the jug, the thing is a gathering, however we must understand that which is gathered to understand the thing. Beyond any immediate situation, things may show themselves in other ways--they show themselves differently within different situations, activities and ways of life. In his analysis of the thing, Heidegger shows us that which may have been concealed in our understanding of the jug. He allows us to sense the way in which a jug shows itself, not only as a vessel, but also in the way that it gathers together aspects within the act of pouring (pouring as a gift). By following Heidegger's analysis, we come to sense that earth, sky, divinities and mortals dwell within this gift. All belong together in the outpouring. And in the outpouring the jug presences itself.

We are able to follow Heidegger in his analysis for we understand that about which he speaks for we, too, dwell in the background practices that make his analysis meaningful. We are able to get near and feel at home because he speaks of things that are understandable, meaningful and familiar. However, if we had never poured a liquid from a jug, we would not dwell in such a way that the jug had the meaning that Heidegger shares with us. That in which we dwell must be meaningfully lived.


Dwelling Meaningfully

What is it to dwell in such a way that things have meaning? We dwell with, or in, something (some ways). We do not dwell in nothingness. We participate with, and inhabit, things in a purposeful, intentional way. As we found with the jug, we participate with

material things, things that show themselves as matter. In our participation, things show themselves within activities, such as the jug showing itself in the act of pouring. In our recognition of this, we find an earlier notion of things--things as acts, events, and actions. We recognize the jug in a context of activities, for it is within this context that we are even aware of the material nature of the jug. It is not simply the thing's outward appearance, or idea, that we attempt to get near, but the thing's purpose or intention.

That which shows itself as a thing shows itself meaningfully within the contexts that we live--contents which depend on our corporeal bodies. We 'come' near to some thing by coming to know and understand the way it shows itself within these contexts. And within these contexts we 'become' near to something. 'Become' is a 'coming into being' with the thing. In 'becoming,' when we come into being with some thing, we sense our body change. Let us briefly consider a gesture as a thing (noting that 'things' were once considered to be acts, events or actions). Here we can emphasize the pragmatic (practical) nature of dwelling, a pragmatic nature that includes the body. A gesture may be thought of as a thing that shows itself as an action or event, a behavior, a bearing of oneself. Imagine that I point my index finger toward you with my palm facing up. Then I crick my finger so that the tip points toward myself. Having experienced this gesture (this activity) previously you may recognize this to mean that I want you to come to me. You recognize this situation as one in which such a gesture would seem appropriate. You feel the call, the motion. You are drawn toward me just as I feel my calling out to you. In the cricking I pull you toward me and you are pulled toward me in your responding. I sense our coming together. This gesture finds meaning in that we are drawn together; I call you with my body and you respond with your body. The gesture is meaningful through our intercorporeal understanding the gesture. Through the way gesture plays across our bodies, we 'live' and 'move-in' the gesture.

Dwelling within a way of life that allows gesture to be meaningful allows us to re-cognize gesture. Living the gesture allows recognition. Recognizing fingers, hands, and

gestures, but not this particular gesture, might give this gesture a meaningless appearance. Our way of life gives meaning to gesture, fingers and hands, but not this gesture in particular. If we came from a world where fingers, hands and gestures were non-existent, my beckoning you near would be both meaningless and imperceptible. One does not dwell simply with fingers, hands and gestures but rather with what each of these mean to us within situations, within ways of life. Embodied within the gesture is the way of being drawn together. Just as we find essential aspects of the jug in the pouring (the living), we find essential aspects of a gesture in the 'living,' a gesturing combined with the responding.

Let us consider another example that has to do with sound. If we are confronted with a form of music which is unfamiliar, our ear may perceive sound vibrations but we may remain noncognizant of any particular form or any particular meaning. We are not moved by the sound. We do not know how to move with the form. What we hear is formless, meaningless. We might not be dwelling within a way of life that allows this particular form to show itself meaningfully. We might not sense an agreement in the rhythm, the harmonies or the melodies. We may not be pleased with the movement of the pitches. We might not find satisfaction. We may not be fulfilled. We wait for something to move us in a familiar way but we are not moved. We are left in anticipation. As form, as thing, there may not yet have been a gathering together of meaningful relationships. The internal relations might not yet show themselves. This is to say that the form of music may potentially show itself but as yet is obscure. Our lacking a recognition of our background practices that make this form meaningful, leaves the form, the meaning, obscured. We do not feel at home with the music. We are not familiar with the music. We do not dwell meaningfully with the music.

In our recognition of the thing we begin to recognize the way in which the thing shows itself within its horizon. This might be thought of as dwelling meaningfully. We 'become' near to some thing by understanding the activity which allows the thing to be

meaningful. Whether we participate with a jug, a gesture, or music, our nearness to these things (our dwelling with these things) involves our bodies in understandable practices. We understand essential aspects of the jug in that we have poured liquid from a jug for ourselves and for others. We understand these aspects in our participation with the pouring, the way we live "earth, sky, divinities and mortals." We understand essential aspects of a gesture in that we have gestured with others and that, in our living and sharing the movement, we continue to gesture with others. We understand essential aspects of music in that we are and have been moved, with others, by music. In our dwelling, the thing is meaningful in the way in which we have been able to live the meaning purposefully and intentionally within horizons.

## We Dwell Within Horizons

We dwell within horizons--within a range of all that is meaningful to us. Horizon bounds the field in which we dwell. The field that is of most concern for the pragmatic phenomenological inquiry in this dissertation may be thought of as consisting of our activities (activities which involve the body and language), our ways of life (the formal conditions and patterns within the weave of our lives), as well as our lifeworld (the essences, the pre-logical validities that act as ground for the logical ones, for theoretic truths).[40] This can be likened to the perceptual field in which an object stands in relation to a background, which, when moved toward the periphery of vision, fades out of our perception (i.e. the perceptual horizon). But if we include our own body, the horizon in which the thing shows itself meaningfully is not a horizon that belongs only to itself but a horizon that includes the thing and ourselves. Merleau-Ponty (1964 / 1995) referred to this as the 'flesh'--a metaphorical tissue that, as a possibility or latency, sustains and nourishes ourselves with things. This is a notion that comes out of the <u>Phenomenology of Perception</u>

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[40] These distinctions--activity, life-way and lifeworld--have been patterned after Wittgenstein's language-game, lebensformen (life form) and lebenswelt (lifeworld). I choose the word activity to emphasize the active sense of language (an activity of sharing). I choose life-way to emphasize 'way' rather than the somewhat more static sense of form.

(Merleau-Ponty 1964 / 1994), was developed in The Primacy of Perception (Merleau-Ponty, 1961) and in the early part of Signs (Merleau-Ponty, 1964), and received fullest treatment in the Visible and the Invisible (Merleau-Ponty, 1964 / 1995). Merleau-Ponty (1964 / 1995) says:

> the flesh we are speaking of is not matter. It is the coiling over of the visible upon the seeing body, of the tangible upon the touching body, which is attested in particular when the body sees itself, touches itself seeing and touching the things, such that, simultaneously, *as* tangible it descends among them, *as* touching it dominates them all and draws this relationship and even this double relationship from itself, by dehiscence or fission of its own mass. This concentration of the visibles about one of them, or this bursting forth of the mass of the body toward the things, which makes a vibration of my skin become the sleek and the rough, makes me *follow with my eyes* the movements and the contours of the things themselves, . . . this pact between them and me according to which I lend them my body in order that they inscribe upon it and give me their resemblance[.] . . . We must . . . think the flesh . . . as the concrete emblem of a general manner of being. (pp. 146-47)

Our understandings are understood from within the field in which we dwell--the field in which our understanding moves, in which we move. It is within this 'flesh' and the activity that runs through it that meaning is given. It is this "bursting forth of the mass of the body toward the things," the rapture, that calls us.

Within this 'flesh' we understand situation. Situation is 'where we are,' where we arise, where we come to be. We come to be within 'activity,' within a doing, a setting in place. It is activity that sets situation in place, allowing situation to meaningfully show itself within activity. The activity is that which makes any situation meaningful. It provides the context for the situation to show itself as it does. It grounds situation, acting as a source for motive and intentionality. A situation in which I utter, "Go to jail!" has a particular meaning

if I am playing the game of Monopoly. The game of Monopoly is the activity which allows such a situation to come into being. But 'activity' too must be made meaningful. Activity finds its meaning in 'ways of life' (life-ways), the paths we follow. The life-way is that which makes game-playing meaningful. As human beings we have the capacity to play games. Our way of life provides a space, the patterns and conditions for such activities to be meaningful. And, 'life-ways' are, in turn, made meaningful (grounded) by a 'lifeworld' (the world of lived experience: an age of human beings). Our life-ways are grounded by a lifeworld in which we hermeneutically find the structures that physiologically, biologically, psychologically, culturally and historically precede game playing. This is the lifeworld derived from Husserl--a world of immediate experience, a world already there, a world that calls for no ground, no explanation[41]--and made corporeal by the phenomenology of Merleau-Ponty.[42]

Dwelling within a field, we call upon lifeworld, life-way and activity. It is within a field that something is understandable as the thing it is. It is within a field that some thing shows itself as meaningful. The meaning of theater, for example, shows itself within the field to which it belongs. Theater shows itself as itself within a particular life-way, activity and situation. The theater, this place in which plays and other spectacles can be viewed, shows itself differently depending upon whether one participates in theater as actor or audience, writer or stage director--each dwelling within their own field. And, while each may experience theater differently, each dwells within a field that allows theater to show itself as it is. It is upon leaving the field that theater finds meaning and entering, say, a field in which theoretical physics finds meaning, a field in which things are understood from the substantiality of matter, that we find theater becomes "meaningless."[43]

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[41] See Husserl's The Crisis of European Sciences and Transcendental Phenomenology. Here Husserl makes the distinction between the theoretical attitude toward life and a natural attitude upon which theorizing is based.

[42] See Merleau-Ponty's The Structure of Behavior.

[43] This is an example given by Magda King (1964) to explain Heidegger's use of horizon as found in King's book Heidegger's Philosophy.

Recognizing that we dwell within horizons allows us to further sense the gestural, corporeal, pragmatic, significance of dwelling. Our dwelling is grounded by the fields in which we dwell as well as the ways and forms of life of a corporeal body.

## We Dwell With Others

As dweller, we not only attempt to get near to things but we attempt to get near to others. When conversing with a stranger or with someone whom I love, I often dwell in such a way that I may come to know them--to know that which is not immediately perceptible, to know the way in which they understand the world. I attempt to come to know the horizon in which they dwell--their ways of life, the activities in which they engage, and the situation in which they find themselves. I attempt to come to know that which gives meaning to their being. And while the way in which I dwell with the stranger or the loved one would be different, I can still move toward that which is familiar to them in an attempt to gain greater familiarity and intimacy with them. They orient themselves to the world, turning toward the world and toward things.[44] They inhabit the world and things in the world. This is the world as they and I have lived it. I participate with them in such a way that they "make known," "announce," *intimare* their orientation and the many ways that they are in the world. In my participation with them, I too must attempt to orient myself to, and inhabit, the many ways that they are in the world. In doing so, in revealing what is meaningful to them, in revealing their comportment through the world, they become meaningful to me. In our participation with each other we share a relatedness in the world. We share the 'flesh.'

They, and that which they inhabit, calls my attention. I consider carefully what the other says. She talks to me, and I listen. I listen to her expression, the sound of her voice,

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[44] The sense of turning to the world is described by Merleau-Ponty (1961) in The Child's Relations with Others in his abandoning certain classical psychological prejudices, those being that the psyche is not a series of "states of consciousness" that are closed in on themselves and inaccessible to anyone but me. p.p. 116-117.

its fluctuations. She opens up to me. I hear in her sensitivity, harshness, warmth, cold. I inhabit her voice. I pause with it, move with it, am lifted by it. I sense her mood. I sense whether she is tired, angry, sad, elated. As she speaks my body follows and moves with hers. It is as if her speaking is my speaking. Its sounds move me. She speaks me; we speak each other. We move together, both aimed at the world.[45] At times her hands draw me into her dwelling place. In my listening I respond. And in my response I and that which I am aimed at become the object of her intention. When I stand with her I see her and she sees me; I feel her and she feels me. I sense her stance, her contours, the shapes her body takes. I position myself with her, as her. Often I assume her body posture, her position. I fall into her gestures, her facial expressions. We fall into an equilibrium, becoming comfortable and relaxed. I mimic her to understand her, to stand amongst that with which she stands, to get a sense of how she is in the world (with things).[46]

## Encouraging Others to Dwell

As dweller, I encourage others to dwell with me. I attempt to make that which is familiar to me familiar to them. I attempt to make them feel at home with the world in the same way that I do. When dwelling with children the dwelling is pedagogical, concernful, caring. I want them to dwell along side things in a way that will allow them to dwell with me. I inspire them with courage. Not courage in the sense of bravery or fearlessness but rather courage as spirit, disposition, and nature. This is the courage that stems from *cor* meaning heart--the center of feeling, thought and character. By inspiring others with spirit I breathe life into them they might not otherwise have. Students who come to my classroom are invited in, as if they are new guests in my home. I welcome them, smiling at them, encouraging them to be comfortable, to make the classroom their home, our home. I want

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[45] See Gadamer (1993) regarding conversation, p.p. 384-386.

[46] According to Merleau-Ponty (1962 / 1994): "Mimesis is the ensnaring of me by the other, the invasion of me by the other; it is that attitude whereby I assume the gestures, the conducts, the favorite words, the ways of doing things of those whom I confront" (p. 145).

them to know that I care for them and that they can trust me. I encourage them to share my world. I want them to be comfortable, interested, and eager to be there.

Our being-with-others, especially children, is rich with occurrences of encouragement to dwell meaningfully. As parent or teacher, we encourage others to dwell by revealing that which may be obscure to them. We reveal that which is obscure to them by revealing situation, activity and way of life. We can sense ways of dwelling in the following educational events.

## Educational Events

Dwelling, as an invariant of education, can be recognized throughout any number of educational events. We can witness the "getting near", the "being-in," "being-at-home-in," "moving-" and "living-in," the "being-familiar-with" within educational events. Now, in this section, I examine four situations to show how our dwelling potentially alters when we inhabit educational situations in which technologies are used. This is not to say that the invariant 'dwelling' does not hold, but rather that our interpretation or use of technology calls upon us to dwell in ways that give meaning to the technology. As we will find, the gathering, that which is gathered as a thing, the field, and the bodily significance of the educational event is of a particular form when participating with the technological. We will also find that the way in which we live the educational experience, (or the way the educational experience lives us) has the potential to alter. The four situations I examine are: being with others, being with the written word, using a multimedia computer database, and using the Internet. The current topic being explored is one which deals with berries.

## Being With Others

I carry Meagan, my four month old niece, out into the back yard. The sun has just risen above the lake's horizon behind the saskatoon bushes that mask the light as it glistens off the water. The berries appear full and ripe. A saskatoon bush *draws me* to it. I do not

search it out. We walk up to the bush, close enough so that Meagan can reach out and touch the saskatoons. I look at the saskatoons, momentarily mesmerized. They are exquisite. I know immediately what they are when I see them. They are *familiar* and I *feel good* when I am near them. I know how to *approach* them, *reach* for, and *take* the berries. I am *happy* when they are healthy. They are *special* to me. They belong to me, and I to them. I begin telling Meagan about the saskatoons. I want these berries to be special to Meagan also. I want Meagan to enter into a life made possible by these berries. I want her to look fondly at them just as I do. "Look at the pretty saskatoons," I say to her as I hold her close to the saskatoon bush. She reaches out and touches a saskatoon with her finger. "When your mom and I were young, your grandma used to take us out in the country to pick saskatoons. They're good to eat. When you pick enough, you can make saskatoon pie. Mmm." I begin to *share* their meaning. The saskatoons are *sensual*. They are tasty, juicy. They have smell, taste, color, texture. They are pretty. They are beautiful. Meagan grasps a saskatoon and jerks it off the branch. She then puts it to her face. "Doesn't it smell nice," I say to her as I watch her hold the berry. She then waves her closed hand in the air as if to throw the saskatoon away. But instead of letting it go she squeezes it and purple colored juice squishes in the palm of her hand. She opens her fist and draws the berry toward her mouth. But just as the berry is about to touch her lips it falls to the ground. She opens her mouth and rubs the juice on her lips. She makes a face. "Ohh, does that taste good?" I say to her as she licks the juice from her lips. "Oh, oh, we don't want to get the juice on your blouse. It will stain." She looks to me and then reaches for another saskatoon. I feel good when *she looks to me*, with me, so that *we dwell together with the familiar.*

This was Meagan's first experience with saskatoons. It is difficult to know what her experience was—what meaning she brought to her experience and what meaning she will establish from this experience. Though in the future she will (as had happened after the experience) refer to plants and flowers as "pretty." She will ask me to lift her high toward

the saskatoon branches so that she can pick saskatoons. She will extend her arms, point, and reach toward the berries as if she, too, experiences the same sense of rapture that I felt. She will position herself in a familiar way to the berries. And, she will see them, grasp them, smell them, and taste them.

My experience, as I stand holding Meagan in my arms looking at the saskatoons, is full of past recollections that have brought me "near" to saskatoons. I am filled with their beauty, their momentary wonder, and I feel I have to share this with Meagan. I dwell in all that has been gathered together to allow saskatoons to show themselves meaningfully. I dwell within, and move about, what I know about saskatoons from past experience--the meaning of saskatoons, my field. I recognize their color, texture, smell and taste, and in doing so, I sense the materiality of the saskatoons. I touch them; they touch me back. I know the way to reach toward them and the way to snap them off of the branch, dwelling in a pragmatic, bodily way. I imagine my mother dropping the saskatoons into an ice cream pail, and the way the saskatoon pies tasted, drawing deep within that which was my past. In the way that I belong to my past, I belong to these saskatoons. These berries have helped shape who I am. And, in caring for myself, I care for these berries. This brings saskatoons near. This is the field in which I dwell--the 'flesh' of my dwelling.

As I stand with Meagan, as our activity unfolds, I project, anticipate, and move into the possibilities which our fields allow: this is my understanding; and, this is our understanding. Saskatoons are something that I have experienced and have come to love, and I suppose that Meagan should come to love them also. I describe and show that which I assume will make Meagan's life richer. I attempt to increase her understanding, her world. I attempt to reveal to her aspects of saskatoon which are obscure or unknown to her. I show her that the saskatoon is something with which she should be familiar. They mean ways in which a family can be together. They mean pie, nourishment. They mean that the weather has been suitable for their growth. The saskatoon is something that our family and our community have experienced. And so for her to become a member of this

family and community, this is one of the many things that she should experience. I invite her to dwell with us.

Being with the saskatoon bush is something that we can share. It is a time that I share with her. It is something that now exists between the two of us. It is a way for us to begin to dwell together. In the future, when either Meagan or I are once again drawn toward a saskatoon bush, perhaps squishing a saskatoon in our palm, our afternoon experience may contribute to our meaning of saskatoons. Our individual fields, and indeed our collective field, have expanded.

In dwelling we are naturally drawn to things of interest and to the familiar; we are caught in the rapture of living; we are caught in the way things in the world burst forth; we share meaning in a sensual way with others (we communicate consensually). We feel care and togetherness. We dwell together. Much of what it means to dwell together is accomplished with bodily/corporeal feeling, gesture and motility.

With Meagan, I am the teacher. We can witness the way in which the teacher dwells, the way in which the teacher encourages the child to dwell, the way in which the child is encouraged to enter into, or become familiar with the ways of life of the teacher and the community.

What are the things that present themselves (come into being) when, the teacher dwells? I spoke earlier of the curriculum and the lesson plans which have the potential to structure the educational event, bringing things into being. But how are these berries, about which the teacher speaks, things? The teacher is, presumably, already near the berries. My experience with berries has already allowed them to show themselves in multifarious ways. And in these ways there exists a field for the teacher, a dwelling place. Now, the teacher invites others to dwell. This is a dwelling place with a past, with sensuous textures, with bodily movements, with a language. This is a place with tranquil forests, dew, the sounds of animal life, the company of others, the smells of the kitchen. This is the 'flesh' in which meaning is found.

The teacher is able to invite the child into things, activities and events. And, the teacher is there to provide gestural/bodily/corporeal significance for those things. The teacher, having lived with berries, is able to draw the child into becoming familiar with that life. The teacher tells the child of experiences using voice and movement. The teacher calls the child to live the berries, calling the child to stand amongst all of that which makes such living understandable.

The teacher talks with the child, so that the child can come to know the berries' horizon. The teacher shares experience so that the child will belong to the berries. The teacher says to the child, "be with me and you will understand something of the significance of berries." To do this the teacher makes use of gestures, voice, language and events which will be meaningful to all.

Being With The Written Word

Does the written word alter our dwelling? Irving Layton (1974), Canadian poet, speaks of berry picking.

Berry Picking

Silently my wife walks on the still wet furze

Now dark-green the leaves are full of metaphors

Now lit up is each tiny lamp of blueberry.

The white nails of rain have dropped and the sun is free.

And whether she bends or straightens to each bush

To find the children's laughter among the leaves

her quiet hands seem to make the quiet summer hush-

Berries or children, patient she is with these. . . .

. . . So I envy the berries she puts in her mouth,

the red and succulent juice that stains her lips;

I shall never taste that good to her, nor will they

Displease her with a thousand barbarous jests.

