

Touching Glass - Edification and Mediated Potential

by

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Abstract

This dissertation is an examination of how metatheoretical approaches to understanding can assist in our interpretation and design of computer mediated communication (CMC) environments for place making. CMC is considered in terms of its potential to support place making dialogue. Specifically, the dialogic theories of Friere, Habermas and Rorty are outlined and considered as a means for the interpretation of CMC settings. The three theoretical positions are discussed in terms of their ontological, epistemological and methodological differences. These differences are then considered in terms of how they may be used for interpreting and building alternative CMC settings regarding place-making activities.

Ten CMC projects were developed as ways of uncovering local meaning about place and engaging in place making activities. The projects are used to illustrate how theories of knowledge, that are highly dialogic in nature, may influence the ways that we think about computer mediated communication. The projects range from highly didactic (information rich) to very open ended (more dialogic) on-line settings. In the interpretations of the projects, sustainable community design is considered as a dialogic form of place making, rather than as a prescriptive method or model for modifying the physical environment.

From reflecting on these CMC projects in the context of dialogic thinking, I make the argument that there needs to be shift away from using the Internet as a strategic vehicle for spatial inquiry towards creating on-line environments for people to share both their personal visions and understandings about the nature of place. Rorty's concepts of abnormal language and edification influence an approach that transforms the conventional notion of the internet as a repository of (spatial) information and tools into an evolving matrix of intersecting interpretations and desires. In building a geography of edification, presented as a mobile system of dialogue and interpretation, I draw on the abnormal language of Deleuze and Guattari to liberate CMC from its stratified past and permit CMC-based rhizomatic discourses to emerge.