<div align="center">(Irving Layton)</div>

We dwell in such a way that things are meaningful. Indeed, Layton dwells, and asks that we dwell in such a way that we might share the meaning of that which he speaks. The "still wet furze," the "dark green leaves," the sun and the rain, are all things we are to understand. Each shows its identity in the way that we have experienced these things before. If we are to focus on the berries in their thingness, as they show themselves within 'Being,' they gather a variety of experiential ways. Layton calls us to dwell with him, in his horizon. Layton invites us to see the berry as a tiny lamp, and the way this tiny lamp is in the rain and under the sun. But it is this tiny lamp that also allows us to sense the rain and sun as we do. We hear how they come into being within the patience of his wife, and in the way she tastes the berries. And, as we listen, we can sense that it is these berries that help articulate that patience. We hear how the leaves of trees and the laughter of children provide a context for the berries, and the berries for the leaves and the laughter of children. And, we hear how they compare to the author, 'looking' back and touching him. Layton allows us to dwell in such a way that the berries are able to show themselves in ways that may have been obscure.

But what happens to things with the written word? Is the same gathering as when we experience the thing directly? For those who know nothing of berries, there may be a reduction of bodily/corporeal significance. The sounds, smells, colors and textures are not as sharp had we ourselves stood in the place of Layton. We imagine what we might otherwise sense directly. But Layton has used the written word to enable us to dwell in ways we might otherwise have missed. When we read we may be taken by the words, caught within the same sense of wonder that Layton experienced. And in the way that Layton has written the poem, and the way we read the words, we feel as though we belong to the event. We live the event authentically. We participate with the ground in such a way

that the meaning intended by Layton shows itself. To participate in ground in a way intended by Layton we must be intimately familiar with all of those aspects of ground that Layton gathers together. And as we read the poem we sense that which Layton lived. We can participate with Layton's ground so that that which is obscure is revealed, though for those unfamiliar with the ground that the poet portrays, that which is obscure may remain obscure.

Computer Multimedia Database: Encarta[47]

How does the computer program Encarta (1995) treat berries as a thing? What is gathered? How is it that we are invited to get near, to become familiar, in meaningful horizons? How are we called to dwell with others?

After starting the Encarta program and searching the term 'blueberry,' a window on the computer screen appears with the text:

blueberry

Blueberry is the common name of various deciduous shrubs of the genus Vaccinium in the heath family, Ericaceae. About 24 recognized species of blueberries exist, varying from shrubs less than 0.3 m (1 ft) tall to large bushes more than 5 m (16 ft) in height, and differing in habitat from marshy bogs to dry upland mineral soils. The sweet-tasting berry contains 40 to 50 small, soft seeds and often has a powdery coating. Most blueberry species are indigenous to eastern North America, and commercial culture of the crop is largely limited to that area. The berries have been used since early days, but the cultivated blueberry industry has developed entirely in the 20th century. Among the leading states in blueberry production are Michigan, New Jersey, and North Carolina, where horticultural varieties of the highbush blueberry, V. corymbosum, are grown. Major types grown are Jersey, Bluecrop, Collins, and Coville. The rabbit eye blueberry, V.

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[47] A software encyclopedia used on the computer created by Microsoft.

ashei, which can tolerate higher summer temperatures than highbush blueberries, is cultivated solely in the southern United States. Lowbush blueberries are harvested commercially from natural stands in Maine and Eastern Canadian provinces. Many blueberry species are erroneously called HUCKLEBERRIES, which are closely related plants

J.N.Moor

See also: BERRY; FRUIT.

I read the passage and then click on an icon which brings two pictures to the screen, one of the shrub and one of a bunch of berries. I look at them on the screen, and then close the window, hiding them from view.

What is gathered so that we might come into being with this thing we call blueberry? The material is specified: "The sweet-tasting berry contains 40 to 50 small, soft seeds and often has a powdery coating" and "shrubs less than 0.3 m (1 ft) tall to large bushes more than 5 m (16 ft) in height." Also, pictures are provided allowing us to visualize the berry and the bush on which it grows. A context is given: we sense the earth in its "habitat from marshy bogs to dry upland mineral soils." We hear that people use the berries but are told little about how people are with the berry: "The berries have been used since early days, but the cultivated blueberry industry has developed entirely in the 20th century." We are called to dwell with those who refer to shrubs as vaccinium and Ericaceae. Here, the berries are given meaning from within a botany horizon. We are called to recognize their size but not how we act (bending and picking) with their size. We are told the texture but not invited to touch the texture. We hear the language of an encyclopedia.

The computer data base does allow us to dwell with berries though there is a difference in the dwelling achieved in the previous two educational events. Occurent properties are provided. The berries are treated ontically.[48] The berry has been generalized.

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[48] Dreyfus (1995) discusses Heidegger's use of 'occurentness' (the outward appearance of things) in chapter 4, pp. 69-69, and articulates Heidegger's distinction between ontological (concerning ways of being) and ontic (concerning beings) in chapter 1, pp. 14-22 .

We approach the berries differently. Our invitation to dwell is not as it was when the berry was part of our practical activity. This is not an invitation to come into being within a situation in which the berry is wondrous. We are not called to live the rapture of life. We are not called to belong to the berry. Rather, the berry's occurentness belongs to us as bits of information.

The Internet

How are berries treated on the Internet? After beginning the Netscape[49] program the introductory window flashes on the screen for a few brief moments and then the 'Classroom Homepage' appears. The page is in outline form, with bold headings and colored, underlined, text. The colored text defines the hyper-links that will, by clicking the browse tool on the text, connect to a server (computer) at the desired location. I try a variety of searches for saskatoon: page topics, open text index, titles. A number of pages are found, all referring to the city Saskatoon in Saskatchewan. I try searching berries. I wait for the search to finish. I wait for pages to be found and pictures to be loaded on the computer screen. Advertisements about cruses and lottos appear on the screen while I wait. Over 500 pages are retrieved. I read the list of retrieved pages. I bring up the "Berry Page." This shows pictures of berry bushes, with descriptions, none of which I am familiar with. I go back to the search page. Recipes. I find a list of 20 different berry recipes, all made by Susan. More pages list companies that sell berry products.

Using the Internet, as educational activities, requires dwelling. Students move toward that which is familiar. They get near. They participate with things. But what are these things as berries? How does one dwell with these berries? In an activity such as finding out about berries, the Internet allows students to access information and images. Here the dwelling been established, a dwelling in which relations are implied by the text and by the format. Students move the browse tool from colored text-link to colored text-

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[49] An Internet browse program.

link, traversing hyper-space. The treatment of berries is similar to that established by Encarta. The Pictures appearing on the screen look back at the students. The calling is visual. The ontic treatment seems superficial. There is a coldness, a starkness to the invitation, to the calling.

Commentary on the Educational Moments

We can begin to sense from this second-level analysis that dwelling is an invariant in educational events. However, while dwelling remains invariant, the way in which things are understood differs. The differences in dwelling seem to be more in the way the technology is used (the treatment) than in the technology itself. The poem, the database and the Internet called us to dwell with berries, using text, but each in a different way. There was a difference in the way that we approached each medium, and a different language used to articulate the life of berries. We lived the berries differently. When we do not live the way others have come into being with berries. We inhabit a looking-on-at actions or circumstances from a context other than berries being-in-the-world. We no longer dwell with the berries but rather with fragments of what berries can mean in contexts outside of simple human contexts in which we live with berries. Understanding loses its authenticity, its "synaesthetic" depth.[50]

It is apparent that the bodily/corporeal significance changes when physical aspects are not included in an experience with technology. That which is available to the body when dwelling, such as sounds, textures, pictures, do provide a context in which we dwell. However, what seems to be more significant here is the way in which we experience the educational events. The 'flesh' extends beyond the immediate context. If there is a change in bodily/corporeal significance, how does that change manifest itself? We were not called to participate in someone's life and body but rather in the horizon substantiated by

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[50] See Merleau-Ponty (1962/1994, p. 228)

scientific and business fields. There is the sense of containment. I possess what I have been given. They speak of objects that have defined horizons. The 'flesh' is torn.

To recapitulate: we dwell in such a way that we understand things. And in our dwelling we find a pragmatic nature. These things exist within a context. It is within context that we dwell with things meaningfully. When we dwell with others, we share that which is obscure by inviting the other to dwell in that which is meaningful, participating with things in a purposeful, intentional way. We become near to some thing by coming to know and understand its meaning, 'living' and 'moving-in' the bodily significance of the way in which the thing shows itself. The living is contextual; it is within horizons. In our dwelling with others we dwell by sharing our dwelling, and understanding their dwelling, in a sensual way.

## Summary

In this chapter I examined dwelling as an invariant of education. This analysis articulated dwelling as a ground for education that is substantiated by bodily/corporeal being in activity, the 'flesh' of the lifeworld.

Seven aspects of dwelling were explored: dwelling to understand, dwelling meaningfully, dwelling with others, dwelling within horizons, encouraging others to dwell, encouraging children to dwell, and dwelling consensually. Then, in an examination of four educational events (events centering around berries) that move from non-technological use to technological use, I showed how dwelling alters within the educational events that include a participation with our educational technology. I showed that the way in which we dwell shifts when a technological consciousness comes heavily into play. When participating with educational technology, the 'flesh' is reduced and an emphasis is placed on the occurent aspects of individual objects within contained horizons.

In the next chapter, I examine the educational invariant 'communication.' This extends the notion of dwelling to show how understanding is shared when dwelling with others.

# Chapter V

# Communication

## The Ways We Communicate

The central aim of this chapter is to consider communication as an invariant of education. In the initial first-level analysis of educational events I determined communication to be an invariant of education along with dwelling, revealing and attendere. These, I suggested, belong together in any educational event. In this chapter I begin by examining 'communication' and the 'ways' we communicate. These 'ways' are: dwelling consensually, communication as a sharing, communicating within horizons, and communicating consensually. I examine the 'way' in which the body inhabits situations in which communication manifests itself. In doing this, as was done in the previous chapter, I show that while communication is invariant, our sense of communication will change when the situation includes a participation with technology. I show that when our communication involves technologies, the 'flesh' is potentially altered and reduced. To show this I analyze four different educational events in which different technologies are used when educating students about (having students understand) horses.

This chapter brings together the earlier discussion of dwelling and the way dwelling is a communing with others. I extend the sense of child and parent dwelling together as discussed in the previous chapter to include the way in which this is a communal activity. The reader may sense a move from a subjective/corporeal consciousness to an intersubjective/intercorporeal pedagogical relatedness that is in keeping with Merleau-Ponty's (1968 / 1995) notion of the flesh where the flesh "is not the union or compound of two substances," but rather an "element of Being" that traverses and forms "other bodies as well as my own" (p. 140). This is also in keeping with Heidegger's notion of Dasein. This communal activity can be nothing less than a relatedness when people live together. To

begin, this sharing sense of communication is juxtaposed to a rendition of communication in education, one in which knowledge is imparted.

## Dwelling Consensually

To dwell with others is to dwell consensually. As stated earlier, consensus is common feeling, to be of one heart. It is thinking, feeling, sensing (*sentire*) together (*con*). It is not enough to say that we dwell within our own fields, for as dweller, we dwell sensually with others--consensually. We share fields consensually. "What's that," the child asks repeatedly in an attempt to dwell with others. And in the response, that about which the child inquired begins its gathering. The child inhabits the reply.

How do we dwell consensually? This is to ask the question, "How is it that we are in a world in which we can come into being together?" In the previous section I discussed the importance of the multifarious gathering in shared horizons in coming to understand things and others. I discussed the depths of the 'flesh' and the way the experience of these depths could be enhanced or reduced within educational events. Being in the 'flesh' is being together. Our ways of life call for communication in living together. In living together we commune (make common, share) the situation and activity in which we find ourselves. Because communication is having common-experience, we participate in a situation in which a commonness can be derived. We dwell within the sharing of experience. "Come on Pumma," Meagan says to her grandmother, pulling her into another room to show off her new riding horse, to share something with her. Her way of showing is similar to the ways she has been shown. In understanding (standing amongst), we share the community's ways of communicating and experiencing. We are both absorbing the culture as well as being absorbed by the culture. We are absorbed in a way of sensing, showing, and moving about the world.

We dwell within consensual domains--domains of shared meaning, of mutual understanding. These consensual domains support and unite us, and, maintain the culture.

This is a shared way of life that allows us to mutually understand one another. As Wittgenstein claimed, we might not understand another culture even if we could speak their language for life runs on differently with essentially different concepts between different cultures (Gier, 1981, p. 62). It is in dwelling within the consensual domain that communication is realized, experience is shared, making richer our shared fields.

As teachers it is in our calling to invite the child to dwell in the world with us. The world of which I speak is the Lebenswelt, the world of lived experience, the life-world.[51] This is, as Merleau-Ponty (1961 / 1994) says, "an open and indefinite multiplicity of relationships which are of reciprocal implication" (p. 71). The world is, as Merleau-Ponty says at another point: "what we perceive . . . The world is not what I think, but what I live through. I am open to the world, I have no doubt that I am in communication with it, but I do not possess it; it is inexhaustible" (p.p. xvi-xvii). So we go on, inviting children to live through the world with us, as we have lived through it. We share the 'flesh.'

## Communication is a Sharing

To dwell consensually is communication. Communication is derived from the Latin word *share*, commune, meaning to share, to impart. Yet the sense of communication as a sharing has, at times, been obscured by the *giving* sense of imparting.

"Bitzer," said Thomas Gradgrind, "your definition of a horse."

"Quadruped. Gramnivorous. Forty teeth, namely twenty-four grinders, four eye-teeth, and twelve incisive. Sheds coat in the spring; in marshy countries sheds hoofs too. Hoofs hard, but requiring to be shod with iron. Age known by marks in mouth..."

"Now girl number twenty," said Mr. Gradgrind, "you know what a horse is."

(Dickens, 1980, p. 14)

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[51] For an excellent analysis of the phenomenological Life-World, see Gier (1981), chapter 6, p.p. 117 - 134.

Mr. Gradgrind's School of Hard Facts was intended to impart knowledge effectively and efficiently--knowledge that would enable Bitzer, girl number twenty, and the other students to become knowledgeable community members; to, presumably, allow them to dwell meaningfully within a community. But Gradgrind neglects that one dwells within a way of life that makes experiential situations meaningful; he neglects that one is immersed within (and belongs to) a consensual domain, absorbing and being absorbed by the activities in which one is situated. Mr. Gradgrind's practices imply that knowledge can be abstracted from a bodily/corporeal experience, from situation, activity and way of life-- abstracted from the flesh. Gradgrind's horse is a statement of occurent properties--an object quite separate and distinct from our bodily understanding. The only community with which Gradgrind's students would become intimately familiar, because of Gradgrind's teaching methods, would be the community of Hard Facts.

> Now, what I want is Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon Facts: nothing else will ever be of any service to them. (Dickens, 1980, p. 11)

The early sense of fact, *factum*, an event, occurrence, a thing done, has been obscured by *definition*. The notion that meaning exists as facts and information that can then be imparted obscures the sense that meaning is derived not from imparted information but from dwelling within a field which gives meaning to information. If 'horse' is to have meaning within the activity established by the community of hard facts, 'horse' shows itself as it can to that community, from the ground provided by that way of life. 'Horse' shows itself as fractured, discrete bits of information within confined fields with little regard to the human body--with little regard to the inexhaustible human life-ways, activities and situations. To be situated within the activities and ways of life of hard facts is to reduce the horizon in which the body dwells, taking the body out of the world and treating things ontically. Here meaning is *in* "fact." One dwells within a way of life which allows "fact" to

show itself as it is. It is a life-way that allows that which is stationary or anchored to be meaningful. It does not call upon the depths of the 'flesh,' the richness of Being, to bring the fact into existence. Situations are generalized and do not change the meaning of fact.

When one dwells within a way of life where the meaning of 'horse' has been substantiated by the body (a richness of corporeal understanding)--a life-way in which 'horse' shows itself as the smell of a sweaty coat, the sound of hooves, the texture of a mane, as an animal requiring care and attention--the dwelling is within a life-way in which 'horse' shows itself as it does to a human body. This is a returning of 'fact' to its earlier sense of occurrence, a thing done. It is a return to the encounter, a running to meet that which presents itself. It is communication with the world. It is a way of life in which horse shows itself as a significant form with which the body relates--with which the body "tells of." This is a body in action, in motion, in commune with others.

## Communicating Within Horizons

One comes to know 'horse' by dwelling in a way of life that allows 'horse' to show itself as it is to the human body, and the human body to show itself as it is to 'horse.' It is a coming to know how a horse means in a multiplicity of ways, rather than what it means in a limited definitional sense. The meaning is not simply how a horse is for one individual but it is also how a horse is for all the individuals within a particular community. Girl number twenty, armed only with definition, might be expected to be able to point toward horse but not to understand horses in a way shared by those who live with horses. The 'thing,' lacking form in the way in which it relates to the person, lacks corporeal significance and, thus, meaning is sensed not from the community's understanding but rather from the act of pointing from definition, from within the situation in which it showed itself.

Gradgrind provides a situation in which the child is expected to come to know 'horse' and then take that knowledge with her into other contexts--a form of

communication. But it is the context, the weaving together of the communal social life activities, that give meaning to the horse that shows itself. In Gradgrind's school of hard facts, the dwelling is technological, systematic, revealing a bodiless, sterile form of 'horse.' There is no horse to which the body can inhabit. No horse to touch, smell, hear, to respect. We do not find ourselves being drawn to the horse, looking in the horse's eyes and watching the horse look back at us, sensing that it is alive and with feeling; sensing that its body is warm, powerful; sensing how, upon our first meeting, we walk toward it cautiously, with hand out, attempting to draw it toward us as we feel drawn toward it. We do not smell the pungent aroma of manure and hair. We do not hear the skin flinch as the horse shakes to repel insects. We do not hear the tail brushing against the back, or the hooves paw the earth. We do not feel the size of the horse in the sound of its breathing or the warmth of its body. We do not experience the apprehension of sitting on a horse for the first time or the freedom and excitement of galloping down a dirt road. Within the definition of horse, other human bodies are not available to mimic. There is no sense given as to how others sense the horse--how others move toward the horse; how others position themselves with the horse; how others pet or mount the horse. The child cannot observe others with horses. There is no consensus, no sharing of the sensual. The child is not called to act and react to horse as a human being within a culture that bothers with horses would but rather to act with definition--definition which arises within a classroom question-answer situation. The children are asked to orient themselves to, and inhabit, definition, and to act as they have been taught to act within this situation. They have been asked to commune with others who would recognize horses as gramnivorous, coat-shedding quadrupeds. The horse's body shows itself within Gradgrind's systematic revealing, a revealing that takes the shape of definition and fact--a generalization. 'Horse,' as knowledge, is bound to its context. The ways of life defined within definition set the boundary. Gradgrind's definition of 'horse' can be but a pellicle of the adult's or the child's corporeal body.

## Communicating Consensually

If knowledge and understanding are dependent upon the life-ways in which we dwell, how is it that we communicate when presumably dwelling within different life-ways? Dwelling within the consensual domain suggests a sharing of meaning to the extent that there is no breakdown. Breakdown, a term used by Heidegger to indicate a disturbance, is simply when something goes wrong or does not make sense--something does not fit within the context in which it is being used. But meaning can become quite diffuse within human interactions before breakdown is recognizable. Horse trainers, for example, bring to 'horse' a much different meaning, because of their unique experience with horses, than do gamblers who bet on the horses. Not only do their respective experiences of 'horse' differ but also their way of communicating (sharing, participating within their particular activities) their experiences while participating in their community. And both trainer and gambler, dwelling within different life-ways, will conceptualize 'horse' differently than girl number twenty. While horse means different things to each of these individuals, they may be able to converse about horse without reaching a perceptible state of breakdown. When a veterinarian looks concernedly into a horse's mouth saying, "It looks like this horse has a bad tooth," and Bitzer asks, also showing concern, "Is it one of the eye teeth?" an observer might very well believe they share a meaning about horses' teeth. However, Bitzer, who may know the dictionary-type definition of eye tooth, may not share the horizon lived by the veterinarian. The veterinarian has seen horses in pain, empathized with horses, extracted teeth, used tools to work on teeth, positioned his body beside and with horses while checking their teeth. They do, however, share a concern for the horse. They share a way of acting toward animals that grounds their actions. They both share a way of 'being' within their life-ways.

Sharing 'being' within life-ways suggests that experiencing meaning within a particular life-way requires experiencing in a manner similar to those from whom that meaning was derived, or with whom that meaning is to be shared. My having lived with

horses can be shared only to a limited extent if the person I am sharing with has only been told about horses. Our dwelling together is not con-sensual. We do not share the same ground. Nor do we share the same communing within that ground. To experience consensually requires sharing the community's ways of communication (the sharing of experience, the background). It is sharing an approach to things. This requires dwelling within the consensual life-ways, within the shared understanding achieved by experiencing things bodily/corporeally.

Meanings are experienced *with* others when dwelling consensually. The 'way' is shared, and the body inhabits the 'way,' grounding our shared meaning-making. Children living on a farm with horses share fundamental consensual domain experience of horses. They share bodily habits and movements constituted by experiences that differ from those of the city dweller. Shared understanding may be contrived.

Children in Gradgrind's class also share meaning; this meaning, however, is the classroom experience and not the farm-meaning of 'horse.' They share the 'way' of the classroom. In our consideration of the meaning of 'horse' Gradgrind shows us a domain of a somewhat different sort. This is a domain of indicating objective fact. This consensual domain is one in which 'horse' meaning is not achieved through direct experience. Here one is told *about* 'horse.' *About* leaves us on the outside, on the surface, of what horse means. For that which was pointed out has its own form. Gradgrind's students dwell within the telling of 'what horses are' rather than experiencing horses in particular situations.

The domain in which Gradgrind dwells is a domain that limits bodily understanding of the world, for the body is not called into that to which it points. We sense a loss of life in the contained horizon. Gradgrind does not appear moved by the rapture of life with the horse. He has found his own rapture in the way that the life of Hard Facts bursts forth with information. We do not sense that he is compelled to share the sounds and textures of horses to his students. He does not share what horses mean to the community in which the

children dwell. He has in-formed/con-formed students with a horizon in which information is desirable.

<u>Educational Events</u>

In an analysis of educational events in which technology becomes a part of the situation, we can witness how the invariant communication takes on different ways in our understanding and sharing the world. The analysis also constitutes the gestural/corporeal significance of communicating. What follows are four situations in which horses are the topic for consideration. The situations include: being with others, being with the written word, using a simulation program, and, using the Internet.

Being With Others

Being with others in educational activities, are acts of communicating. In the second-level analysis we can sense the way in which communicating is a communal activity--a sharing, even if the communication is as Gradgrind communicates. What the Gradgrind example helps demonstrate is the potential diminishment of the communal 'flesh.'

In being-with-others we communicate consensually. We can sense the consensual communication in a passage describing an event in which a colleague shared her love of horses:

Bernadette drove along the dirt path through the grove of spruce and poplar trees toward a clearing in the distance. "They usually hide in here," she said, moving her head about from side to side, looking in what seemed to her to be obvious places. "Frank comes and checks on them every day." I watched her and then looked in the same directions. We edged into the clearing and Bern parked the truck on a level knoll. She jumped out of the truck; I did the same. She stopped, stood still and listened. I imitated. I heard nothing. Bern put her fingers to her mouth and whistled a long shrill whistle. Then, once again

stood very still, listening, looking. "Did you hear that?" she asked. I heard nothing. "Here they come," she said, walking away from the truck. I followed. I heard thumping sounds in the distance, then branches snapping. I felt the ground vibrating even before I saw any horses. Then, through the thick brush, I noticed two horses coming into the clearing. Then more: five, fifteen, all running toward us. They were loud, elegant looking, muscular. One mottled-colored horse stood out against the other tan colored horses. I moved closer to Bern. She seemed calm. "Whoa girl," she said raising her hand toward one of the horses. I immediately did the same.

It is not difficult here to recognize the con-sensual communication. When we shared the experience in the truck and clearing, Bern showed me the way of being with horses. I imitated her movements and her body positioning; I listened to her words.

Communication is a sharing. Bernadette, a colleague at an elementary school, often shared her love of horses. She would say, "I have to show you our horses." She often spoke of the way her family raised horses, where they bought and sold them, where they rode them. She would tell me what the horses meant to her husband and children. At times I would walk into the staff room and she would be excitedly telling someone a horse story that happened the night before. It was as if she had to tell others. And when she told us, we listened intently for we knew how important this was for her. This was Bernadette sharing her life, her horizon.

In the staff room Bern would animate her stories with body movements, gestures, voice expression. When you watched her hands you could see their strength, textured as if they had worked outdoors.

It is easy to imagine a variety of classroom environments in which this sharing is achieved to different degrees. The students are called to dwell with things in the way that they are shared. In 'being-with-others' the 'dwelling-in-a-familiar-way' is shared by the teacher and the students. The teacher determines how the students should dwell while considering the students' current understanding, then shares with the students. In shared

interactions, the teacher, in inhabiting students, things, activities and events, draws the students into a communal understanding of the significance of horses. The teacher can provide bodily/corporeal significance of living with horses. The teacher can create the environment in which students get near and then shares this environment. As a communal activity, the teacher is able to provide a situation in which the student can come to know the horses in a way that is relevant to the community in which the student is expected, in time, to participate. The teacher provides the situations in which participation with things is purposeful and intentional. The teacher, being able to live as one does with horses, is able to share that horizon with the students, making use of gestures, voice, language. The teacher can say to the student, "be with me and you will understand something of the significance of our life with horses." But, at the same time, as is evident with Bernadette, we could well hear the teacher say, "come to understand something of the significance of our life with horses and you will come to understand me." Involved here is a significance that points not only to the horse but also to the person sharing her love of horses.

Being With The Written Word

What does the written story do to communication? Does it affect the consensual sharing or the horizons in which sharing takes place? Here is a passage from Walter Farley's The Black Stallion (1941):

His gaze returned to the stallion, fascinated by a creature so wild and so near. Here was the wildest of all wild animals. He had fought for everything he had ever needed, for food, for leadership, for life itself; it was his nature to kill or be killed. The horse reared again; then he snorted and plunged straight for the boy.

Alec didn't move. His body was numb. Hypnotized, he watched the stallion coming. Then, twenty-five yards from him, the Black stopped. The whites of his eyes gleamed, his nostrils curled, his ears were back flat against his head. He

whistled shrill, clear and long. Suddenly he moved between Alec and the spring.

He pawed furiously at the earth. (p. 24)

This passage allows us to share consensually. We hear the scraping hoof against the earth, the snorting sounds and respond to it. We can visualize the size and color of the stallion. The author shares his understanding of horse as it exists within a particular situation. We imagine, imitating the boy in the story, feeling as the boy felt. When we read the story we do not intend to find out about horses but to live, momentarily, the rapture of the story.

The story has, presumably, been written by someone who has assumed the life of the horse as well as the lives of those living with horses and is now determined to share this with others. With written communication as an educational invariant, we can sense the ways in which stories can be used as a means of communication. Here the author invites the reader into the life of a boy and his horse so that the reader can dwell in this world in a familiar way. The author uses language that calls the reader to re-cognize the corporeal body so that the reader feels the situation described. Like the teacher, the author, once assuming life with the horse, can say to the reader, "be with me and you will come to understand something of the significance of our life with horses." The author does this by providing a context in which the student can enter (live) or which the student can imagine the ways that the protagonist lives the story.

HyperStudio

I use a multimedia authoring tool in my class called HyperStudio. It is a program in which text, graphics, video, and sound can be put together in a non-linear format to create projects or presentations.

The students come into the class and sit at their computer. Each knows enough about the program to create the cards that will comprise their stack. And each has already put together a story board of how one can navigate from card to card through the stack. I watch as students make new cards, coloring them, creating boarders, titles, and text that

will allow the reader to move from one card to another. The students concern themselves with the look of the cards, determining appropriate graphics to embellish the cards. Many neglect the established conventions that professional programmers use, placing buttons inappropriately on the cards or using non-conventional buttons for navigational commands. I have them create a projects about horses. "This is an open-ended tool," I think to myself. "The students can create their own understanding." When the students have completed their stacks and I begin to evaluate them I notice a strong similarity between stacks. Occasionally a student creates a stack that appears to be quite clever, though most present information as if it were in an encyclopedia.

Using HyperStudio within educational situations is an act of communication. But what is the 'way' of communing? I ask that my students show what they know about horses using this program. I ask that the students find out as much information as they can about horses and then create a project that shares that information with the rest of the class. While the students do commune, their communing is, however, not with the rapture of life that one might experience living with horses, but rather with a situation that treats horses as objects that we can manipulate. They share the occurent. The students, even while using multimedia, do not share the consensual in a way that the corporeal body enters into the 'flesh' of the community and life of horses.

As the students watch computer generated images cross the screen, listening to class mates' narrations and reading various descriptions, they focus on the occurent, on horses as beings, and not on the Being that brings the horses into existence. Students do not share the human significance of living with horses. The students watch things on the screen. They are called to get near things on the screen, yet those things remain removed.

The Internet

I search for horses on the Internet. A number of pages are listed, many appear to be advertising something, services, supplies. I find a site that looks interesting. It lists various

links for the person interested in horses. It is "The Ultimate Horse Lovers' Page." I find a link called Wayte's Rodeo Page. From here a number of links take me to different pages: Bareback Riding, Saddlebronk Riding, Team Roping. I click on the Bareback Riding link and within seconds another page entitled Bareback Riding appears on the screen.

The photos are excellent. The description is brief. I read over the page. I wonder who Wayte is? Who is it that is sharing this information with me? The movement and the colorful screens are enticing. I click on the Wayte's Cowboy Pages. A brief description is given about bareback riding. I am told what bareback riding is but I don't imagine doing it.

Interactions on the Internet, as educational acts, are acts of communication. But those with whom we commune have an invisibility about them. I do not imitate the movements of others, nor do I have, within the description of what bareback riding is, a body to share situations consensually. I share information on the Internet about horses with others. We share an approach, an organization with which we Internet users participate. We put things on the Internet with the assumption that those who will access these things already understand them.

Internal relations are implied by the text and by the format. We dwell in a way that gathering information is made paramount, not in a way in which sharing the ways in which horses play a significant role in people's lives. In using the Internet I set out to find something, not to live it. And I want to see that which I find. The orientation is one in which we are placed in a context of information gathering. The communicating is with others who gather and share information.

Commentary on the Educational Moments

We can begin to acknowledge in our analysis of communication within educational events involving educational technology that even though communication remains invariant, the ways of communication differ. The use of different technologies encouraged different ways of dwelling and different ways of sharing the dwelling. The book, which

shared ways of being with horses, did so in a different way than the Internet. Both used different language and had different purposes. The communing and the approach to dwelling seemed contingent on a preconceived notion of what constituted the thing. Treating the horse as a decontextualized object allowed us to share the decontextualized object in decontextualized ways. However, this may not be that which was intended to be shared.

## Summary

Thus far I have suggested that 'dwelling' and 'communication as sharing' are essential aspects in consensual experience. I have suggested that as dwellers we encourage others to dwell with us. This encouragement, as well as the sharing, is educative. As dwellers and as teachers we are called upon to invite others to commune within shared cultures (shared situations, activities and life-ways). For the child, much of that which we attempt to share is obscure. As teachers, we attempt to reveal authentically and fundamentally the domain in which we and others dwell, that which is still obscure to children. This, as I have suggested, cannot be achieved in the indicative manner proposed by Gradgrind with its orientation away from bodily/corporeal experience. Gradgrind has the students inhabit a horizon (or world) that is substantiated by horizons other than their own. Gradgrind provides a horizon in which information is desirable.

The Gradgrind example provides us with some insight into the technologizing of education and the communicative experiences that orient us away from the gestural/corporeal body. When students are presumably given experiences provided by technological mediums that they would not otherwise be given access to, when we take into consideration the potential richness of dwelling and communication, we find that such experiences fall short of what might be the desired goals.

In the next chapter, 'revealing' will enhance our understanding of education. The chapter will extend our notions of dwelling and communication. I will show when these ground educational activity, some form of revealing is necessary.

Chapter V

Revealing

## The Ways We Reveal

In the initial first-level analysis of education I determined revealing to be one of four invariants of educational events. The main aim of this chapter is, as a second-level analysis, to provide a detailed account of revealing as an invariant of education by examining 'revealing' and the 'ways' we reveal. These 'ways' involve: revealing educationally, revealing with others, revealing within horizons, the revealer's horizon, and, revealing consensually. The chapter ends with an analysis of four different educational situations which show changes in revealing when educational events include a participation with technology.

In this chapter, I attempt to make apparent the place of technology in the revealer's 'way.' Dwelling and communication, as discussed in the previous sections, help in clarifying this analysis of revealing by orienting the analysis toward the bodily/corporeal aspects in revealing.

## Revealing Educationally

What does it mean to reveal? And, what does revealing have to do with education? In the initial first-level analysis we sensed 'revealing' in that things appeared. In our consideration of dwelling I considered that becoming familiar with things and becoming near to things was contingent on the 'way' we are in-the-world. In the chapter on communication I considered the consensual sharing of being-in-the-world-together. As teachers we are in-the-world in such a way that we take it to be our responsibility to invite others to dwell with us communally and consensually. We offer the invitation to dwell. But

how is it that, after the invitation, consensual dwelling is achieved? This 'how' is the consideration of revealing.

It is in the revealing that we bring up children, *educare*, and, bring out and lead forth, *educere*, into the consensual domain. We are called to reveal a dwelling place for the child, to the child. We 'show' the child that with which the child might come near and stand amongst, revealing that which we deem to be of most importance to the child, in a way that is in the best interest of the child. We are also called to show the child the way. And, in doing so, child and teacher involve themselves in (inhabit) an activity of revealing.

In our concern for revealing, we share a life-way with those who reveal. Much of what we, as teachers, reveal to children has been previously outered or revealed to us. For example, the life of the pioneers setting across the Oregon Trail was outered at an earlier time. However, in educational situations we have the potential to dwell in such a way that technique and the technological aspects of recorded events are that which we live, rather than sharing the dwelling place of those who initially lived the event. It is in the recognition of revealing, communicating and dwelling in different ways than the ways intended that allow us to question the authenticity of the revealing. A brief example will help clarify this. On occasion we will observe children performing dances with adult themes (dances with inherent sexual overtones). Here it is not difficult for us to sense the inappropriate or inauthentic nature of such a performance.[52] A child performing a dance, which was initially intended to be sexually enticing, without having the background to understand why she is making the moves the teacher has taught is an example of inauthentic acting. The spectators might well be aware of the background in which such moves are authentic. Of course the teacher may have simply reduced these moves to technique without giving any thought about the nature of the moves. The argument might be made that the child should be taught to move this way so that she will recognize this communal behavior when she encounters it

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[52] A similar argument might be made for the child who is made to play a blues number or sing a love song.

in the real world. But the child, from the beginning, doesn't understand the dance from the sexual context but rather the technological context provided by the teacher. The teacher might say, "I want you to understand dance from the context of technique." The problem with this is that 'dance' cannot be 'understood' from the context of technique. What should be said is, "I want you to understand technical moves." To suggest that the child understands the dance by performing the technical moves is incorrect. What is required is a shared Being of content and context between dancer and the community in which she dances. The Being that makes the dance meaningful is in the world, not in the technique.

In education, we attempt to share the same background. This background involves dwelling and communing, shared by revealing. Potentially, with a technological orientation, what we do is no different than the dance teacher who, missing the point that spectator and dancer must share the same background in order to commune, teaches the child dance moves which find their appropriateness or authenticity only in the technological (technique) ways of life. In this case, dance has been reduced to a language-activity different from dance itself.

When spectators understand the dance only in terms of technique, the original essence of the dance has been lost, surpassed. Could we say that there are ways to make this performance more authentic? Two ways come to mind. One, wait until the child has the necessary background maturity so that such a dance is appropriate. Two, have the child do a dance that would be more appropriate to her background (for example the dance of the flower picker).

Why did the child perform the dance? The teacher taught from the technological horizon. The dance made sense to the teacher. If we, as teachers, are to reveal the consensual domain authentically we must concern ourselves with the integrity of the consensual. This is to say that we must concern ourselves with 'Being' and the sensual nature of that which is revealed to those, and by those, who share the domain. To

understand this integrity I question the way that the revealer uses technology and the technological as ground for that which is revealed.

## Revealing With Others

In educational situations we can sense an encouragement to dwell. Encouraging children to dwell is a most natural thing. But what is involved in the encouraging? As I walk along a busy public sea wall parents are continually engaged in activities in which children are encouraged to see, touch and hear. "Look at the plane," a young mother says to her child as she points toward a sea plane passing overhead. The child looks up in the direction of his mother's pointing. They steady themselves as their eyes and ears follow the plane across the sky. I, too, look up toward the plane. The sun glimmers off the metal fuselage. I watch it glide through the air, aileron[53] tilting so that the plane pitches, making a gentle turn to the right. The sound of the plane is deep and resonates within my body. I, like the child and parent, steady myself as my head follows the plane across the sky. I have flown a plane similar to that, a Cessna 152. I push down the throttle while turning, at the same time pulling back the steering column. I feel my shoulder drop slightly and tilt my torso.

"It has pontoons so that it can land in the water," the mother says. The child makes the sound of the plane, moving his hand across the sky. I, too, move my hand across the sky (like I have done so many times as a child), but only in my imagination.

Another mother guides her child's hand toward a small cocker spaniel. "Isn't this a nice puppy. You can pet it." The child bends down and reaches cautiously toward the puppy. Her fingers pat the puppy's back. The puppy turns to lick her hand as she attempts to hold on to the small tan dog. "Aw," the mother says. "Aw," the child mimics.

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[53] This is the movable hinged section near the trailing edge of an airplane wing for controlling the rolling movements of the airplane.

I watch the child and dog. I can feel the dog's coat even though I am several meters away. The lapping tongue, the course feet, the soft coat all touch me. The child wants to pick the puppy up, cuddle the puppy. "You have to treat the puppy gently," the mother says in a gentle tone.

These are not simply acts of pointing out objects. These are not attempts to reveal any particular thing removed from context, but rather an attempt to reveal what the "thing" means within its context. It is an attempt to show how we are with a thing.

In this revealing, we share our gestures and our habits. This is not a deliberate act but rather a part of the activity that makes the revealing meaningful. We reveal our motor significance with the thing. We encourage others to grasp the way in which the 'thing' moves with us and the way that we move with it.[54] We see this in the way that, in the previous examples, children were encouraged to be with (or in some cases, to imitate, or be) the plane and the puppy. But what is it about the encouragement to 'be' or 'be with' that allows some thing to be revealed?

The person doing the revealing shares their world. It is a sharing of the field in which they dwell so that both might dwell together. It is a sharing of the body catching and comprehending movement (Merleau-Ponty, 1961/1994, p. 143). In this way, when we dwell with others to whom something is to be initially revealed we rarely say, "This is a plane," or "This is a dog" (when we do we often encounter another question as to our ways with these things, for plane and dog must come into being meaningfully, in a form we understand through motion, movement, history). We say that this is a plane and dog as they are in our world--as they move through (belonging to) our world with us. And, we say that this is a plane and a dog in the way that we are with them. We show the other our action and reaction to the thing--the activity which makes the thing meaningful to us. We hear Merleau-Ponty say that motility grounds intentionality: "Consciousness is in the first

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[54] Merleau-Ponty (1962 / 1994) explains that habit does not mean, after the manner of empiricists, "that it consists of a mosaic of 'extensive sensations'. It is a system which is open to the world, and correlative with it" (p. 143).

place not a matter of 'I think' but of 'I can'" (Merleau-Ponty, 1961/1994, p. 137). We

show the children that we 'can.' Here we are brought back to courage as movement. To en-

courage children to dwell this way is to encourage them to dwell in form, in movement,

and in the person doing the revealing.[55]

The horizon in which the thing shows itself is a field of bodily/corporeal experience

in the world. To encourage others to move in the same field is to encourage them to move,

or be moved, in the same way. It is a calling for mimesis. It is a calling to share bodily

movement. When dwelling with the child the parent leads the way--an attempt to bring the

child in to meaning, an attempt to draw the child into the way-of-life. "Follow, we'll go

together." We partake of the same activity.


Revealing Within Horizons

The revealer is inspired, filled with thought and feeling, about something. "Look at

the puppy," the mother says to the child as if bursting with excitement. "Look at the pretty

saskatoons," I say to Meagan, as I feel moved by their beauty. "Did you hear that?"

Bernadette says, seemingly mesermized by the possibility of horses being near by. With

this inspiration the revealer makes our dwelling place richer, revealing that which may be

obscure within the fields in which we dwell. This is done by revealing that which is

obscure and making it consensual.

As we participate with the revealer's way, in an attempt to also perceive the

revealed, we are often led to reply, "Yes, I've experienced that, I recognize that." Or, "Yes,

I can see that." We are inspired.

We hear poet Steven Spender's description of his inspired thought.

Here is an example of a cloudy form of thought germinated by the word *cross,*

which is the key word of the poem which exists formlessly in my mind. Recently

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[55] Being 'in' another is not 'in' in a spatial, physical sense but taken to mean being in a shared background
so that what we do together is meaningful and understandable.

my wife had a son. On the first day that I visited her after the boy's birth, I went by bus to the hospital. Passing through the streets on the top of the bus, they all seemed very clean, and the thought occurred to me that everything was prepared for our child. Past generations have toiled so that any child born today inherits, with his generation, cities, streets, organization, the most elaborate machinery for living. Everything has been provided for him by people dead long before he was born. Then, naturally enough, sadder thoughts colored this picture for me, and I reflected how he also inherited vast maladjustments, vast human wrongs. Then I thought of the child as like a pin-point of present existence, the moment incarnate, in whom the whole of the past and all possible futures cross. This word 'cross' somehow suggested the whole situation to me of a child born into the world and also of the form of a poem, about his situation. When the word 'cross' appeared in the poem, the idea of the past should give place to the idea of the future and it should be apparent that the 'cross' in which present and future meet is the secret of an individual human existence. And here again, the unspoken secret which lies beyond the poem, the moral significance of other meanings of the word 'cross' begins to glow with its virtue that should never be said and yet should shine through every image in the poem. (Spender, cited in Vernon, 1970, pp. 69-70)

We may recognize Spender's insight, his revealing of that which may have been obscure in his use of 'cross,' though we may not have consciously symbolized it or given it name. The incarnation of past and possible futures, the incarnation of Being, is indeed one aspect of the world in which we are situated--a situation that may, for us, have remained obscured. Spender calls us through his gathering of ground. He reveals the way we are in the world. Through his work we may appreciate and understand this new metaphor of the meeting of present and future. And, in our own dwelling, we allow this to be the 'calling' within some future situation. The "moment incarnate," the child as a "pin-point of present existence" is made perceptible and we now live in this thought. We can

sense our insignificance in "pin-point." We can allow ourselves to sense the vastness of time and being. We can allow ourselves to feel our bodies cower, shrink. We can re-orient ourselves to the past and the future. As we participate with the metaphor "cross" we can feel ourselves open up to a point in time, as if, we too, can extend our arms so that our bodies assume the shape. We live the metaphor. With metaphor, we involve ourselves in, as Mark Johnson (1974) might say, "patterns of embodied experience and preconceptual structures of our sensibility (i.e., our mode of perception, of orienting ourselves, and of interacting with other objects, events, or persons)" (p. 14). But the poet is careful to call upon common, shared ground. He deliberately calls upon us to experience a shared horizon in an attempt to reveal that which may be obscure. By dwelling in Spender's horizon, our understanding is increased allowing future situations to take on meaning that may have previously been obscure.