Table of Contents

Abstract i

CHAPTER 1 - TOUCHING GLASS..... 1

 HERMENEUTIC ENCOUNTERS 2

 Sustainable community design (SCD) 3

 Placemaking 5

 Dialogue and computer-mediated communications (CMC) 5

 ABOUT METATHEORY 7

 ROAD MAP..... 10

 Goals/Biases 11

 Objectives 12

 Method 13

 A CONTRIBUTION TO KNOWLEDGE 15

 READING THIS DOCUMENT 16

 SUMMARY 19

CHAPTER 2. DIALOGUE AND SYMBOLIC COMMUNITIES 20

 PRAGMATISM AND PHENOMENOLOGY 21

 SYMBOLIC COMMUNITIES..... 30

 CONDITIONS FOR THE EXISTENCE OF A SUSTAINABLE COMMUNITY 37

 Sustainable communities: exigent boundaries 39

 Hermeneutics, community and the case of CMC 40

CHAPTER 3. MEDIATED COMMUNICATIONS 42

 DRIVING WITH PAUL 42

 COMPUTER-MEDIATED COMMUNICATIONS 44

 Computer-mediated Communications: Semiotics revisited 49

 The problem with method 60

 THE PROJECTS 64

 Projects 1 – 3: Hypermedia for Sustainable Community Design 65

 Project 1 - The hypermedia questionnaire 66

 Project 2 – The Sustainable Community-design Web Site 67

 Project 3 - Integrating VR into the SCD questionnaire 72

 Projects 4 – 8: Human Computer Interaction 79

 Project 4 – From Traditional to Electronic Planning 79

 Project 5 -The Cutlers assemblage 81

 Project 6 - An Interactive Display Prototype 84

 Project 7 – A user-centered approach to the online studio review 86

 Project 8 – Placegames 89

 Projects 9 – 10: The virtual museum 91

 Project 9 - Living Prairie Weblog 92

 Project 10 – Landscape Change/Landscape Loss 97

 Comparing the projects 99

Chapter 4 - PLACEMAKING AND THE NATURE OF THE KNOWABLE..... 107

 THE TOBOGGAN HILL..... 107

 PAULO FREIRE AND THE GNOSIOLOGICAL RELATIONSHIP 109

 HABERMAS AND THE ONTOLOGY OF COMMUNICATIVE ACTION 113

 RICHARD RORTY: EDIFICATION AND CONVERSATION..... 121

 WHAT FOLLOWS 125

CHAPTER 5 - SCD AND CMC 126

 BUILDING A BUILDING 126

 TOWARDS ONLINE SUSTAINABLE COMMUNITY DESIGN 127

 The internet and sustainable community design 128

 Project Objectives 129

 Project 1: The hypermedia questionnaire 129

 Project 2: The SCD Website 132

 Project 3: Integrating VR in the SCD questionnaire 134

CRITICAL HERMENEUTICS AND THE DESIGN OF CMC	137
RORTY - THE DISRUPTION OF COMMENSURABLE DISCOURSE.....	145
Chapter 6 - CMC AND PLACEMAKING METHODS.....	148
CONTROLLED CHAOS.....	148
PLACEMAKING	149
PARTICIPATORY PLANNING METHODS	155
CRITICAL HERMENEUTICS AND PLACEMAKING METHODS.....	161
Freire's critical theory as method	162
Habermas: a critical social science	164
CMC SIMULATING FACILITATED PLANNING METHODS.....	169
Building a system to simulate the facilitated planning process.....	169
Project 4: From traditional to electronic planning.....	176
Process.....	177
Discussion	177
CRITICAL HERMENEUTIC METHODOLOGIES CONSIDERED	178
Banking knowledge and conscientization	179
Speech acts and CMC.....	181
CHAPTER 7 – DIALOGIC AND DISCURSIVE EPISTEMOLOGIES.....	185
CLEAN WINDOWS	185
FREIRE: DISTANCIATION AND CONSCIENTIZATION	187
HABERMAS: DISCOURSE AND EPISTEMOLOGY	189
EPISTEMOLOGICAL OBSERVATIONS - THE SCD CASE STUDIES.....	191
PARTICIPATORY DESIGN METHODS REVISITED.....	193
Projects: CMC as placemaking assemblages - Goals and objectives.....	194
Preliminary investigation of related technologies	194
Online communications technologies.....	194
About Assemblages	196
Project 5 – Communication and the design process (the Cutlers assemblage).....	198
Method Assemblages and Tool Assemblages.....	201
Project 6 - The Method Assemblage - an Interactive Display prototype.....	201
User considerations.....	203
Information considerations.....	203
Discussion – method assemblage prototype	204
Project 7 - Tool assemblage: prototype development and assessment.....	204
Discussion	206
Project Conclusions	208
EPISTEMOLOGY AND ONLINE DESIGN PARTICIPATION	209
Constitutive and deconstitutive hermeneutics	210
CHAPTER 8 - RORTY: ABNORMAL DISCOURSE AND CMC.....	212
MUDDY SOCKS	212
RORTY'S PROBLEM WITH EPISTEMOLOGY	213
NORMAL AND ABNORMAL DISCOURSES	219
Abnormal Discourse of Deleuze and Guattari	220
Strata.....	223
Abstract machines.....	224
Rhizomes	225
Mapping rhizomes and machinic assemblages.....	226
PLACEGAMES: MAPPING ACTION	234
Game Metaphors.....	236
Potentials for “abnormal” discourse using embedded media.....	237
Situated Action.....	238
Project 8 - A placegame example	239
RORTY METHOD AND METAPHORS	242
CHAPTER 9 - COMMUNITY DESIGN AND DISCOURSE NETWORKS	244
BERNARD AND THE GRASS	244
COMMUNITIES AS MACHINIC ASSEMBLAGES.....	247

Content and expression	250
Discourse networks.....	254
The collaborative hyper-text	255
Towards an interactive dialogic space: the co-authored hypertext.....	258
Project 9 - The prairie weblog	259
Reflections.....	264
Project 10 - Landscape change: landscape loss	266
Living Landscape.....	268
Living Memories.....	270
Endangered Species Artifact Collection	271
Ethnobotanical Reading Room	272
Virtual Prairie Quadrats.....	273
DIALOGIC ASSEMBLAGE REVISITED	274
Chapter 10. GEOGRAPHIES OF EDIFICATION	277
EDIFICATION AND GEOGRAPHY	277
NON-REPRESENTATIONAL THEORY	278
FOLD.....	282
DRIFTWORKS	283
GEOGRAPHY AND RADICAL HERMENUTICS.....	285
A GEOGRAPHY OF EDIFICATION	288
Touching glass	291
BIBLIOGRAPHY.....	293