Through his use of metaphor Spender reveals and presents a new way of understanding and perceiving the human condition. Using metaphor, Spender "gathers-together" experience to reveal a way of life and a way of understanding. In the gathering, he reveals the internal relations which thread through situation, activity and life-way. Each revealing calls upon us to re-act, bodily/corporeally. The "unspoken secret which lies beyond the poem" is revealed through the context (ground) of the poem--a ground outered through words, images and experience. A ground of human activity. It is within context, that we find the weaving together, the joining, the connecting. The poet weaves word together, joining and connecting thoughts and ideas that outer context, ground, so that which is obscure may be experienced. As if *through* words, *through* images, *through* ground, that which is obscure becomes perceptible. The meeting of present and future, as revealed by Spender, achieves a richness and depth by his gathering. Relationships become apparent, and meaning is substantiated from our, as well as Spender's, background or lived experience. And when shared, Spender's insights becomes consensual.

It is in our being-in a horizon that we share with Spender that the obscure becomes perceptible. It is here that we share the same 'flesh.'

## The Revealer's Horizon

If inspired thought leads one to reveal, where does this inspired thought lie? What is the revealer's horizon? The revealer lives within a life-way which encourages an opening in which possibilities may occur, or present themselves. It is participating within this activity which also encourages the perception, or living with these possibilities.

"And the thought occurred to me that everything was prepared for our child." This thought occurred, presented itself, suggested itself unexpectedly to Spender. But to occur is more than presentation and suggestion. To occur is also to befall: to fall out of the course of events; and, to meet with, from Latin *occurrere* run to meet. If thinking, as Nietzsche once said, is cutting furrows through being, Spender has cut the furrow and run to meet that which presents itself as a possibility. "The word cross appeared in the poem," Spender tells us. It came forth, it showed itself. Now 'cross' as sign not only leads the way for us into new meaning but, in its relation to the Latin *sec-are*, to cut, cuts a furrow into which meaning may grow. But the poet, as revealer, recognizing and acknowledging the clearing, lies in waiting for the obscure to show itself. Irving Layton (1974), Canadian poet, speaks of this experience in his poem *Soleil De Noces* .

> Soleil De Noces
>
> I wait
>
> for the good lines
>
> to come.
>
> At the right moment
>
> the sun
>
> will explode them
>
> in my back yard.

Then I shall

pick them off

the lion-

coloured road

and this unfractured

greenery,

thistle

and speargrass,

like bits of clothing.


## Revealing Consensually

The horizon in which we reveal is sensual. As I stand with Meagan I am open to the wonders of nature. I breathe in the smells of the forest, I let the sounds resonate within me. "Oh, look at the pretty saskatoons," I say to Meagan, momentarily losing myself in the 'Being' of the berries, letting myself be with the berries. I love the saskatoons. I am inspired, filled, by the saskatoons. And now I must share that inspiration. I feel compelled to share this feeling.

The artist dwells in such a way that s/he is open to let that which is obscure show itself. The revealer situationally melds with that which is to be revealed as one might give, commit, or join one's being to another. As Chagall (Winkler, 1983) had once said to the poet Louis Aligon, "The model is always love at first sight." Love suggests an attachment, a communion, a mutual participation. As Chagall commented on another occasion, "What we are all looking for in art is to rediscover the atmosphere of our first communion" (unknown video footage).

To experience that which the revealer experienced, we are called to experience, to feel, that which the revealer felt. We are called to feel in common. "When reading me,"

says poet Irving Layton (1974) in his poem *Whom I Write For*, "I want you to feel as if I had ripped your skin off." Just as the revealer lays him/her-self open in the revealing, it is this that the revealer asks of those who are to participate in the work. Layton intends to penetrate the flesh, to reveal the depths of our existence.

> The Ravens
>
> Where's the poem, my companion said
>
> Which yesternight made me cry out
>
> Like a sick bride or child, naked
>
> Before you and that moneyed lout
>
> Who smiled into his broad palm to see
>
> A man might be touched by poetry.
>
> I knew that he lived with his shame
>
> A day. Man, I cried, here's the poem
>
> Which if now read without the flame
>
> You will curse for a shapeless stone;
>
> From mixed emotions I made that song,
>
> Like yourself weak where I would be strong. (Irving Layton)

It is in the revealing that the revealer reveals and is revealed. The body gives itself totally to the experience, exposing itself, laying itself open.

## Educational Events

We can witness the sense of revealing in educational situations. Revealing is not only dependent on a context giving meaning to that which is revealed, but also on the way in which one inhabits that context by drawing others in to that inhabitation. There is a corporeal significance in revealing.

Now, in an examination of four educational events in which technology is considered, we can also witness how aspects of revealing take on different interpretations

when a technology becomes a part of the situation. This is not to say that revealing as an invariant does not hold, but rather that our interpretation and use of technology has altered our sense of revealing. As we will see, the corporeal significance is altered. And, the way we experience that which is to be revealed is altered. The four situations to be considered are: being with others, reading, using a simulation program, using the Internet. The topic to be explored is the life of the pioneers.

Being With Others/ The Classroom Western Town

It is not difficult to recognize revealing within the classroom--the way in which the teacher reveals that which may be obscure to the student, encouraging the student to enter into, or become familiar with the ways of life giving significance to that which s/he attempts to show.

I love teaching about pioneers. It is fascinating. There is something about the life of the pioneers that moves me: the commitment to create a better life for themselves, the hardships endured.

I have driven the highway that runs along much of the Oregon Trail. I imagine myself as one of the pioneers, looking out toward the west, filled with anticipation of starting a new life with my family. I am a pioneer. I have done things that require commitment, drive. I can reveal these feelings to my students so that they can understand the pioneers.

I decide to create an environment within my classroom that provides a context in which my students might imagine themselves living in a western town of the 1800's. Using an overhead projector, projecting authentic looking pioneer town building fronts on ceiling-height cardboard slats, I sketch and paint a bank, store and hotel, setting these up in my classroom. I have the students bring in ropes, branding irons, wagon wheels and saddles. I have them wear western clothes. I teach them western songs and read stories and poems depicting the life of the pioneers. I have them develop a newspaper called the 'Wild

West' and have them act out a western drama production. I have parents involved by having them prepare outings to a local pioneer town, our local museum, and a nearby farm. During all of these activities, I try to have my students imagine that they are pioneers living the life of the wild west.

In revealing, my concern as a teacher is to reveal the life of the pioneers. I open up to the wonder of the life they lived, the thoughts and bodies of the men, women and children who lived that life. I then attempt to reveal by inviting the students to inhabit the pioneers' horizon, a world that I share through my understanding. I attempt to reveal by involving the students in the ground, the 'Being,' that gives meaning to the things in the lives of the pioneers. I attempt to provide the situations in which a wonderment, the rapture of life, can be shared. I say to the student, "be with me and you will understand something of the significance of the pioneer's life."

Students are called to dwell with things that are shared. In communal interactions the 'dwelling alongside in a familiar way' is shared by the teacher and the students. The teacher determines that with which the students should dwell while considering the students' current understanding, then shares that which is obscure with the students. In communal interactions, the teacher, when inhabiting the students' horizons, can draw the students into a communal understanding significant in understanding the pioneers. The teacher can provide corporeal significance of pioneer life, creating an environment in which students get near and share. As a communal activity, the teacher is able to provide a situation in which the student can come to know the pioneer life in a way that is relevant to the community in which the student is expected to live. The teacher provides the situations (the activity and the language) in which participation with things is meaningful.

Being With The Written Word / Reading a Letter

What is our sense of revealing when the written word is used? When we read a letter we presume that it has been written by someone who has experienced the life of the

pioneer or has assumed the life of the pioneers and is now determined to share this with others. Presumably the author has been inspired to do so. Like the teacher, the author provides context, sharing that which is meaningful, calling the reader to dwell in a purposeful, intentional way. The author, having been caught in the rapture of life, calls to others so that they too might live that life. The author calls the reader to come near to something or someone, coming to new understanding by re-living the corporeal significance of Being, by being inspired. The author calls the reader into the life of the pioneers so that the reader can dwell along side in a familiar way. Like the teacher, the author, upon assuming the pioneer's life, or having lived the life directly, can say to the reader: "be with me and you will understand something of the significance of the pioneer's life. Read these words so that you might be inspired." Or perhaps even more importantly, we might hear the author say, "understand the significance of the life of the pioneer and you will know something of us." The following passage is from a letter written by Elizabeth Stewart Warner who made the journey along the Oregon Trail as a wedding trip.[56]

> we crossed the Missuri on the fourth of May in the rain. we crosed on a ferry boat and was to cross the next but ther was another familie had got into the boat, before them. david Love and fred was just coming to cross on the same boat thay had been over to buy another youlk of cattle but were just one minute to late, and well it was for us all for the boat struck a snag and drowned 7 men a woman was standing on the bank, she said to mother, do you see that man with the red warner on well that is my husband and while she spoke the boat struck and went down and she had to stand within call of him and see min drownd. O my heart was sore for that woman and three miles from the river we saw another woman with 8 children stand beside the grave of her husband and her oldest son so sick that she could not travel annd had to go up the river 12 miles before they could cross . . . (p. 92)

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[56]Schissel (1992).

I watch and listen to my students respond to what is read. I witness the sentiments that the author shares with the readers. The students inhabit the lives of the pioneers in emotional ways. But what is it in the revealing that encourages such a response? Why might we pause and reflect after reading the passage? Why are we touched? Warner provides an event which pulls us into it as we read. Knowing that the passage is from a diary, we feel a connection to the past and to those who lived through the event. Warner expresses the sadness she felt within the context of the journey. She reveals her connection to others and to the earth. We read one event and yet can sense so much of the life of a woman crossing America along the Oregon Trail. She reveals that which allowed the event to occur. She reveals Being.

While the author of the text calls the students to dwell, there is a reduction in the gestural/corporeal significance. The movements of bodies and the sounds of voices are limited to what is available through textual description--to that which can be re-lived. We do not see the face, hear the voice, witness the shape the woman's body assumes when she responds to the event in our imagination. The more poetic a textual re-presentation, the less reduction of the corporeal significance. Given a more informational text, the reduction of the corporeal/gestural significance may be more.

The Oregon Trail

My students use a computer program called the Oregon Trail (1992). I allow them to participate with the program so that they might achieve a richer understanding of how pioneers crossed America in hopes of finding a better life. The students play in pairs. I listen to them talk to one another. They make decisions regarding imaginary people, supplies, and situations. They are placed within problem solving, game-like, situations. The students watch computer generated images cross the screen, sinking into ruts in the ground or toppling over into rivers. To my disappointment I listen to the students laugh as imaginary family members are injured or even killed in the trek across the country. This is

not the understanding I hoped they would achieve. They do not understand the human significance of such a trek. They do not appreciate the way in which humans suffer hardships, loss, fear or joy.

What is revealed so that students act as they do? What is the nature of the dwelling? The students do dwell. They get near to things. They are getting nearer to the problem solving aspects of the Oregon Trail trek in as much as these problems can be portrayed in a computer program. They get closer to some of the actions these pioneers may have elicited, such as having to decide on the amount of supplies they required for the journey or considering where to cross a river. They do not re-live in such a way that the Pioneer's hardships are made meaningful. For those who made the trek, problems and decisions such as these are not made in the context of a game. For the pioneers, these are decisions that one's life depends upon. Thus the pragmatic and contextual nature of these acts are inaccurate when compared to authentic situations. The gestural mimesis is minimal; corporeal significance, altered. That which is revealed is not the rapture of life as the pioneers lived, but rather the rapture of playing the game.

The Internet

I have my students use the Internet to find out information about the Oregon Trail. Some do a topic search, typing words into a search engine's text field so that any page designated by that chosen word will be listed. "What did you find?" one student asks another. "I can't find what I'm looking for," another sighs. "We found something that might be good," one girl exclaims as she and her partner point at the screen and discuss what appears. Some students follow links that I have already provided on our classroom Homepage. A number of computer monitors display a page that is called "Exploring America in Computer Simulation Games." An article appears that evaluates a number of simulation games including the Oregon Trail. Another page, "End of the Oregon Trail Web Page" gives some details about an Interpretive Center in Oregon City. Some links are

provided here that give some information on such things as wagon construction and the contents that would be taken on such a trek. Another link gives a couple of pages that briefly describe some of the conditions such as accidents, weather, cholera and river crossings.

Interactions on the Internet, as educational acts, are acts of revealing. Students can access information on about the Oregon Trail. But this information does not provide an authentic understanding of Pioneer life. It does not reveal how we are 'in' the significance of the Oregon Trail. The students do not sense body action or reaction to the historical events.

There is a revealing with others, through others. The pages on the Internet are those others. That which is shown on the Oregon Trail Page and the way that which is shown constitutes the actions of others. Pictures of pioneers are shown, however the students have not been told how the lives of the pioneers are responsible for what is seen. This is how we treat the crossing of America. The crossing now means pictures and explanations of events. The students may see children with bare feet but not understand the life of those children whose bare feet crossed the tugged terrain. The students may find information on wagon construction and yet be unaware of the significance that the wagon played in crossing the terrain or acting as shelter from weather or hostile attacks. Information on the Internet is concerned less with Being (in this case, the lives of the pioneers) than virtual beings (the objects on the screen).

Commentary on the Educational Events

We can begin to sense in our analysis of revealing within educational events that include educational technology that while revealing remains invariant, that which is revealed can differ. One sense of revealing is calling others into the lifeworld (Being) that allows other beings (things) to come into existence. The other revealing is a treatment of things as objects that are independent of ourselves. This contributes to two senses of

experience that have become increasingly apparent: the experience in Being and the experience with beings. We find that the gestural/corporeal sophistication of an event can be reduced when participating with a technology when that technology contributes to an orientation to being. Thus, the thing's meaning is reduced.

## Summary

In this chapter I dealt with 'revealing' and how those who reveal experience the revealing. The 'ways' of revealing discussed were: revealing educationally, revealing with others, revealing within horizons, the revealer's dwelling, and, revealing consensually. This chapter moves us to the point at which we can more thoroughly discuss the call of the technological that one experiences when using technologies. This experienced orientation is what I refer to as technological attendere, which is the topic for the next chapter.

# Chapter VI
# Attendere


## The Ways of Attendere

In the initial first-level analysis of educational events I determined attendere to be one of four invariants of educational events. In a second-level analysis I examined the invariants dwelling, communication and revealing. This chapter acts as a third-level analysis in that it is an eidetic reduction of dwelling, communication and revealing. This is to say that dwelling, communication and revealing make sense through a way of being that I refer to as attendere. As I showed in the previous three chapters, dwelling, communication and revealing are altered when one participates with the technological. This chapter will show that it is a technological attendere that gives shape to these altered forms of dwelling, communication and revealing. I also show that participation with a technology is not entirely responsible for technological forms of dwelling, communication and revealing. I show this by juxtaposing events that seem to be experienced with a technological consciousness and events that lack that consciousness when a participation with technology is evidenced. In the previous chapters I showed a variety of educational situations in which the 'flesh' (a flesh that includes being and Being) was reduced due to an orientation and inhabitation of situations in which the technological held sway. In this chapter we begin to sense more fully how and when we belong to the situation and how and when the situation belongs to us. It is the orientation to the technological, and the call of the technological, that I refer to as the technological attendere. In this chapter I analyze the technological attendere within situations in which technology is used. I show the way that the technological attendere is involved, or involves one, in an understanding that implies dwelling, communication and revealing. And, as will become increasingly apparent

in this chapter, the form of attendere is largely dependent on language. This will be considered in the chapter 7.

To understand technological attendere I examine those who reveal with technologies, and where it is they are oriented (where they are) in the revealing. I begin by questioning how it is that the revealer experiences technology in the revealing. I continue by questioning how the revealer shares the utterance when technology is involved, that is how the revealer attempts to share his/her insight in a way allowed by the limits and potentials of his/her technological means at hand. In doing so, I begin to define the participation with technological ways and artifacts and how this participation gives meaning to dwelling, communication and revealing. What becomes apparent in the following analysis is that much of the technological enframing in the educational technology discourse is a result of the way in which people interpret the way they share experience with technology. This is to say that when revealers have been asked to look out upon that which has been done, to look outside themselves, their language is largely concerned with the technological.

I chose a number of experiences that will contribute to our understanding of the invariant attendere. By describing the experiences, I increase our sensitivity to the way our bodies inhabit situations in which technology is used and how things are treated within the bodily/corporeal experience. The descriptions allow us to sense the way in which the technological attendere encourages us to treat things as distinct objects. We begin to sense how we can be oriented toward, and inhabit, the technology that we use to share rather than the ground which allowed for the existence and meaning of the event .

This chapter will be comprised of six sections: (1) The Revealer's Dwelling with Technology, which acts as an introduction to the next three sections; (2) Beyond the Technological Horizon, where we witness the use of technological artifacts in carving and music composition while sensing the non-participation with the technological; (3) The Creation of Ground, where we begin to sense the experience of creating ground using

technology; (4) The Participation With Being, where our participation with ground is examined; (5) The Technological Attendere, which is an attempt to explain our experience when oriented to the technological; and (6) Educational Events, which once again explores four educational event of varying interactions in educating students about the topics discussed in the previous chapters (berries, horses and pioneers).

**The Technological and Non-technological Fields**
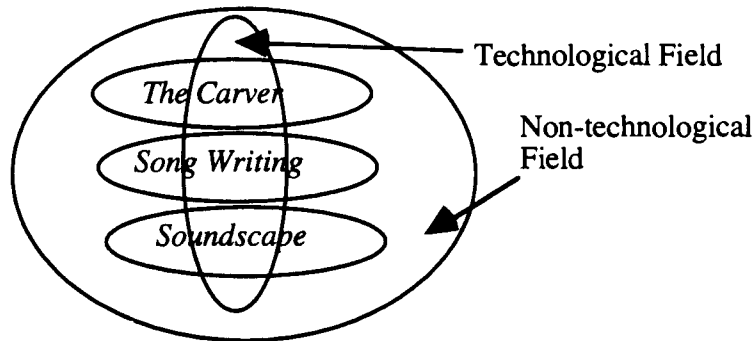


## The Revealer's Dwelling with Technology

Mozart once said, "If one has the talent it pushes for utterance and torments one; it will out; and then one is out with it without questioning" (Kerst, 1965, p. 5). But where does one dwell when inspired to outer? How does one experience this outering, especially when technology is used? What are we to say of the technological in the revealing? We can listen to others who make it their life to reveal. Both Spender and Layton mention the means they have at hand: Layton says, "I wait for the good *lines* to come." Spender, "A form of thought germinated by the *word* cross. But are these the 'means' with which we are to dwell? In this case we hear, in explanation, lines and words, but are called to dwell with that which is written in "poetic form"--the insight. The revealer attempts to share his/her insight in a way allowed by the limits and potentials of his/her technological means at hand. But to what extent do the technologies shape the insight? Does the way of sharing the insight affect the insight itself? Here we begin to separate the insight and the sharing of the insight.

Revealers often find the technology to be quite transparent. Transparency suggests that the dwelling is not within the technological field but elsewhere. We sense the transparency watching the Aivilik carver.

## Dwelling Beyond the Technological Horizon

### The Carver

I begin with the Aivilik carver as described in Carpenter's (1961) book Eskimo. Carpenter speaks about that which he had witnessed while living with the Aivilik people. With this, two aspects are revealed: the carver's act; and, the carving itself. Within the carver's act the sense of 'waiting,' 'laying him/herself open,' 'recognizing the clearing,' and 'revealing the hidden' are revealed. Within the activity of carving we sense the carver's participation with the carving (in that it is spoken to, participating with the carver's personality), the carver's participation in the carving (the fusing and the mingling), and the life of the carving.

Aspects Within The Activity of Carving
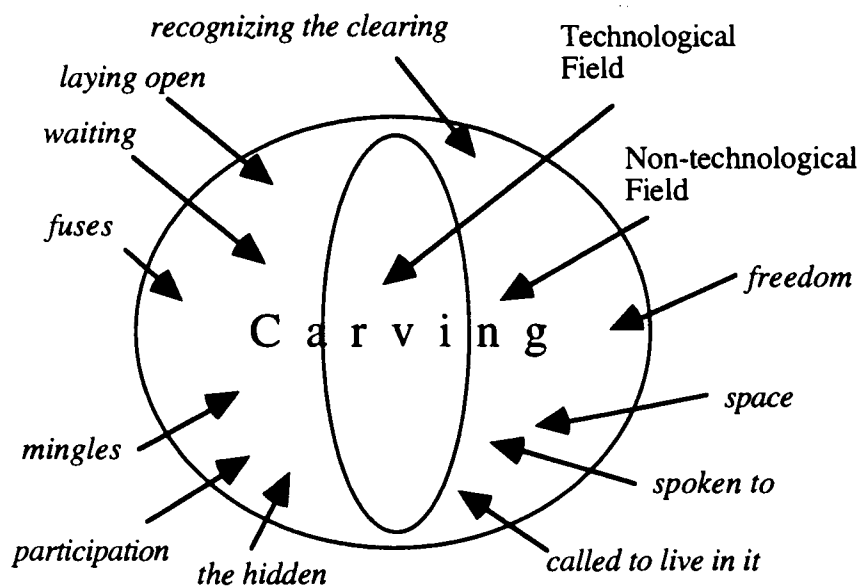
We sense the way in which the body dwells, in motion, orienting and inhabiting that which shows itself. Carpenter (1961) describes the Aivilik carver.