List of Illustrations

Illustration 1	Self portrait (Photo by Nia Perron, 2003)	1
Illustration 2	Xulf Design Collective (Photo by author, 2003)	20
Illustration 3	Studio Installation (Photo by author, 1988)	42
Illustration 4	Placegame concept (by Chantal Alary, with permission)	108
Illustration 5	Nia and the wires (Photo by author, 2003)	127
Illustration 6	Xulf Design Collective (Photo by author, 2003)	149
Illustration 7	St. Norbert Arts and Cultural Center(Photo by author, 2000)	186
Illustration 8	Web site mock up by author and Sean Pearson (1998)	206
Illustration 9	Placegame concept (Image by Chantal Alary, with permission)	213
Illustration 10	Placegame concept (Image by Chantal Alary, with permission).....	241
Illustration 11	Placegame concept (Image by Chantal Alary, with permission).....	242
Illustration 12	The tangled web (Photo by author)	245
Illustration 13	Prairie Weblog Index.....	261
Illustration 14	Prairie Weblog Conversation Links	262
Illustration 15	Prairie Weblog Image Analysis	263
Illustration 16	Prairie Weblog Panorama Study.....	264
Illustration 17	Landscape Change/Landscape Loss test home page	268
Illustration 18	Landscape Change/Landscape Loss panorama test page	270
Illustration 19	Landscape Change/Landscape Loss living memories test page	271
Illustration 20	Landscape Change/Landscape Loss herbarium test page	272
Illustration 21	Landscape Change/Landscape Loss change essay	273
Illustration 22	“Comb of the Wind” by Chillida (Photo by author, 2001)	278

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DEPARTMENT OF GEOGRAPHY

TOUCHING GLASS – EDIFICATION AND MEDIATED POTENTIAL

BY

PHILIPPE RICHARD PERRON



CHAPTER 1 - TOUCHING GLASS

Memory: I'm lying in a bed surrounded by thick plastic, except for the headboard which is made of glass, more accurately the headboard resembles an aquarium, a tank that is filled with crushed ice. I am in quarantine. I am told that I have pneumonia. The bed is close to a window, and I can see a river and the city going by but everything is distorted seen through the plastic filter. My days seem so long and I start to pass my time watching the ice melt with my hands touching the glass. My game, my desire, is to see all of the ice disappear. But, always, just before it is all gone the nurse returns and fills the tank. At first I'm upset but then I realize that the game has another dimension, a human ironic dimension and the game starts again.

We too are touching glass, watching as our environments disappear only to have them replaced as simulacra in front of our eyes. Our glass exists in large part in the media filters of our everyday technologies, the TV, the radio, the computer monitor. These

filters give us the illusion of seeing what's going on, the illusion of being part of the experience, the illusion of interaction, the illusions of deeper meaning and understanding. They are *filters of information*, not allowing us to filter information but information acting as a filter on our world and on our world views, filtering how we come to know and understand the world. They are filters of what we understand as knowledge.

In the chapters that follow I try to develop the idea of a *geography of edification*. By this I am referring to a dialogic praxis of reconnecting people to people and people to place. I believe that this begins to occur through rediscovering and possibly re-inventing our connections to place and re-inventing new ways to filter information. I also believe that this will begin to occur as we place greater attention on the nature of our 'place' related discourses and dialogues. A geography of edification becomes a form of emancipation from our set ways of seeing and speaking. It is the emancipation found in social exchanges that embrace change and innovative knowledge. It is the emancipation from dominant discourses, through dialogues designed to support change and the sharing of knowledge.

I am not proposing that the answers to our problems will be found in our rejection of information and the new (digital online) media that facilitates it. Instead I propose a course of careful reflection concerning the possibilities that the new media may provide. The new media that I am talking about are less about receiving the steady stream of information, and more closely associated with alternative ways of seeing, thinking, and speaking about the world that we live in. Our practices of everyday life are mediated processes that change our relationships to people and place. Our mediated practices of everyday life are inscribed in and inscribing on people and place. I argue for active participation in collective media processes of personal and spatial inscription.

HERMENEUTIC ENCOUNTERS

As I decided to embark on this study I recalled my late father's question "Of all of the things that you could be studying, why geography?" It is funny what seems to stick.

Geography, or so it seemed, had run its course. It was no longer a dominant field of inquiry, after all what more could we expect to find out? Hadn't spatial inquiry lost much of its relevance? After all, we are part of the *information age*... Perhaps these are the very reasons why geography is so important, that the new spatial frontier involves engaging the ambiguities of everyday life, of uncovering meaning in human life, and engaging in the discourses and dialogues of inquiry and creative spatial production. Geography in this way may be thought of as the dynamic relationships of coping with the differences between our discourses about space and place and our individual interpretations of experiences and environments. This is a view of geography that is less about creating accurate representations of a real world and more about findings ways to build and share meaning in a lived world.

In chapters that follow I consider a number of different ways of analyzing meaning on the side of the subject. I consider interpretations of what constitutes knowledge, interpretation of how people relate to knowledge, and how different knowledge can inform and influence actions. I try to focus my discussion on three topics, sustainable community design, placemaking and how computer-mediated communications (CMC) may become part of our sustainable placemaking dialogues.

Sustainable community design (SCD)

Nobody knows what a sustainable human settlement looks like or how it functions. Some people say that small European towns in the Middle Ages, or prehistoric hamlets, for instance were 'sustainable'. Both models, however, were based on the same non-sustainable paradigm: resources were extracted from the environment while waste was thrown back. The fact that they were small is what made such settlements 'apparently sustainable', since disruption to the natural environment was minor. The best proof though, that those early settlements were not truly 'sustainable' is that through an endless and increasingly accelerated growth spiral they eventually evolved into today's urban civilization, which is most certainly not sustainable.¹

¹ M. Ruano, *Ecourbanism Sustainable Settlements: 60 Case Studies* (Barcelona: Editorial Gustavo Gili, 1999), 7.

During the course of developing the background to this dissertation, between 1994 and 1999, I was fortunate to collaborate on three Canada Mortgage and Housing Corporation External Research Program projects regarding sustainable community design. These projects involved distant collaboration between researchers from the Universities of Calgary, British Columbia and Manitoba including Professors William T. Perks, David van Vliet, and Eduard Epp. Our working definition of sustainable community design (SCD) was as follows:

Sustainable Community Design refers essentially to a practice of planning, designing, building and managing, and the social-economic development of communities following the precepts of sustainable development set out by the UN Brundtland Commission in 1986.²

This definition of sustainable community design evolved from the Brundtland Commission's report *Our Common Future*, which outlined how to consider development in ways that limit and restrict environmental impact and do not offload the consequences of our actions onto future generations.³ Sustainable community-design practices emerge as ways of dealing with issues of a community's built environment that are consistent with sustainable development principles.

As an epistemological pursuit the SCD research would involve a number of investigations and speculations about how computer-mediated communications, in particular Internet strategies, become part of the relationship between the knower (the inquirer) and the known (knowable). This would be influenced increasingly by another kind of epistemology, one that values knowledge resulting from discourse and dialogue. Under these kinds of epistemology, sustainable community design would be thought of as knowledge that emerges through dialogic processes that involve community participation where bringing change to physical environments and personal actions was a reflection of shared beliefs, desires, and needs.

² See SCD website:

<http://www.umaniotoba.ca/academic/faculties/architecture/las/sustainable/intor01.htm>

³ G.H. Brundtland, *Our Common Future* (Oxford: Oxford University Press, 1990).

Placemaking

Participatory placemaking is a form of social inquiry that includes reflective, dialogic practices affecting changes in both our physical environments and in how we conduct our everyday lives. Placemaking may be thought of as a form of predictive or speculative social inquiry. Unlike other forms of social enquiry that may be described as explicative (such as explaining behaviour, actions, processes, etc.), placemaking may be thought of as a way of coping, a way of deciding what to do next. In trying to realize sustainable communities as a participatory process we deliberately make environmental and other future concerns part of the placemaking dialogue. When engaging in sustainable community design we are in effect engaged in multiple, simultaneous forms of social and scientific inquiry.