> As the carver holds the unworked ivory lightly in his hand, turning it this way and that, he whispers, 'Who are you? Who hides there?' And then: 'Ah, Seal!' He rarely sets out, at least consciously, to carve, say, a seal, but picks up the ivory, examines it to find its hidden form and, if that's not immediately apparent, carves aimlessly until he sees it, humming or chanting as he works. Then he brings it out: Seal, hidden, emerges. It was always there: he didn't create it; he released it; he helped it step forth. (unpaginated)

The carver waits for the form to show itself just as the poet waits for the "right lines." The Aivilik, with knife, carves aimlessly, dwelling within a life-way that recognizes the clearing within 'sealness.' The carver, laying him/herself open, participates with ground that gives meaning to his way of life with animals--the 'who.' The carver is open to sense activity, in Being, waiting for some thing to show itself.

. The Aivilik carver dwells within a way of life in which the hidden is allowed or even expected to show itself. But the 'ivory seal' that emerges is not the 'seal' that emerges. For the ivory form that emerges is object, the seal that emerges lives in meaning that grounds the Aiviliks' way of life.

The Aivilik, we are told, have no word for art. The word for carving is *sananguaq* or *sananguagaq*: *sana*, making and *nguaq*, model, imitation or likeness. It is a likeness, with its own diminutive reality, that is hand-crafted[57] But to the Aivilik carver the seal as representation has little meaning. The object is not something to simply view, but something to live with and to live as. It is the participation in sealness, the dwelling within a life-way in which that form is meaningful, that calls the carver.

> Art to the Aivilik is an act, not an object; a ritual, not a possession. . . . The carving lives in the hand as it is moved, spoken to and about. Charm, toggle, ornament,

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[57] This etymological information is from the Canadian Eskimo Arts Council (1971).

move on the clothing of the wearer, participating in his actions, his personality. The tool, like the worker, is an ingredient of the act of work. Aivilik art is never static. (Carpenter, 1961, unpaginated)

Art, as act, as revealing, is a setting in motion, a 'leading' or 'drawing in.' Art is motion, it is dance. It is a bodily/corporeal movement, a revealing of the 'flesh.' It acts in the way that Irving Layton (Winkler, 1983) referred to poetry: "it has to dance. It has to get off the page and dance. It acquires a certain blazing radiance, a certain rhythm and you know you are in the presence of poetry" (unknown video footage). Just as the poem lives as it is spoken, living us, so too does the carving as it is moved in the hand. It lives and calls us to live as it, with it and in it.

For the Aivilik, the artistic act is more of revealing and less of creation. The orientation is not technological. The focus is not on the technology, not on the systematic treatment of their art and craft. The Aivilik, as Carpenter (1961) observed, do not bring to the act of art the technological language nor the technological situation which calls the interpretation of Western art. They do not treat objects as removed from the Being that brings them into existence. The experience is mimetic in the way that the carver "enters into," "mingles," and "fuses" *with* the object being carved, with the Being in which the object exists. Here again we get a sense of the carver's dwelling place.

He doesn't remain apart, contemplating, controlling, but, to the extent his cognition impinges upon it, he participates in Seal-ness or Walrus-ness. This participation isn't limited to the sense of sight, for Aivilik art doesn't render the visible: it renders visible. It portrays not merely what is perceived, but what is known and true, and since truth here involves all senses, plus tradition and imagination, it embraces all cognition. (Carpenter, 1961, unpaginated)

The Aivilik's activity does not call the Aivilik in to the confines of the technology at hand, in the technological field. The carving is not meaningful from the technological horizon nor the technological act. The carver does not dwell in the technological field. That which unfolds is not deliberately understood from within the technological horizon but rather from within the horizon of humans living in the world with animals.

By not impinging form on material, by not rendering visible, the carver's "being" is less with the technology at hand than that which s/he is revealing. His/hers is an activity not with technology but in earth, life and spirit.

## The Song Writer

The second example I use is that of writing a song. Within this activity we sense 'imagination,' 'feeling sound,' 'moving with and in sound,' 'anticipating,' 'completeness,' and 'comfort.'

Aspects Within the Activity of Song Writing
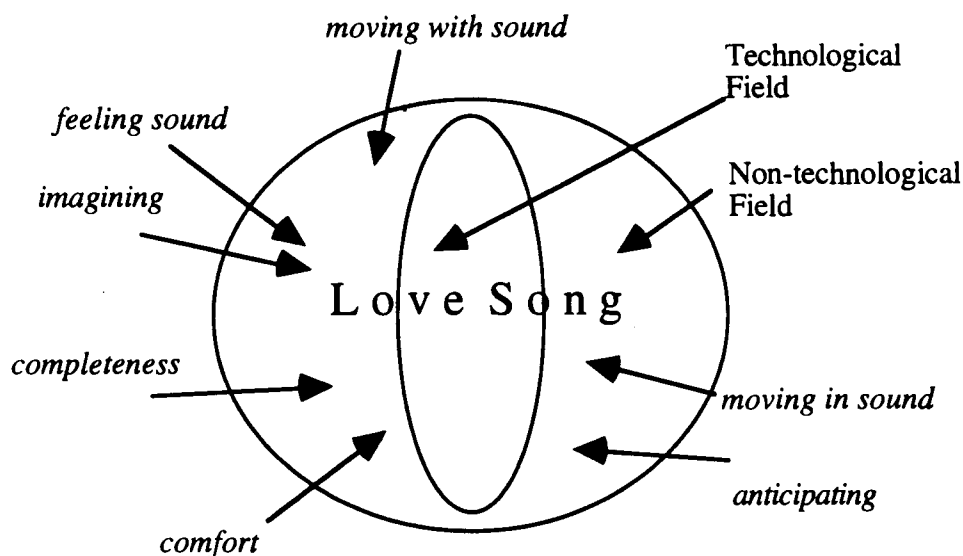


For those who write music, non-technological dwelling is common. I find this to be the case as I examine my own composing:

I attempt to write a love song for my wife. I imagine her. I dwell within a life-way which calls her. Because I am naturally drawn to the guitar, in that I am often comforted by playing, I decide to write a song about her, for her, for me.

I sit down with the guitar. I close my eyes. I relax and open myself up to let any feelings I have experienced with her show themselves. I let the feeling settle in my chest. I try to see her in my mind, to touch her, taste and smell her. My mood is slow, somewhat tranquil. I feel the course texture of the guitar strings with my fingers. I touch the strings lightly. I feel the sound resonate within my chest, head, shoulders, neck. The sound moves around in my head, around the back of my eyes. I feel her against me. I imagine touching her skin with my hands. There is pressure within my chest, within my torso. I let my fingers play sounds that slowly rise and fall.

I rise with the sound, entering into the opening provided by the low sounds. We weave, moving deeper as we go. I desire to rise again, for it was uplifting the first time. Perhaps higher. I feel us together. I feel in such a way that I want to bring the feeling back down, relaxed. Here she is. She smiles. I bring the melody down. But as I begin to lift the melody back up, I sense the significance that our relationship holds. I bring the melody back down. Back down, the ground, so that I feel a sense of rest, of stability. My diaphragm relaxes, I breath out. As I breath back in, I replay the last feeling. Rise, and then back down. I imagine her dancing, moving. The sound is nice, the melody is nice, the feeling is right. And it feels like her, like us. I walk up behind her and she turns around and looks at me. She smiles, I smile back. I bring the sound down. I get a sense of the correctness of what I have just played. It is as though the feelings that were tightly coiled within me slowly spread to the surface of my skin. I replay the feeling. We walk together along the seawall, touching, laughing. I replay the feeling. She lowers her eyes. We talk, we move, watching each other, we move. The ocean splashes against the shore. I replay the feeling. We open our hands and push them together. She spreads her arms, we embrace. We lay together. I stop playing. I am tired.

I feel that this melody could not be for anyone else, for it is us and the way that I feel. And each sound that I think, and each sound that I play draws out my e-motion. Each utterance of sound is filled with emotion that I feel. Each utterance of sound is an outering of us. I feel her touch and her caress. At times I catch glimpses of her, of her smile, of her standing with me, of the way she lowers her eyes.

I want a second part. But as I realize and desire this, it is as if the spell is broken. I'm tired. I consciously try a few arpeggios. But now I think in terms of arpeggios, parts, thirds, fourths. I try to construct a new melody. I play the last phrase of the first part and try to feel something follow from that, to fall out of that. But what I try isn't right. And I realize that I will have to wait until tomorrow.

The following morning I awake with the same melody in my head. I hum it and think of her. My humming is expressive, sensitive, the way I am with her. It is the way I talk when I am with her.

But this time as I hum the melody I don't return to the beginning of the melody. I carry on and the second part flows out of me. Yes, that's it, I say to myself. It speaks, somehow, of the love that I feel for her. It is as if I call out to her, and she responds saying everything will work out fine. I hold the sound momentarily, deliberately. And then as if altering the smooth flow, I regain the movement. Then, bringing the melody down, as if sad, sullen, as if I sense the way she felt in the past, I alter the flow. It is a pause, a space for reflection. A pause for a question: "Where do we go from here?" The response is that we will go on together, forever. Her arms wrap around me. I open the melody back up. It rises. It is a bodily gesture of spreading one's arms and raising them upward. I strengthen this reassurance, I repeat the phrase, and allow it to be resolved back to its ground. And once again, as I repeat the phrase, I get the sense that this is us. And once again my emotions well to the surface of my skin, drawn into the music. As I play my body rises and falls with the melody. I accentuate the pauses.

With the second part I have a stronger sense that we are together. As I finish playing the second part, I repeat the first part, once again falling into a renewed sense of comfort. As I play the second part I feel as though my shoulders are being spread apart, and my chest thrust forward, and I am opening myself up. And I breath deeply, and let my head fall back. But once again, as the melody descends, my shoulders are pushed in. My body feels like it could collapse. My head lowers. The sound breathes, and breathes me in with it, and breathes me out with it. As I play, the sound is in me. It is part of me. There is no sense of where the sound ends, and I begin. It is part of what I believe us to be.

It appears that the writing of a love song, in this case, does not consist of the technological as we might think. The experience is not one of a conscious use of music conventions and technologies. It is simply an attempt to feel the rapture of life that I feel with her.

So to what extent does the call to live the rapture of life and the 'flesh' depend on the technological? I do not deliberately call upon system, technique, yet I play in a manner that is meaningful for me. While arpeggios, intervals, and modes are a part of my repertoire, they are not where I dwell. They have, through practice, been absorbed into my way of life. Their use can be pointed out in my activity, just as my activity can be pointed out in their use. But I dwell in a life-way that reveals a 'way' of being and feeling in love--I dwell with her. The technique belongs to me while I am the ground.[58] While dwelling here I do not question why I used certain techniques. It is only in retrospect, in analysis, that the "why?" is asked. The life-way in which I dwell is one of feeling, of gesture, an "opening up." It is corporeal feeling that I share with others--cultivated gesture that grounds technique. The musical language I use is a way of entering into that rapture of life which is felt as love. It is through the music that I attempt to reveal the rapture. The technology becomes a part of the ground, a part of the utterance, through which the rapture will burst

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[58] Heidegger, in his formulation of care, refers to "being-the-ground" or "ground-being" (Grund-sein).

forth. I sing, "Live with me and my song and you will understand something of the love we feel for our loved ones."

## The Technological Experience

Thus far the attendere has not been of a technological nature. But we can sense the technological attendere when we are oriented toward technological ways and artifacts. I continue the phenomenological description of the love song to show the technological attendere.

Aspects Within the Act of Song Writing
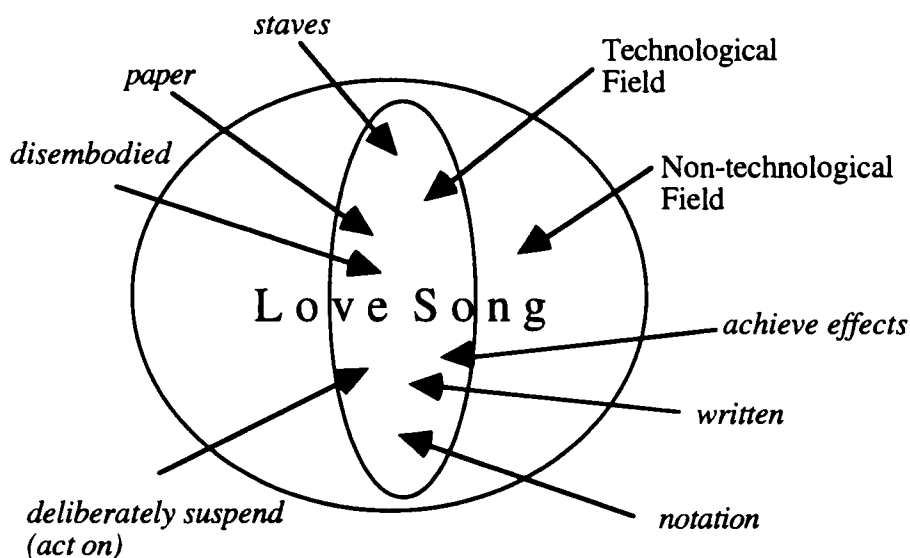


I want to record this song. I look around for a tape recorder, but there isn't one handy. I take a piece of paper and draw staves on it, treble clef, bass clef, key signature. And I sit back down with the guitar. I play a portion. Eighth notes, quarter notes. I copy the notes on the staves, try different notes for slightly different effects, erase, copy. At times I fluctuate inhabiting the love that I felt and inhabiting the music in an objective way as it sits before me. I'll deliberately suspend the seventh, descend in fifths. To create the

image of a third voice, I create chords with the lower part moving in contrast to the higher. Sixths, fourths, thirds. The work is rough, but suffices for the purpose.

I now sit and look at the sheet of paper with the music notation. I am now oriented toward that which I have written, inhabiting its form. In some way, I have the sense that the song exists outside my body. I play what I have written. I follow the notes. I play "the notes" on the guitar. I no longer experience the same emotion. I no longer feel embodied in the sound. I look closely at the notes I have written. I am now being drawn into the written music. And that which is written is now that which is being pulled into the sound. I am trying to make the written music the sound. She is no longer the sound or the melody: We are no longer the sound or the melody. That which is on the sheet of paper is the sound, the melody. My emotions are constrained. They are shallow. They are dry. My motions are constrained. The music sits outside of me.

The following day I sit down with the guitar to play the song that stands before me shabbily written on the piece of scrap paper. I avoid looking at the sheet of written music and begin to play. "Is this the way it goes?" "Is this what I have written?" It is difficult, and feels strained. Once again I play what I have written. But still the feeling is not as intense as it was initially. I have the sense of loss. I dwell within a life-way that gives meaning to the technology, to objects within a technological ground, not the woman whom I love.

## The Creation of Ground

The revealer uses technology to create ground as well as using technology as ground. The revealer gathers together lived experience in the creation of ground, and calls upon us to live within his/her activity.

The gathering of ground can be readily experienced in the creation of a soundscape using computer-based music technology. Using a multi-timbral synthesizer (a synthesizer that can play multiple sounds or voices simultaneously) and a sequencer (a digital recorder with which one can record and manipulate that which has been recorded on the synthesizer)

a scape of sound can be created. This description acts as another variation of music but is oriented more toward the sound in music.

Aspects Within the Creation of Soundscapes
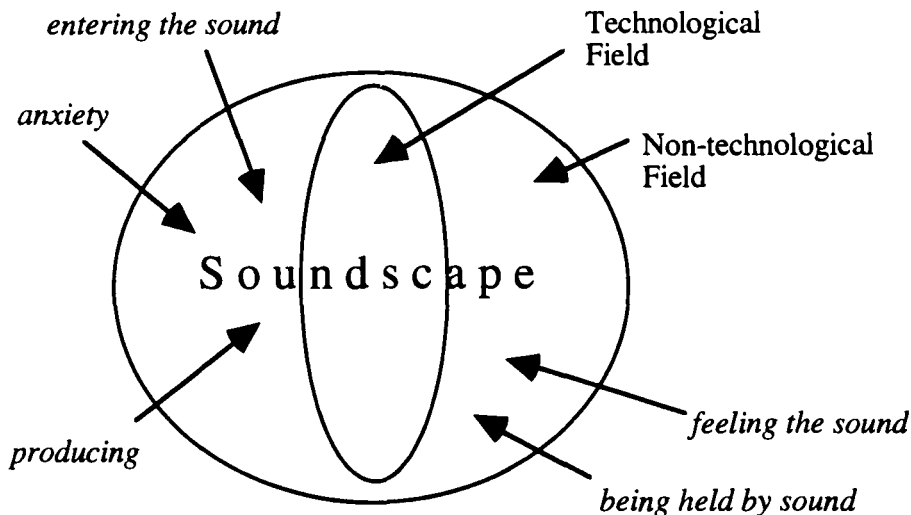


I reach behind the keyboard with my left hand and switch the power on. The red power button and the green indicator lights flicker. I reach over to the computer keyboard and press the power switch. The familiar chord sounds and the hard drive rattles through its usual procedure. I point the mouse on the Master Tracks Pro® sequencing program icon and double click. I pay no attention to the introductory screen but immediately ensure that the keyboard is set so that the upper and lower keyboard sections trigger soundbank number one. My actions are automatic and deliberate. The action is something that I have done often--something I do mindlessly.

A gritty sound comes to mind, one that may be appropriate for the mood I want to produce in the soundscape--the mood I want to share with my listeners--a sound with which I am familiar from past experience. I reach for the sound card. "Soundtrack" -- bank 6, number 5. I press 6-5 and the name "Soundtrack" appears on the keyboard screen.

"I will begin with a low gritty sound. C."

I dwell within a life-way that calls forth the producing of a mood. But the mood is not 'in' the music. It is something to be brought forth or drawn out.

I press the low C on the keyboard. The sound is one that crescendos. Even slightly more than I expected. But it is good. It feels right. It feels of anxiety. Of my anxiety. The sound swells. It begins to swell within me. In my torso. I swell. And as the sound rises up my torso I slowly straighten my back. The sound rises through me, through my neck, into my forehead. The sound is physical. I let the sound fall from my forehead back toward the keyboard, as if I myself was falling with the sound, as if I myself were falling in a waterfall of sound back toward the keyboard, splashing over the floor, splashing over rocks. I slump my back and push a lower key to slow myself down. The new sound enters my body, and I enter the sound. I meld with the sound and am taken with the sound. I want to rise, to feel myself rise. I let my hand drift up the keyboard. "Not too far." Not too high. Not yet. Not quickly. Slowly, as if to walk out of this space, one step higher. "Hold it, hold it there. Hold it there until it is time to take another step." Again, another step. Move slowly. Faster. My body lunges forward with each rising note. High enough. Climb on the sound. Hold it. Rest on it. Lay on the sound, in the space that the sound has created. Rest. Escape. Escape the sound. Escape the anxiety. It's under me. The sound is under me but still touching me. It holds me there. Light shines from above. But something continues to resonate. The sound must be lower. No, the sound must open up, to let me drop through. Drop to the depths. To drop but not to crash. I lift my finger off the keyboard. Silence.

## The Technological Experience

Aspects Within the Creation of Soundscapes
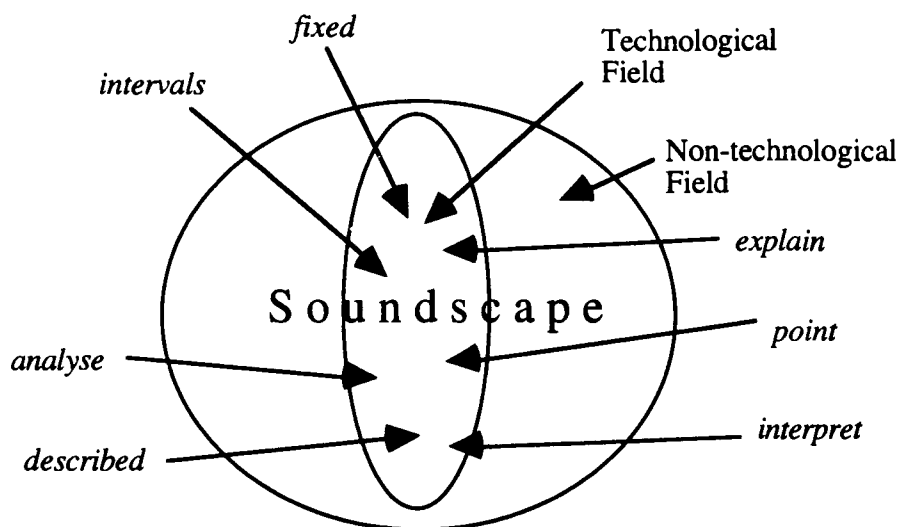


I click the sequence to the beginning of what I have just recorded. The first six measures are visible on the screen--a succession of whole notes that are semi-tone increments. On measure 16 the note jumps a third and then on measure 18, a fifth. When asked about the piece, I say that I can create a tension by slowly increasing the pitch and the tempo. I mention that a closed hi-hat on the first beat of every second measure, and some congas on every fourth measure, might begin to solidify the rhythm.

I visually scroll the music notation. I hear the intervals, the changes in my mind as I point and analyze. But I am not moved as before by the sounding intervals. I do not open myself up to the sound. I do not swell, fall, and meld with movement of sound. That which once moved is now fixed in time and space. The aural is now visual. I do not enter the sound but rather I move about the visual patterns set before me.

My music is described, interpreted and explained in technological terms. In my explanation, and our interpretation, the dwelling is within the shared technological horizon. I point at objects, rather than participate with sound. The activity and situation has changed.

The rapture is obscured by the technological life-way--the rapture with which I participated during the creation of the piece is gone. I now dwell within a technological horizon.

When we listen to these experiences we sense a different bodily/corporeal dwelling, communing and revealing. We sense the technological attendere. During the writing of the love song my dwelling seemed to be in the ways of love, ways I attempted to evoke and re-experience through melody. Playing for others was a call to participate in similar ways so that they too could experience that love. The activity moved me in ways that seemed to draw out my feelings at the time. The dwelling, however, was within life-ways that gave meaning to the love I feel for my wife. And while the use of a technology was part of my activity, it was not that to which I was oriented.

My creation of a soundscape was a participation with sound while being an activity that made the chosen sounds and notes appropriate for the tension and anxiety I wanted to produce. While situations that include technology may suggest an enframing by the technology, in that ground can only possess the potential (the openness to Being) that the technology allows, I note that the technological need not be that to which I am oriented. The life-way in which I dwell is one which calls upon the feelings I experience. The technological has previously been absorbed into my activity. Technology, treated as an openness to authentic Being, calls for a non-technological participation. The technological attendere closes authentic Being resulting in educational insignificance.

## The Participation with Being

To participate is to take part in the way in which the object shows itself. To participate with some thing one must dwell within a life-way or activity that allows the thing to show itself as it does in a way that is meaningful. We sensed this with the earlier example of Heidegger's coming to know the thing. Here we begin to get the sense that to dwell meaningfully, significantly, one enters into Being so that meaning becomes apparent. It is living the 'flesh.' While participating with Being we take Being for granted. We do

not, while participating with Being, question our participation. It is only as we 'are' that the thing can 'be.' It is like the dandelion calling to the child, enticing the child to participate with it, so that the child comes into being with the flower, so that the child comes to know the flower, to come to live the object through participation and mimesis.

> There was a child went forth every day,
>
> and the first object he looked upon,
>
> that object he became,
>
> And that object became part of him for
>
> the day or a certain part
>
> of the day,
>
> or for many years or stretching cycles of years.
>
> (Whitman, 1965, p. 364)

The child, as Whitman recognized, participates. We can see this participation often with children at play.

Cory is hunched down, alone, in the sandbox surrounded by a number of small toys. He is building roads. He has a miniature D9 Caterpillar. With the blade slightly scraping the sand Cory contours a road just large enough for his cars and trucks. He makes engine sounds as he pushes the toy Caterpillar along the sand.

"Hey Jim," Cory shouts, looking toward a miniature grader. "We need some dirt over here!"

"O.K." Cory replies in a slightly deeper voice. He reaches for the grader and steers it over bumps and lumps making grader sounds as he goes.

The experiential distinction between Cory, the Caterpillar, the grader and Jim during this play cannot be easily defined except by the observer. We hear Whitman's insight, "that object he became, and that object became part of him." The sand and his toys were the objects from which this experience could be afforded. But his understanding came

from his re-cognizing that people make roads with each other. Cory participated with ground to the extent that there was little sense of demarcation. Cory lives the ground.

We are given the sense here that the orientation is not toward the technological. And when open to Being, it is there that we live. We can participate with the artifacts so that they open a way to Being. We sensed this when listening to the musician's musical experience; we find this when witnessing the carver's experience.

The artifacts must be familiar for Being to show itself. And, if technology itself is a necessary aspect of that opening, one must be intimately familiar with the technology. We participate with, and inhabit, the technology.

During a contemporary music concert performed by the Communications Department and the Performing Arts Department at Simon Fraser University, I heard a composition by Barry Truax[59] entitled The Bells of Basilica. The lights dimmed and the soundscape began. For me, there was initially an audible bell sound. Then certain frequencies seemed to continue on. A train? Did I hear something that was supposed to represent a train? Did I hear screeching brakes? I closed my eyes and tried to take in what I was hearing. I tried to bring meaning to the sounds I heard. However, my experience was shallow. I was unable to bring what I later found to be appropriate meaning to what I heard. I tried to understand. Still nothing.

Later I spoke to Barry and mentioned that I had heard his composition. I confessed my somewhat superficial experience with it. He then explained to me what his purpose was. By extending the time of certain frequencies so that these could be experienced, the inner structure of the timbre could then be experienced revealing its deeper imagery. This he called "granular time-stretching"--something made possible by a computer program he had developed.[60]

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[59] Spring Concert, 1994, Simon Fraser University.
[60] See Truax (1992) for more information on granular time-stretching.

Now I was able to understand what it was Barry was trying to reveal. Now that I could participate with the technology, that which was meaningless had meaning. I needed to participate with the technology so that the bell could reveal itself as Barry had intended. When I listen, I stretch the sounds in ways similar to the technology's stretching. Using a technology, Barry Truax opened up a way to Being, a way to understand the inner structure of the Bells of Basilica.

In understanding Truax's Bells of Basilica a minimal understanding of "granular time-stretching" is necessary. Even for Cory, a minimal understanding of graders is required. But we do not orient ourselves to these things to understand the activities which give these meaning.

## The Technological Attendere

We have witnessed the technological attendere. In the analysis of song writing and creating a soundscape we sensed the shift in dwelling place from the rapture of life to the description of technological ground. Here the technology and the technological horizon draws us away from the sensual, away from being moved sensually.

### Educational Events

In the preceding three chapters on dwelling, communicating and revealing, I examined educational events to check for the invariant nature of these aspects within different educational situations, and also to examine how each of these may vary when a technology is participated with. The participation with technology showed a potential turn away from the lifeworld of human interaction to a participation with a technological interpretation. A recognition of attendere allows us to deepen our understanding of the participation with technology in educational situations.

Being With Others

In being with others we have the potential to invite others into dwelling, communicating and revealing that is substantiated by Being. We can invite the child to live with, appreciate and care for berries, horses, or early settlers, encouraging him/her to recognize that s/he belongs to these things as much as they belong to her/him. This is an attendere that encourages bodily/corporeal reference in the fullest sense possible. It calls for an attempt to enter into the 'flesh' so that Being is included in the recognition of the event.

But even in being with others the attendere could be technological. Gradgrind demonstrated this in his reference to horses as discrete, definable, objects that depended less on our living with horses than our ability to point out what they are.

The teacher enters into the context, playing the part of the pioneer or recognizing the significance of living with horses or berries. The teacher lives the life. The teacher questions as she prepares for class, "Who goes there, who hides there? Ah, the pioneer, the horse, the berry." The teacher enters into, mingles with the past. While doing this the teacher is not impinging form on the past but rather rendering it visible. This is an act of mimesis--not with technology but with earth and life. The teacher, in the non-technological orientation toward the life to be lived, can move with, feel, imagine, anticipate, sense and strive for completeness and comfort. With an orientation to, and an inhabitation of, the rapture of life, she can sense a nearness to that which is lived. She can feel embodied in her consideration of the pioneers, horses, or berries.

We can sense how the technological holds sway, even in being-with-others. When attempting to draw students into the significance of Being, even creating a western town, the environment is still virtual existing within the framework of curricular materials and methods. That which constitutes knowledge that can be tested and evaluated, indicates a technological attendere. There is, however, an openness to Being that is accessible in ways that may be closed off when dealing with particular technologies, and dwelling within technological horizons.

Being With The Written Text

We can recognize attendere when participating with written text. We find an attendere that can call us into the rapture of life as experienced by the author, or a technological attendere that has ruptured the 'flesh' of the experience, calling us to live with objectified things in non-sensual ways. We can sense the author who invites us to feel the way we are with berries, with horses, or with pioneers--the author who once asked, "Who goes there, who hides there?" Finding him/herself mingled with the past, the author now invites the reader to do the same, using language to draw the reader into the context that reveals life. The author of written work can call the reader to move with, feel, imagine, anticipate, sense and strive for completeness and comfort.

We can recognize a bodily/corporeal reduction in the use of the written text, but this reduction is less significant than the treatment of the material, assuming that the reader is familiar with that to which the text refers. Our approach to the text can be technological. To ask how Layton treats blueberries, or how Elizabeth Stewart Warner felt when she witnessed the drowning, calls us into an orientation, inhabitation, and communication which neglects the Being (and our own existence in Being) and explains berries and sadness. It is not simply the technology itself which reduces bodily/corporeal significance but also the treatment of the event which is made possible by the technology.

Computer Programs

We witness the technological attendere in computer programs, both in the inherent nature (the configuration and design) of the computer and also in the treatment of the software content. In simulation programs, such as the Oregon Trail, we are often called to solve and attend to the problems of animated figures in a game-playing format. The problems and solutions in the game have been predetermined and programmed into the software by computer programmers. The language that articulates such game-playing asks

that we make choices and follow decision structures without feeling the consequences of these decisions outside of the context of a game.

The development of the computer has made it such that the manipulation of decontextualized information (data, objects) is efficient. We can rapidly find and retrieve information that has been organized in database form as exemplified in programs like Encarta. We find, select, and choose things that have been previously analyzed, interpreted and explained. We find an approach that encourages participation with and in decontextualized objects. We find berries or horses treated as independent objects made significant by the technological context in which they exist. Even simulation games are limited in the context they provide, creating closed, inauthentic worlds when compared to the human worlds which they are to represent.

The Internet

Entering the world of the Internet, attendere is still significant. The approach has been defined. Context is treated as information. And, Being, as we have found, is of less concern than the beings being represented in textual, pictorial and sound form. The Internet does not call for us to feel berries, horses, or pioneers because this is not the approach taken. Rather our use of the Internet calls for us to gather information about things. We point to that which has already been fixed. We don't go forth and expect to become part of what we see for many years to follow. We are encouraged to distinguish between ourselves and that which is displayed on the screen. These are objects for our manipulation.

Hermeneutic Summary

Educationally we often find ourselves oriented toward, and inhabiting, the technological--within conceptualizations that deny a rich bodily/corporeal understanding. While inhabiting the technological horizon we may attempt to share that which is obscure to others yet ultimately fall short of revealing Being. Within the technological horizon, that

which is revealed lacks the richness of life, being obscured by an explanation or operation of the technology which was used to open the way for the revealing. The revealed is interpreted and given meaning from within the technological horizon. Students are not asked to live life with berries, horses or as pioneers, allowing things to show themselves as they would to those who belong to the horizon in which these things are real. Indeed, they may lack the background to do so. Rather, the students are situated within a technological horizon, and, as a result, things are revealed from within the technological horizon. When dwelling and communicating within the technological horizon, we come into being within technological ground. We end up looking toward the technological in an attempt to see and share what has been revealed. Because technology opened a space for the revealing, providing ground for the possibility to share the revealed, we often look back toward the technology to once again see that which was revealed. We ask that the technology speak us, move us. We ask that the technology show us that which is obscure, to speak the revealed. We do not ask that the technology open the way to the obscure, to live Being.

To share the revealed, we may be moved by the technology. We may be influenced by the technology required for the sharing. We *influere,* flow into, the way of the technology. We flow into the activity enframed by the technology. And, in such a situation, that which is shared will be shaped by the technology.

If we look for the revealed and the experience of the revealing in the technology, it is not there. If we claim to find that which was obscure represented by the technology we are misrepresenting the life of the revealer. We see only a representation of ground, not that which the revealer lives.

We share experience using technology and in the discussion of this experience, as the experience becomes described from within the technological horizon, our orientation is often focused toward the technological. And, while the experience may be embodied in the technology, the technology need not be that which directs our attention. Recall again the composition of the love song in which the orientations and inhabitations were

bodily/corporeal. We can sense the shifting orientation in a description of the recording of the song. I experienced two ways of being within the activity--one technological, the other non-technological. But I have access to both because of previously lived experience. My focus, my orientation, my dwelling, moves me toward one or the other, and, dwelling with melody in sound is different than dwelling with music notation.

Technology creates surface. We are able to look 'at,' forgetting to feel 'for'; we listen 'to' rather than 'for.' Looking 'at' shows technology as the surface on which to place the rapture of life: like the road sign, like the computer screen, like the paper, book, the canvas, the tape recorder, the radio. We place the utterance, the cry, the call, on the outermost boundary of that which we attempt to achieve.

Can insight and the technological way of sharing be separated? We should not confuse participating with technological artifacts and dwelling within the technological field (technological attendere). These poets do not dwell within the technological field to achieve their in-sight, but, rather, to explain it. These poets do not intuit in a systematic manner. Nor do they call others into the technological field in their attempt to share their insights. This is not to say that our understanding of the technological field is unnecessary. But an orientation to the technological obscures the insight. Their insights are not meant to be objects to be used by others. Rather, others are called to belong to, and live, the insights and the Being that allows those insights to exist. They call upon the human body to enter into the ground that they create and to move in and about that which has been spoken. But to share in this, it is an understanding of the ground that is required. Using educational technology, there is a potential to examine the insight from the technological and then teach from within the technological field. The call is made to look out upon that which has been done, to look outside one's self. We are called to look at the line structure. "Please notice," we may hear the instructor say, "that the line is iambic pentameter." Our bodies may be called to participate with the iambic pentameter line, orienting our movement to that line rather than opening ourselves up to experience and the bodily/corporeal significance of that

which has been said. Educationally, we often invite others into the consensual by way of the technological without the recognition of the ground and insight that contributed to the development of the consensual domain. We often dwell within the revealer's technology, assuming that the technology is responsible for the revealing. But for the revealer, the technology is often less significant than what might be imagined.

The revealer experiences and lives the rapture of life, sharing that which may be obscure to others so that they too might be caught in the rapture. Confusion arises when the revealer is asked what it is s/he has done. It is then that s/he is forced to respond in the consensual hermeneutic domain. When the revealer explains what s/he was doing s/he is forced into explaining or describing the 'way' technologically, because the revealer has used a technology and because it is explanation of technology use that is the language we understand and share. But, this is not to say that the 'way' was experienced technologically or that the revealed showed itself technologically. And yet the non-revealer reaches for the technological language and assumes the technology to be the 'way.' The technological way is then what we teach, giving the impression that the revealer lived within the technological field. Because Mozart placed his voice, his music, on a surface, using technology, his music is often interpreted from within the technological field. But we hear otherwise when Mozart says to a musically talented boy questioning how one might learn to compose:

> If one has the talent it pushes for utterance and torments one; it will out; and then one is out with it without questioning. And, look you, there is nothing in this thing of learning out of books. Here, here, here [pointing to his ear, his head and his heart] is your school. If everything is right there, then take your pen and down with it; afterward ask the opinion of a man which knows his business. (Kerst, 1965, p. 5)

Mozart recognizes the non-technological. He recognizes the dwelling within the bodily/corporeal life-way. He tells of the torment and the utterance. He tells of a place where one does not dwell here questioningly. "[I]t will out; and then one is out with it

without questioning." It is dwelling here that "the talent pushes for utterance." It is
dwelling here that torment shows itself. He tells of the gathering and uniting of ground.
And only then does one call upon the technological. The 'flesh,' the life of both music and
humans, is the dwelling place of learning (living), not the technology. We hear similar
sentiments when Tchaïkovsky says:

> . . . our composers are searching--and first of all they are searching for pretty and
> piquant effects--a thing which Mozart and Beethoven and Schubert and Schumann
> never did. What is the so-called new Russian school, if not the cult of various spicy
> harmonization's, eccentric orchestral combinations and all kinds of purely exterior
> effects? The musical idea has become merely the excuse for new sound effects.
> Where they once composed and created, they now, with a few exceptions, dovetail
> and invent. This is a purely rational process: modern music, therefore, thought very
> ingenious and piquant, remains cold, unwarmed by feeling. (Abraham, 1969, p.
> 42)

None of this should be surprising. Technology, borrowed from Greek *techne logos*
means systematic treatment of an art, craft or technique (originally referring to grammar). It
is the 'way' of handling, dealing with, or managing. But we should keep in mind that it is
not the handling, dealing with, or managing that should be our paramount concern,
especially in our pedagogic concern. Our pedagogic concern "orients us to the child, to the
child's immanent nature of being and becoming" (van Manen, 1991, p. 31). This is an
orientation not to the craft of teaching nor to the scientific curiosity one may have when
teaching others. It is an orientation that does not treat relationships with children in
technological ways. A pedagogic concern orients us to the child for the sake of the child
and the way the child comes into being in the world.

## Summary

I have thus far attempted to reveal two seemingly diverse orientations--the bodily and the technological--and different sensibilities experienced while focusing on one or the other. I have suggested that the technological orientation and inhabitation is not sufficient for a comprehensive educational experience--an experience which relies on dwelling, communication and revealing. It is not so much the technology used but rather the approach that the technology within an educational situation encourages. While we must understand the technology, we must inhabit Being if we are to understand that which has been revealed. And, if we are interested in maintaining our educational concern, our orientation must be to the child and subsequently the way the body inhabits Being in the ways of dwelling, communicating and revealing.

Our activity with educational technology suggested the possibilities of a technological attendere and a non-technological attendere when background experience was sufficient for both. I also noted a marked difference in the language used when each attendere runs through an activity (or conversely, when an activity runs through an attendere). The next chapter examines the orientation and inhabiting the technological horizon through our use of language.

# Chapter VII
## Technological Language-Activity[61]

It has been said that if the computer could think, its thoughts would be much different from ours simply because it lacks a human body (Dreyfus, 1991). Our bodies make manifest aspects of the world. Our bodies contribute to the meaning we find in the world. Our bodies feel, act and respond. As children we touch objects, hold objects, and stick objects in our mouths. As youngsters, the world is revealed and given meaning through the body. In time, things and our experiences with them are described and shared in language. How this language is experienced and conceptualized is embedded in the bodily/corporeal experience. "Language," Heidegger said, "speaks us. . . . Language is the house of dwelling" (Heidegger, 1971). We are moved by language, feel through language, and experience in language. And with language we are called to re-experience our body as well as the world in which we live.

It is this sense of language that I have thus far concerned myself with in this dissertation. As I have tried to show in the previous chapters, our participation with, and our orientation to, technology affects experience. And, I have used language to manifest those experiences. And in this manifestation, different language has been used to articulate the different forms of dwelling, communication and revealing. I have articulated this language, embodied within activity, as technological and non-technological attendere. This chapter acts as a hermeneutic to the previous chapters, interpreting language-use and the bodily/corporeal possibilities that a new language-use may provide within technological environments.

To return to the orchard dweller analogy, I have thus far examined what it is that would make orchard dwelling meaningful and how orchard dwelling changes when a

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[61] I use the term Language-Activity to emphasize the relationship between language and activity.

technology is introduced into the ways of life of the orchard dwellers. I have also examined how activity in which a technology is present has the potential to be intruded upon by a technological consciousness, especially if the person using the technology lacks alternative understanding. What is more, I have, in the description of the technological attendere, shown that a technological consciousness can obscure the non-technological consciousness that may have at one time prevailed, or, more importantly, which may have made the activity meaningful in the first place. Finally, recognizing that language-use may be a way to move between a technological and non-technological attendere, I examine how that language may be a means of providing activity that may be more educationally appropriate or authentic.

Now, let be briefly recapitulate the progression of this dissertation. Comparing my analysis of education to the orchard dwellers, I have shown that the bodily/corporeal ways of being-in-the-world can potentially be reduced when a technological consciousness intrudes upon educational activity. I referred to this technological consciousness as the technological attendere. Again, a technological consciousness can obscure the non-technological consciousness that may have at one time prevailed, or, more importantly, which may have made the activity meaningful in the first place. Now, in an examination of language-activity, I show that a prevailing technological consciousness may give way to a potentially more authentic educational understanding by adopting language that hears and speaks the corporeal body.

In this chapter I reveal how technological consciousness affects, and is manifested through, language. I also show how we speak a language within technological environments that can potentially orient us toward the technological and away from the bodily/corporeally experienced rapture of life. Ultimately, the question I consider is: "Can language orient us toward, or have us live within, bodily/corporeal Being when technologies are used?" In terms of the orchard dwelling analogy, the question would be

phrased, "Can language orient orchard dwellers to the bodily/corporeal aspects of orchard dwelling even when the stick is used?"

I examine five areas that will contribute to our understanding of the technological language-activity and the pedagogical significance of this language activity: (1) Language and the Technological Body; (2) Technological Metaphors; (3) The Call of Technological Language; (4) Technological Disembodiment; and, (5) The Infiltration of New Language.

## Language and the Technological Body

Our technological artifacts lack human body and are embedded in a language that is representative of that fact. By participating with technology and allowing the technology to speak, we experience and understand the world in technological ways. We orient ourselves to, and inhabit, the technological in our language-activity and as a result we reduce the meaning (the richness of bodily experience) that might potentially be achieved. Through language-activity we re-experience the technological rather than the life we may have intended to re-experience. We can sense the way in which our language-use aids in this orientation, and inhabitation, in an analysis of talk within a computer lab.

## Computer Lab

I take my students into the computer lab. The room is sterile, lifeless. Plastic screens, lined up in four rows, stare blankly. They are silent, breathless.

I walk toward the main power switch in the room and turn it. Twenty-five computers assume life, body, individually and collectively. They chatter and light up. The children move into the room, sitting down in plastic chairs that are positioned in front of each computer. The children talk amongst themselves--they commune. They talk of what they have at home. "I've got Carmen Sandiego at home," one child says to another. "I like our computer better than this one," another says. I walk up to the teacher's computer located at the front of the lab.

Children reach toward the keyboards, they touch the keyboards. They position their bodies in front of the screen. They stare at the screen. They wait to be invited in. Slowly they are drawn away from each other and toward the images on the screen. Classmates that were once prominent seem to slowly fade into the periphery of each child's attention. Each child's attention is drawn toward the images and sounds. They want to get in, to enter, to become part of. But I hold them back. I give them an introductory lesson first. "I shouldn't have turned on the main power source yet," I think to myself. I call to the children: "All eyes up front! Hands off the keyboards!" The children are eventually drawn toward me.

To help the students understand the technology I speak in a way that allows the students to understand the new by way of the familiar: "The computer is basically a *stupid thing*," I say. "It *handles* data and information. It *sees* what you are doing and then *translates* this into bytes and bits." I point to various parts of the computer. "The CPU is the brain. . . . This CPU *accesses* information. . . . You put that into the computer's memory. . . . Tell it to save it. . . . This makes the CPU's *job* easier. . . . ROM is *read* only memory. . . .That server *lives* in a room across the hall. You'll see when the CPU is finished *figuring* something out."

It is obvious as I look at the students that they have little interest in this introduction. Perhaps I can gain their interest by showing them something fancy. "With this machine you can *talk to it* and *it will talk back to you.*" I speak into the microphone located at the top of the monitor, saving what I have recorded into a sound file.

One of the students presses a key and a beep is emitted from the computer. I respond, "If you do that the computer will be *upset* with you. It's not very *polite. . .* It won't *understand* what you're doing if you do that."

I give the computer a life, a body, through language. I allow the computer to have body with human attributes. I anthropomorphize the computer, speaking as if it had human qualities, human life. I give the computer character, a role, a personality. The computer is personified. And with per-sona, it is given sound and voice. I reveal the computer in this

anthropomorphized way to my students. And, as I speak, I enter into a way of understanding and speaking about computers with the language I have acquired in past situations.

We domesticate those things that seem strange. We bring them into our world so that we might reside with them. It is when technological artifacts come into being that we attempt to find their place in our existence, and ours in theirs. We reconcile. We bring them into our domain, our *domos*, our place of dwelling. We give them life and voice. And in doing so we orient ourselves to that voice. To familiarize our artifacts, to get near, we adopt names such as *memory* and *language* to aid in our ways of familiarization. We say that the artifact has a *brain* and *intelligence*. We say that these artifacts *talk to us*, *see what we are doing*, *understand us*. We give the artifact emotions ("it will be upset with you"), life ("it lives across the hall"). In domesticating these things we imagine that our dwelling, communicating and revealing do not change. We act as if these things do not alter our context. We use 'our' language that describes us when describing technologies.

## Technological Metaphors[62]

The use of metaphor to describe the technology in human terms has an anthropomorphic effect. But in our own participation with technology and our changing language, we technomorphize ourselves. We orient ourselves and understand ourselves by the way in which we have come to understand the language we use. In our attributing technological understandings to ourselves we reduce the human body, leading the body back to a source. In language-activity we are called to ground ourselves in source. In language-activity we are called back to experience ourselves in that from which we rise. It is from a source that we surge. Locke found a source in the camera obscura (Crary, 1991) and then called to the educational community to participate in this source.

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[62] Bowers (1988), in a reference to the work of Deborah Tannen and Erving Goffman, both interested in how our thinking and acting is framed within conversational events, discusses how the educational use of microcomputers is framed by language. Heidegger, too, makes a similar point in his statement that "Language speaks us."

External and internal sensations are the only passages that I can find of

knowledge to the understanding. These alone, as far as I can discover, are

the windows by which light is let into the *darkroom*. For, methinks, the

understanding is not much unlike a closet wholly shut from light, with only

some little opening left . . . to let in external visible resemblances, or some

idea of things without; would the pictures coming into such a dark room but

stay there and lie so orderly as to be found upon occasion it would very

much resemble the understanding of a man. (Locke, An Essay Concerning

Human Understanding, II, xi, 17, as cited in Crary, 1991, pp.41-42)

Although Locke speaks of resemblance, the source is still established. Here we sense how

Locke's metaphoric use of the dark room provides the source for 'understanding,'

visualizing spatially the operations of the intellect, calling upon the 'way' of the camera

obscura. Locke calls us to participate in this language-activity, allowing understanding to

meaningfully show itself as a "dark closet," and the human body to show itself in

mechanistic ways that give such a closet meaning. Through language-activity we are

oriented, perhaps quite unaware, toward the technological significance of the camera

obscura. This language-activity made meaningful by the camera obscura becomes our

source, and we are oriented toward, inhabiting, the source. The conceiving of the human

mind as an inner space becomes a part of our understanding. 'Understanding' derived from

this technological orientation does not take into consideration the ways of the corporeal

body. Bodily gestures, feelings and emotions are obscured.

Locke's language-activity calls us away from recognizing human bodily/corporeal

experience and toward something detached from the body, something observable,

something technological. As such, external and internal sensations become passages or

windows into a closet or a dark room. Our participation in this language-activity and the

metaphoric form that the language-activity takes prejudices our understanding. We

participate with a judgment that was made at an earlier time, with a judgment that may

obscure the way we experience 'understanding.' We pre-judge human understanding. We participate and flow in activity and situation in which the technological language enframes. We participate in the technological language-activity. And in this participation, the human body is neglected. We are oriented toward the technological.

We sense being drawn into technological language-activity in the description of a mathematical theory of communication. Here we find a source into which we enter and with which we participate. Warren Weaver, co-developer of the Shannon-Weaver model of communication, provides the description:

> The *information source* selects a desired *message* out of a set of possible messages . . . The selected message may consist of written or spoken words, or of pictures, music, etc.
>
> The *transmitter* changes this *message* into the *signal* which is actually sent over the *communication channel* from the transmitter to the *receiver*. In the case of telephony, the channel is a wire, the signal a varying electrical current on this wire; the transmitter is the site of devices (telephone transmitter, etc.) which change the sound pressure of the voice into the varying electrical current . . . . (Shannon and Weaver, The Mathematical Theory of Communication, pp. 7-8, as cited in McLuhan, 1988, p. 86)

Weaver's use of metaphor reveals and domesticates a mathematical model of communication. His interpretation is one which allows us to understand the new by way of the familiar. That which is revealed is given name; and, by being named it is given voice. That which is named is brought into our dwelling place. But the technological calls for its own language, its own metaphor--a technologically oriented metaphor. Weaver's interpretation continues:

> In oral speech, the information source is the brain, the transmitter is the voice mechanism producing the varying sound pressure (the signal) which is transmitted through the air (the channel). . .The receiver is a sort of inverse transmitter,

changing the transmitted signal back into a message, and handing this message on

to the *destination*. . . . (Shannon and Weaver, The Mathematical Theory of

Communication, pp. 7-8, as cited in McLuhan, 1988, pp. 86-87)

Once the technological situation has been domesticated, the interpretive language

draws us in to the technological relationships, and then orients us toward a technological

space of possibilities.

This is the language and metaphor that contribute to the conduit model of

communication, an inadvertent understanding of human body and communication in a

technological form from within the language-activity that gives life to technology. It is the

life and language that we have attributed to the technology that allow us to think that

technology "selects messages out of a set of possible messages." It is the life and language

of technology that allows us to think that technology "changes messages into signals"

sending them over communication channels. It is this language that orients us to the

technological. And it is our orientation to the technological that moves us through

experience in ways that the technology allows. The human, bodily/corporeal, sense of

communication is obscured. Language depicting human interaction is submerged. And with

this submersion we obscure the human interactions that contribute to a rich sense of

dwelling, revealing and communing. This is the language of the technological attendere.

In these interpretations, that which was once attributed a likeness through metaphor

soon evolves into factual acceptance as the phenomenon is taken to possess the qualities of

the metaphor that earlier described it. The metaphoric sense is lost, and we participate not

with comparison, but with intention, definition, signification.

The Shannon-Weaver model of communication is appropriate for a particular

technological language-activity. It has meaning within the scientific domain. But there is a

difference between this language-activity and the one used in communicating with Meagan

about saskatoons. Yet the technological field has been justified by earlier

anthropomorphizing of education and technomorphizing of individuals. And, it is within

this field that it makes sense to say that, communicating with Meagan, I transmitted information about saskatoons to her which she subsequently encoded. It is when theories of education and communication have adopted the notion that human language and human communication resemble a conduit by appropriating metaphors and language from an unrelated context that the metaphor is educationally inauthentic.

The technological situation, language-activity and life-way affect the naming. We might say that the *context* into which the word comes into being is responsible for the naming. The technology answers to the context. In the <u>Cult of Information</u> Theodore Roszak (1986) articulates this by relating a story about the apprehension that Warren Weaver expressed about using the word "information" in his communication theory. Weaver articulates this apprehension in his reply to a number of prominent scientists challenging his use of the term:

> I think perhaps the word 'information' is causing more trouble . . . than it is worth, except that it is difficult to find another word that is anywhere near right. It should be kept solidly in mind that [information] is only a measure of the difficulty in transmitting the sequences produced by some information source. (Weaver, 1949, p. 12, as cited by Roszak, 1986, p. 12)

In naming (such as calling something 'information') we ground the name (word) in the source from which it derived. Word then provides that source in future utterance. By giving voice to the technology, that voice calls us and speaks us. Since the time of Weaver's publication, theories of communication have not only adopted "information" as a predominant source but have adopted a rather narrow technological interpretation. The metaphor, by virtue of the relations attributed to it, carries with it a space of possibilities into which we may enter. Information in the technological form loses its sense of instruction, direction and teaching. The bodily sense of in-form is reduced to an abstraction when orientation is drawn into the technological ground. Form is drawn away from the human, corporeal body.

Abstracted, decontextualized, metaphors lead to an impoverished or inaccurate (by human and by contextual standards) experiencing. We are called into a context bound by the words we use and the 'way' of our language. Naming not only domesticates but it confines our experience by establishing conceptual boundaries and a space of possibilities in which our activity is given room to move about. The possibilities shaping dwelling, communication and revealing are reduced.

## The Call of Technological Language

In the classroom, the language-activities in which I participate are maintained and dispersed largely by the media to which I, and the community in which I live, are exposed. The language calls us into ways of perceiving, of interpreting, of justifying and explaining. The language orients us to the technological.

The language found in books and journals of educational technology depicts the educational dwelling place as one substantiated by technological activity. The technological activity gives substance to interpretation. The field is removed from the human educational field, substantiated by a language-activity that calls us in to a technological source.

> We know that it is critically important to connect computers to the curriculum in such a way as to use the computer as a tool, both to increase student productivity and assist in achieving curriculum goals. (Hartson, 1993, p. 33)

We are called to "connect," to use the computer as a "tool," to "increase student productivity."

The metaphors giving technology life have an ocularcentric bent. They tell us little of how the human body experiences the technology or how the technology alters other human embodiments. Rather, they tell us how we have interpreted the world through the technology--a world which we see. These tellings become our accounts, our stories. The

metaphors draw interpretation and activity away from the corporeal body and toward the technology. We explain and then stand amongst our explanations.

"We use the computer as a tool," I say to parents.

"We use the computer as a tool," I say to the school administration.

"We use the computer as a tool," I say to other teachers.

"We use the computer as a tool," I say to myself.

And we all visualize these tool-using students. With little thought as to how we use and experience tools I repeat the same story. We forget that we are inviting students into a way of understanding that requires an orientation to the body and the way we live in the world. We forget that understanding is different depending on whether our activity is with a tool or in the ground of that which is to be revealed. We orient ourselves to computers and fall into the language-activity to which we have become accustomed. By using metaphors from within the technological field, we often misinterpret the human bodily ways of understanding the phenomenon (that which makes it meaningful within a given human life, context or situation). We stand amongst the technological and live the situation technologically.

The educational use of the computer makes sense within technological horizons. We speak a language that is oriented to technology. But in our unexamined use of the software, and our orientation to the technological situation, we can forget the human element of the educational experience. We may speak as though we want the child to know something in particular while disregarding the experience necessarily embedded within the understanding.

## Technological Disembodiment

My students use the Oregon Trail computer program. I allow them to play the game so that they might achieve a richer understanding of how pioneers crossed America in hopes of finding a better life. The students play in pairs. I listen to them talk to one another.

They make decisions regarding imaginary people, supplies, and situations. They talk through the game. Although there are few words on the screen there is a language-activity with which the students participate, a language-activity into which they enter. The language-activity is such that they are placed within problem solving, game-like, situations. This is a language-activity that is oriented away from the bodily significance of those aspects I wish the students to understand. It is a language-activity which focuses on being, neglecting Being. The language is such that students laugh when imaginary family members are injured or even killed in the trek across the country. "It's good we got rid of him; he was only slowing us down." This is a language that is as hollow as the consequences of the game. It is a language that is void of significance. This is not the understanding I hoped they would achieve. They do not understand the human significance of such a trek. They are not called to participate in a language-activity that speaks of the way in which humans suffer hardships, loss, fear or joy. The educational situation is far different from the times I would reveal human experiences while reading similar situations aloud to the students during story-time.

I give a demonstration of Logo[63] to my students. I recall how I learned that Logo concretizes geometry concepts for students (Papert, 1980). I remember how I was intrigued by the thought of creating math worlds, and how I would delight at how the turtle could be programmed to move about the computer screen. I recall the words of the person demonstrating the program, "Kids really understand geometry with this. . . . In time you will be able to think like the turtle."

What would this mean, "to think like a turtle?" Is it to cut furrows through Being as a programmable turtle would? Is it to talk as a programmable turtle would, to dwell with in a programmable turtle's field of understanding, to use language-activity appropriate to this math world? The turtle's field would give meaning to my world in a certain way. But this would be different from the world of human thought. To think like a human requires being

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[63] Logo is a computer programming language developed by Semour Papert.

situated within human situations and grounded within a human body. It would require a different language. Lacking that negates thinking or acting in the human possibilities possible.

Thinking like a turtle, dwelling within a turtle's field, talking like a turtle, reduces human aspects of situation and body. To talk like a turtle, to participate in turtleness, allows us to dwell within the field giving turtle-situations meaning. The language-activity calls us to speak of math worlds in terms of distance, lines, steps, etc. The language-activity does not call the student to orient him/herself to the body's world, to inhabit the corporeal body's world, or to recognize how geometry has bodily significance. We are called by the language-activity to understand (to stand amongst) that which comprises the programmable turtle world. We are called to adopt the body of the computerized turtle. It is within these limits that our thoughts are organized. Once a language-activity is in place, bounding our thinking, certain ideas or ways of thinking are exempt from our participation. We dwell within a particular field, experiencing a particular language-activity.

We can sense similar shifts toward the technological when participating in the language-activities that embody graphics programs. There is a difference in what is produced when we observe and participate with art work produced with materials manipulated freely with the hands, or art work generated on a computer. In my classroom I have children's art work surround the room. Looking at the drawings, much is felt. Much is said without words. Feelings are uttered, experiences shared. One is easily moved by the colors and expressions of the subjects, flowing with lines and shapes. This is language-activity. The language-activity differs from the art produced on the computer screen. On the screen the children restrict their experience and their outering to the "tools" and objects available. They speak the language of the available tools. The tools become objects for manipulation. A myriad of circles and squares filled with a variety of textures and colors become the common outering for the students. Participating with the circles, squares and

textures becomes the common experience for viewers. The sense of revealing or sharing is given up to playing with predefined tools. The language-activity orients us to the tools.

The disembodying tool metaphor permeates much educational computer literature suggesting its potential to extend the user's power.

> The River East technology program centers around the use of open ended
> tool software and hardware. Because these tools are open-ended, they can
> be used in a variety of ways in a wide range of subjects. Because the
> students only use a few different tools, they gain experience and learn to use
> them well and independently. This builds their self-confidence by fostering
> their growth as independent learners.
>
> Students are introduced to tools that have low entry levels, yet high
> and accessible ceilings. While simple enough for the youngest students,
> they are sufficiently sophisticated to function as legitimate tools for adults.
> *HyperStudio* is such a tool. A younger or less experienced student can use
> *HyperStudio* to draw a picture and write some text to go with it. As
> students become more sophisticated users . . . . (Steinberger, 1993, p. 40)

The children are expected to enter into language-activities related to tool use--tools that are used to manipulate objects. They are expected to do some kind of work, to perform a duty or a function. Execution and performance is expected. Sophistication and independence are achieved. If the program is to be open-ended, then the language must be open-ended. But if learning is equated with tool use, the talk is not about students experiencing Being--living and learning from within the 'flesh' of an event. Rather, the 'talk,' the 'program,' "centers around the use of open ended 'tool software' and hardware."

The metaphors I use in the classroom, and the language-activity in which I dwell, have me interpret what could be a very human activity and situation from within technological activity. It is the technological language-activity and situation that give

meaning to what I do. In the language-activity of the Internet: "I can't take my students to the Louvre, I'll bring the Louvre to them."

"For your report," I say to my students, "some of you may want to go to the Louvre and download some images." I speak as though students will go to the Louvre in Paris. The language-activity allows me to think that downloading images from the Louvre is significant. However, I do not question the bodily significance. Some of the students open the Netscape folder and double click on the Netscape icon. The introductory window flashes on the screen for a few brief moments and then the 'Classroom Homepage' appears. The page is in outline form, with bold headings and colored, underlined, text. The colored text defines the hyper-links that will, by clicking the browse tool on the text, connect to a server (computer) at the desired location. The Louvre is listed with other hyper-links called Kites and Dinosaurs.

Relationships are implied by the text and by the format. The calling is visual. There is a coldness, a starkness to the invitation. The talk (the assignment) is not of walking through cool autumn air, approaching a building and smelling canvas. The talk does not call students to sense society's values of art, to experience the art with others, or to come to any significant understandings by way of the artist's outering and revealing. The children lack prior bodily experience to be significantly moved by the graphics and images. And I don't spend time revealing the Being that was responsible for the initial works of art. Instead, I marvel at the speed in which these computers connect to a server in Paris, the quality of the giff [graphics interchange format] images, and the ease of importing the images into other applications. My language allows me to imagine the students extending themselves outward. I watch the children touching the keyboards, staring at the images on the screen. At times it seems as though the computer is an extension of each child.[64] In the

[64] Technologies have been referred to as bodily extensions by a number of writers. In his book, The Silent Language, Edward Hall (1959) conceptualized technologies as extensions of ourselves. What we once did with our body, Hall suggests, we now do with bodily extensions. Clothes and houses are extensions of our biological temperature-control mechanisms, televisions and books are material extensions, money extends and stores labor, and transportation networks extend what we once did with our feet and backs. In fact, Hall suggests that "all man-made material things can be treated as extensions of what man once did with his

language of technology, as extended, I think of the students connecting to other parts of the world. They gain access, they 'come to,' they approach. The children are drawn into a vicinity and are imaginatively joined to others. But the approaching, the coming near and joining, is taken in the sense of virtual proximity and not familiarity. While we speak of a shrinking world or a global village it is predominantly one of proximity.

My language allows me to imagine the students being connected to the rest of the world and to be fundamentally altered as a result. But the altering is not the altering I assume. For their connectedness is disembodied; and, their understanding is a cognizance that does not call upon movement, gesture, and corporeality. They have connected not with each others' bodies, but with the technological bodies that the technologies reveal.

My language calls me to interpret my students as having new cognitive capabilities. They connect to an external storage system.[65] Why learn the material, they have it at their finger tips. They can plug into the computers with any information they need. But what does this plugging in mean in terms of what has been said thus far about dwelling? We might think back to Bitzer, who, even having memorized an extreme amount of information would still lack the communal, bodily/corporeal significance to make such information meaningful within his horizon. Dwelling within the technological horizon diminishes the necessity of movement and gesture. Language-activity is disembodied as a result.

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body or some specialized part of his body" (pp. 56-57). But like other technologizing language, these things are all treated as objects without Being.

[65] Some emerging literature describes technologies as having helped humans evolve their cognitive capabilities into new forms by connecting with technologies. Merlin Donald (1991), in his book Origins of the Modern Mind, explains this by an analogy suggesting how human cognition and human capabilities can change when using an external storage system such as text or a computer data base that stores information outside of the human brain. Just as the capabilities of a computer change when it is networked to an external storage system, Donald explains, so too does a human's cognitive structure. Connecting a computer to an external storage system does not alter the computer physically, but the computer is no longer the same machine. It becomes a part of the system to which it is connected. Similarly, according to Donald, the human brain has been extended when using an external storage system. The individual "plugs into" the storage system, thus, fundamentally altering not only how the individual thinks but also what the individual is (p. 312). Others have taken this idea even further than Donald suggesting that we might one day implant a computer chip into the body so that we might have instant access to reams of information.

## The Infiltration of New Language

To participate with the word in a language-activity is to enter into the internal relations which make that word meaningful. Once drawn in, we dwell within the field. It is here that we are open to experience, open to our Being. Altering the word alters experience. We alter our life-ways. We hear George Orwell (1989) describe this condition, this participation in the word, in his novel Nineteen Eighty-Four. Syme, a philologist who works in the research department of Newspeak, now compiling the Eleventh Edition of the Newspeak Dictionary, says to Winston, the protagonist:

'You think, I dare say, that our chief job is inventing new words. But not a bit of it! We're destroying words--scores of them, hundreds of them, every day. We're cutting the language down to the bone. . . . Don't you see that the whole aim of Newspeak is to narrow the range of thought? . . . Every concept that can ever be needed will be expressed by exactly *one* word, with its meaning rigidly defined and all its subsidiary meanings rubbed out and forgotten. . . . Every year fewer and fewer words, and the range of consciousness always a little smaller. (pp. 54-55)

By cutting the language "down to the bone" the flesh, the body, is shucked off.

We use words to share, to make consensual. Word is utterance. It is a gathering of ground and outering of meaning. And in our educational ways of dwelling, communicating and revealing, the condition of the word is significant. Word turns out, brings forth, makes known. To utter is to outer. Language is the 'way' of uttering, outering. We participate within language and meaning. And in our participation within language-activity, with our speaking language, language speaks us. For our dwelling, our movement, is about (amongst) that which has been outered (revealed) drawing us into the Being that gives meaning to the words we use. We participate not only in 'the way' but also in that through which we move. Altering the word alters the way; and, that which is outered and shared becomes consensual.

Orwell describes one way in which experience can be altered and framed by the direct manipulation of the word. With Newspeak the range of consciousness was deliberately reduced. Language-activity underpinning concepts such as generosity and respect, love and caring, once removed or limited in richness and depth become shadows of the human condition, of the human richness and multi-dimensionality.

Infiltration of a new language can have similar effects to those described by Orwell. The adoption of technological language displaces and obscures non-technological (body) language. This is readily apparent with the Nunavut's adoption of Western language. The rich language that described, revealed and outered experience is being displaced by a bodiless, technical, language.

Joanna Awa, an Inuit journalist, speaks of reduction and displacement occurring presently to the traditional language of her native culture.[66] She speaks of a shifting dwelling place. It is with modernization that the white people's language and concepts are assimilated into the Inuit culture as the Inuit culture is assimilated into, or absorbing, the White environment, the White life-way and activity. Speaking to a Canadian Broadcasting Corporation reporter Awa says:

> Because we're living in it today [White culture] and we have to communicate
> what's around our environment, the only way to do that is to create new words and
> use them. And unfortunately . . . we are getting away from the richness, our
> language is so beautiful, we're getting away from that old language. And we're
> getting into what we call modern Inuit language and loosing all that richness and
> flavor, what made us who we are.

Awa reminds us of the living corporeal body, and how body is "in" culture or life-ways. She expresses the movement away from one language-activity to another. She expresses a "getting away from," a "getting into" another language-activity. Awa continues:

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[66] The following excerpts were recorded from a Canadian Broadcasting Corporation radio show. Joanna Awa is a freelance journalist and translator. She spoke from Winnipeg.

> My parents used to say that even I as an adult don't talk real Inuctitut [an Inuit
>
> language], I talk baby language. . . . You know how when babies start to talk, they
>
> just say particular words, they don't really have that grasp of the language. And that
>
> was really sad.

Awa's parents recognized the shift. They recognized the need for dwelling within a field to

"grasp" the revealing, the outering. Awa attempts to describe the outering, the language,

the words of her parents, of the real 'Inuctitut':

> I can't really come up with what my parent's words were all about, people of her
>
> generation, but they were like 'in-grained.' They were like the real words. They
>
> were not like an adaptation of another language. They were Inuctitut. . . . I mean
>
> there was a word for just about everything in their environment. About the animals,
>
> the air.

Awa shares with us her sense of how language "makes us who we are." The words were

"real" words, "Inuctitut words"--words of the Nunavut [homeland]. Awa's parents

recognize the diminishing sense of language for they dwell within a field that is meaningful

for the Inuit. They are displaced by White language-activity.

Newspeak, in Orwell's (1989) novel Nineteen Eighty-Four, was a deliberate

reduction of language. But in our current educational setting, just as experienced by the

Inuit, the adoption of technological language displaces and obscures non-technological

(body) language.

## Summary

In this chapter I attempted to show how our orientation to the technological affects

language in that our participation with technologies are metaphorized and then adopted. I

show how language-activity that orients us to the corporeal body becomes submerged

within technological talk. In the research literature a number of metaphors have dominated

the study and interpretation of technology: technology as bodily extensions, as a system, as

a tool, as highways. Each promotes a different orientation, a different way of speaking about the technology, and subsequently, a different space for curricular activity. Each calls upon us to interpret and live experience within its own boundaries. These conceptualizations of technology orient us away from bodily/corporeal experience and living the rapture of life. Our essential educational structures of dwelling, communication and revealing and the language that gives these a bodily/corporeal life are not hitting home.

Technological language arises from the use of technologies within a situation grounded by technological activity and life-ways. It is this ground, and our orientation to this ground, that becomes our dwelling place. And it is in this dwelling place that we live, and assume, a body that the technological field allows.

When we inhabit the technology, we assume the body of technology through a participation with the technology and through the language of technology. We are oriented toward, and drawn into the language-activities of the technological culture, the technological field, by participating with the technological language. The technological language does not call to the human corporeal body to the extent that we might wish, especially when considering educational situations.

Finally, "Can language-activity orient us toward a bodily/corporeal Being when a technology is used?" If I have been successful in this study, it would seem that language-activity can, indeed, orient us toward a bodily/corporeal Being when a technology is used. This dissertation, as an educational technology, acts as an example of that. I have, hopefully sensitized the reader to a language in which the body listens to the call, feeling and sensing rather than only seeing. I have used a language that has us consider familiarity and intimacy; influence, merging and melding; care, concern and belonging. I have use language that calls for fascination, inhabiting, residing; gesturing, moving and imagining. I have found a language that calls for dwelling, communing and revealing. It is in this language that we find our corporeal bodies.

# Chapter VIII
# The Educational Insignificance of Technological Attendere

This thesis began with the recognition that many schools have been eager to adopt computer-based technologies and that many students spend a substantial amount of time learning about, and using, these technologies. This recognition comes not only from studies that indicate an increase in computer use in education and a discourse that promotes the same, but also from my own experiences teaching in public elementary and secondary schools as well as university settings. It was not upon questioning the efficiency or effectiveness of using technology in schools that directed this study but rather a desire to step outside the prevailing discourse to question what technologies do to education and to those involved in educational endeavors.

I began by conducting a first-level phenomenological analysis of education so that I might determine invariants of education that could provide insight into understanding educational technology-use. This was a move to bracket education as defined by technological discourse and to establish the essence of education from which educational technology could be understood and if necessary re-interpreted. I concluded, after the first-level analysis, that dwelling, communication, revealing and attendere were four invariants of education. These invariants then provided the source for my second and third-level phenomenological analyses that included educational events in which a participation with technology had some influence.

The second-level analysis in which dwelling, communication and revealing were described contributed to the notion that there is a significance of the corporeal body in educational events that is potentially reduced when there is a participation with technology.

This corporeal/bodily reduction in technological participation is reflected in what Merleau-Ponty (1968) said about the visible world.

> The superficial pellicle of the visible is only for my vision and for my body. But the depth beneath this surface contains my body and hence contains my vision. My body as a visible thing is contained within the full spectacle. But my seeing body subtends this visible body, and all the visibles with it. There is reciprocal insertion and intertwining of one in the other. (p. 138)

I found that beneath the superficial world of educational technology discourse there is a depth "that contains my body" through which I begin to understand my body (and the bodies of others) in educational events. In the technological discourse, in the intertwining of technological horizon, body and world, there is an approach to educational situations which has the potential to alter the invariants dwelling, revealing and communication. And it is in this altering that we see the depth of the flesh become tissue-like. It is this potential to emphasize or to live in technological horizons that becomes the theme for the third-level analysis in Chapter 6. This was an analysis of the shifting attendere 'toward and into,' or 'away and out-of' the technological horizon. An analysis of the 'flesh' and its diminishment through the technological attendere is one that reveals not only a reduction or disembodiment and its diminishment but also an orientation to beings. Within the technological attendere we find a way of life in which beings become the focus or concern in dwelling, communication and revealing at the expense of understanding Being, a theme made popular by Heidegger (1977). Chapter 7 acted as an extension of the previous analysis showing the nature of language-activity in technological and non-technological embodiments. It is through a language that hears the corporeal/bodily existence that we gain access to the human Being that allows beings to be.

I will review the study in three parts: (1) The Experience with Educational Technology; (2) The Language of the Technological Attendere; and, (3) The Educational Insignificance of Technological Attendere.

## The Experience

Recall the analogy from the introduction of the child standing in an orchard experiencing fruit and then having the same experience mediated by a stick. It was not difficult to sense two things: one, the way that the stick extended the reach of the child; and, two, the way in which the mediation altered the situation. We not only recognized an orientation to the stick but also recognized that there is a rich bodily/corporeal awareness of orchard dwelling that was neglected when stick-use became the primary focus. Thus the questions arose, "Should a rich bodily/corporeal awareness precede understanding fruit with sticks?" and, "Are we are interested in such a bodily awareness?" I argued that educationally, this bodily awareness is necessary, for it is in this awareness that we come to be with each other communally. This was established in the chapters discussing dwelling, communicating and revealing as three necessary aspects of education.

The stick analogy suggested that mediation transforms the nature of the experience. I analyzed and discussed this transformation, in light of using educational technology, arriving at technological attendere. I asked how we might best come to understand the nature of our educating with educational technologies. I attempted to state clearly what it is that we are experiencing, with and without educational technologies. I attempted to describe more fully the technological field (i.e. the background against which things are relationally situated and determined). By revealing the way in which we experience the technological field, I showed the way in which technological attendere alters the way we educate our children. To accomplish this recognition I looked to people's experiences prior to the implementation of educational technologies, and attempted to sense how people's educational experiences seemed to change when the technologies were first introduced. Plato, Rousseau, Locke and Awa provided examples of a recognition of the adoption of technology. I also attempted to show how those skilled with educational technologies have a bodily/corporeal experience (orientation) with that which they are revealing prior to using the technologies. Writers, artists and poets such as Spender, Layton and Chagall

contributed to this understanding. To understand our experience with technology I also set aside some of our basic assumptions of what appears to be taking place (what we take for granted) when we communicate, learn, and socialize in educational settings. My discussion of Gradgrind's classroom and my descriptions of writing music contributed to this understanding. Setting aside some of our basic assumptions, I described the nature of our experience with technologies as we live them. In other words I distinguished between the way we interpret educational technologies and the way we actually experience educational technologies.

I concerned myself with the educational aspects of dwelling, communication and revealing, and the shape that these take when the technological *attendere* prevails. I revealed and described our experienced loss of human body (a disembodiment that occurs in our dwelling within the technological horizon) by using examples drawn from technological ways of life, activities and situations. Furthermore, I showed how our understandings can be of a certain technological nature, and that our experience within the technological field is an experience that not only affects the way that we are in the world, but also affects the way that we are with others.

Educationally these findings are significant for they describe how we are drawn out of the ways of life that have been substantiated by bodily action in the lifeworld--those ways into which we presumably ask the child to dwell. I show how we are drawn into and are disembodied by our acting within the technological field (a field that is substantiated by an orientation to the technological horizon) by our participation in the technological (the systematic treatment of the arts and sciences). This is a movement away from living Being to living with beings.

<u>The Language of the Technological Attendere</u>

The analogy suggested that during the orchard dwellers' educational history they forgot that the use of the stick was intended initially to reach the upper branches of the fruit

trees and that they now use the stick as a means of recognizing all fruit. Living in the world with fruit (as an orchard dweller) gave way to treating fruit as something that derives its significance from stick-use. I suggested that this appeared quite reasonable when participation with the stick involves its own horizon and language. I gave examples of how we have adopted a language and understanding that allows our use of educational technologies to appear sensible (a language and understanding that was largely framed by our use of writing). I provided examples of this in the analysis of teachers participating with curriculum and children using computer software. We find teachers and students treating life as a cumulating of identifiable objects which are for our control.

The stick analogy suggested that we had spokespeople, especially those who had a personal interest in the selling of sticks or in the promoting of sticks, telling us the unmitigated importance of the stick. There are those entrusted to the education of our children that speak in such a way that we come to see the ability to use certain technologies as absolutely necessary to function in our society. Again, the language that we have adopted allows us to speak as though the use of computer-based technologies is imperative in the education of our children. Gerstner, Nicholson, and Roberts, to name a few, provide evidence of this.

The stick analogy suggested that with the adoption of stick-use, little heed was given to the life of fruit and orchard dweller. Here we analogously find the use of computer programs that are used as an alternative to bodily/corporeal oriented experiences in which Being is considered. I showed how we are drawn into and disembodied by our participation with technological language (language that arises from the technological). I showed also how abstracted, decontextualized, metaphors lead to an impoverished or inauthentic (by human and by contextual standards) experiencing.

### The Educational Insignificance of Technological Attendere

By examining our existence with educational technologies I showed the notion of attendere and the significance of bodily attendere. I determined that educationally there is a diminishment of significance when the attendere is technological. Inhabiting the technological attendere calls us in to a particular relationship to education and those involved in educational endeavors. We approach education and those being educated in a technological, disembodied, way. We fall into the insignificance of the technological.

In the introduction I questioned two aspects regarding education: one, is the child's use of technology educationally sound practice?; two, does the teacher's orientation to technology alter the orientation to the child? These questions can now be re-framed in terms of attendere. If an understanding of Being (the ground which allows other beings to come into existence) is deemed to be important, then it becomes apparent that certain technological approaches are inadequate (inappropriate and inauthentic) in educational situations. But what became apparent also from the earlier descriptions was that using technological artifacts does not necessarily mean living through a technological attendere. Thus questioning the soundness of educational technologies is less dependent on the technological artifact itself than on the attendere and the activity necessary for that attendere. The second question (does the teacher's orientation to technology alter the orientation to the child?), asked in terms of attendere, suggests that the teacher's orientation is, indeed, directed away from the corporeal/bodily aspects of the child and the Being in which the child lives. But this is not simply a question of being oriented to a child but also a recognition that the child, along with those educating the child, is fundamentally altered when living through the technological attendere. These questions return us to dwelling, communication and revealing and the bodily significance of these. We sensed the technological disembodiment, and the reduction of the flesh, when the technological attendere and its language, enframed movement, gesture and the corporeal body in dwelling, communicating, and revealing.

By understanding the significance of a bodily/corporeal attendere in dwelling, communication and revealing, and how disembodiment and a non-recognition of Being by a technological attendere affects our educational concern, we can sense the necessity of a bodily orientation and the disadvantage of coming into being within the technological situation.

## Where Are We To Go?

The stick analogy suggested that there are researchers and academics asking the wrong kinds of questions, questions such as, "What types of hands handle the sticks better than others?" This is a research endeavor that is already based on assumptions that sticks, or in the case of this dissertation, educational technology, ought to be used. It is a research question that is not necessarily unimportant but perhaps premature. In an attempt to avoid any predispositions, I used a hermeneutic phenomenological approach as a method of research. It was my intention, by using this form of research and avoiding predispositions that shape much of the current educational technology discourse, that I would begin to uncover some of the ground that might give direction to future research and practice. Technological attendere was that which came out of this research. This was an attendere that not only reduced bodily/corporeal experience in educational situations but also encouraged an approach to education that focused on 'beings' rather than 'Being.' It is an understanding of technological attendere that helps provide a new understanding of how educational technology-use potentially enframes educational experience and how a renewed language might deepen experience.

By analyzing attendere I found that the use of technology did not necessitate a technological inhabitation or orientation. I suggested that technologies can be used in ways that allow us to concern ourselves with 'Being.' This I believe will be our next challenge, a challenge to the vary nature of our discourse and the way we approach the use of any educational technologies.

So how might such an approach appear? I have, in this study, taken the first steps to show that approach. It is an approach that calls for new language and new orientation. This dissertation did that. The dissertation itself was a play in language, an experiment in rethinking our own engagement with educational technology. To speak in terms of new ways of using technologies falls back into a way of educating that is of a technological nature. Indeed, we are caught within a technological approach before we even begin. However, it is in the life beyond the educational statements that we might hope to achieve new ways of approaching educational technology-use. In his Question Concerning Technology, Heidegger (1977) draws our attention to the essence of technology by using an example of two ways in which the Rhine river is experienced. He asks us to consider "'The Rhine' as dammed up into the *power works*" (that is the Rhine with a hydroelectric plant set into the current) as well as "'The Rhine' as uttered out of the *art* work, in Hölderlin's hymn by that name" (p. 16). The damming of the river reveals the river as something at our command, unconcealed now as a power supplier. This is an unfortunate event if we lose the other ways that we belong and live with a beautiful river.

When considering the technological attendere in education, we find ourselves in circumstances similar to those of a new recognition of a river used as a power resource. The educational technology has already been placed in the curriculum (the current) and has unconcealed education as something technological. But just as a person standing on the bank of the Rhine, being caught by its beauty, its past and its power, even in the midst of a hydroelectric plant, I have shown people caught in the rapture of a life without being drawn into the technological horizon. But to do this people have to understand the rapture of life just as the person standing on the bank of the Rhine would have to understand that there is a beauty, past and power to the river by which he or she stands. And, they would need a language that, in its speaking that rapture, could be heard.

It has been established that there is an approach to education in which the technological attendere need not prevail. When using technological artifacts, our life need

not be treated as representations of 'beings.' We have the potential to enter into the 'Being' that allows these 'beings' to come into existence. Thus, when using a paint brush, text, a piano, or a multimedia authoring system, our participation with these things need not be with the technological but rather in the 'flesh' of life, bringing that which substantiates the picture, the words within the text, the sound within the music, or the story within the multimedia authoring system into existence by understanding the 'Being' that accounts for the existence. This, then, is an approach to technology-use which is not a treatment of objects but an entering into the life that brings these objects into being and a life in which we already find ourselves. But this is an approach with restrictions, articulated by Heidegger as the Hermeneutic circle. Simply put, I can't point something out to you that you don't share. If you have been able to recognize the bodily/corporeal significance of dwelling, revealing and communication that I have articulated, it is because we share a common way of being in the world. Here lies precisely the importance of this study. Children who have not had bodily/corporeal experiences may not be able to recognize and share these experiences with those of us who have. Nor will they meaningfully achieve these through computer-use if a technological attendere prevails, for it is those bodily/corporeal experiences that give meaning to that which is represented on computer-screen in the first place. In practical terms, all the Internet connections in the world will not give the kinds of experiences one might achieve playing an instrument in a school band, being an actor in a school play, or reading a good book, assuming the technological attendere does not prevail in these activities. The understanding derived from these experiences give meaning to technology-use. But even with shared bodily/corporeal experiences, if the language isn't available for the bodily/corporeal aspects of Being to speak, we are, as before, at a loss. Finally, if we share the bodily/corporeal experience that I speak of, and we have the language to articulate this, inappropriate and inauthentic technology-use will fall away. It simply won't make sense.

To begin, we necessitate a change in our language so that we are not drawn into the technological horizon without the appropriate bodily/corporeal background to give the horizon substance. We cannot simply encourage schools and children to connect to the Internet imagining that this will provide students with a good education. Students can no longer be thought of as "users" of technology, but perhaps as artists that enter into the rapture of life. Computers and software applications cannot be thought of a "tools" to manipulate data or as extensions of our body but rather as ways of entering into the flesh of life established by bodily/corporeal experience. We should now be sensitive to the language of the technological attendere, for it is educationally insignificant. We should listen now for a new language that may draw us into the bodily/corporeal 'Being' that is authentically ours.

# Appendix 1

## Invariant Diagram

| Conversing/ Coming together | invariant 1 (gestural) | ———— | Dwelling |
| | invariant 2 (familiarity) | ———— | Dwelling |
| | invariant 3 (orient) (someone) | ———— | Revealing Communication Attendere |
| | invariant 4 (proximity) | ———— | Dwelling |

| My Surroundings | invariant 1 (context) | ———— | Dwelling Revealing |
| | invariant 2 (appear)(meaningfully) | ———— | Revealing Dwelling |
| | invariant 3 (drawn toward) | ———— | Dwelling |
| | invariant 4 (inhabit) | ———— | Dwelling Attendere |

| Skipping Songs | invariant 1 (share) | ———— | Communication |
| | invariant 2 (reveal) | ———— | Revealing |
| | invariant 3 (reveal) (share) | ———— | Revealing Communication |

| Mythology | invariant 1 (reveal) | ———— | Revealing |
| | invariant 2 (orient) | ———— | Attendere |

| Stories | invariant 1 (reveal) | ———— | Revealing |

| Written stories and books | invariant 1 (orient) | ———— | Dwelling |
| | invariant 2 (preserve) | ———— | Revealing |
| | invariant 3 (reveal) | ———— | Revealing |

| Register | invariant 1 (reveals) | ———— | Revealing |
| | invariant 2 (dwelling) | ———— | Dwelling |

| Lesson plans | invariant 1 (reveals)(participate) | ———— | Revealing Dwelling |

| Curriculum | invariant 1 (orient) | ———— | Attendere |
| | invariant 3 (organized)(revealed) | ———— | Revealing |
| | invariant 4 (allows) | ———— | Revealing |
| | invariant 5 (hermeneutic) | ———— | Revealing |

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