The dialogic approach to design has been developed, in many ways, through participatory planning and design methodologies. Placemaking methodologies are concerned with ways people interact and communicate to share knowledge, build understanding, and affect change in their physical environments. I take the view that sustainable community design should be considered to be a process that unfolds through placemaking activities and I believe that CMC environments reflect not simply the knowable. They also reflect theoretical biases about what a community constitutes as useful knowledge and the ways that a community chooses to acquire knowledge.

Dialogue and computer-mediated communications (CMC)

Dialogue implies interaction but what is different in computer-mediated communication is the nature of that interaction, the modes of personal representation, and how participation is enhanced and inhibited by the medium. I take the position that for meaningful dialogue to occur in a computer-mediated communication setting, participants must be engaged in more than conversations. They must also be engaged in

inter-personal exchanges and the design of their own communication settings, their own CMC dialogic spaces.

But what constitutes a dialogic space for placemaking within an online context, and why is an online approach useful? The second part of the question (why?) is perhaps easier to contend with than the first (what?). Online dialogue provides communities with potential long-term, relatively affordable modes of engagement. Online dialogue can be both anonymous, for those fearing reprisal, and empowering (what you say determines who you are). The asynchronous nature of online dialogue can also resist forms of temporal hegemony, allowing users to participate when they can rather than when they must. Online dialogue may be a living testimony of those engaged in place.

Online design settings are considered as vehicles that situate informed, optimistic action regarding spatial concerns, which should go beyond the limitations of e-mail and other popular net-based communication strategies (chat rooms, digital fora, muds, etc.). In order for these settings to become more dialogic in nature, they must represent attempts to facilitate broader exchanges of both verbal and non-verbal forms of representation. I propose that questions regarding our implementation of new media technologies, specifically how they act as vehicles supporting sustainable community-design dialogue, should be the result of our metatheoretical reflections (the outcome of ontological, epistemological, and methodological considerations).

The projects undertaken and discussed throughout this document represent a journey about constructing and interpreting computer-mediated environments. These online studies are explorations about how CMC systems are designed and developed but they also lend clues to how our systems knowledge can infect our systems of communication. These studies should be understood in the contexts (time and place) in which they took place. They are not meant to be definitive discussions of technologies of the present *state of the art* of CMC; instead, they are meant to show how systems of knowledge embed themselves in computer-mediated dialogue. These studies reflect a shift in my thinking about knowledge as something valued when acquired to something which can only truly be valued in the processes of acquiring. The case studies presented may be thought of as

a movement from epistemological pursuits to hermeneutic investigations to radical hermeneutic speculations.

ABOUT METATHEORY

According to Morrow and Brown, there are three possible theoretical approaches to social inquiry: metatheory, empirical theory, and normative theory.⁴ Normative theory is concerned with problems of justification. How do we justify our claims and values concerning what social reality should be?

Normative theory involves modes of theorizing that legitimate different ethical, ideological, or policy positions with respect to what ought to be. To claim that there should be more social justice or less inequality is thus a value judgement or normative statement.⁵

Sustainable design principles may be thought of as *rules of thumb* that result from ethical and ideological value judgements regarding our responsibilities to the environment and to future generations. Placemaking processes may involve the identification or clarification of normative statements for a specific community.

Empirical theory would be concerned with explanation. How can we explain our actions? How do we explain the social nature of spatial phenomena?

Empirical theory involves the descriptive and analytical (formal) languages through which social phenomena – what is the case – are interpreted and explained.⁶

Empirical theory is the dominant discourse of scientific inquiry, and the theory most closely associated with ideas concerning the persuasive explanations of phenomena and replication of knowledge. Empirical knowledge (a hypothetico-deductive model of explanation based on universal laws operating in unique conditions) is based on facts as

⁴ R. Morrow and C.A. Torres, *Reading Freire and Habermas: Critical Pedagogy and Transformative Change* (New York: Teachers College Press, 2002).

⁵ R. Morrow with D.D. Brown, *Critical Theory and Methodology* (London: Sage Publications, 1994), 41.

⁶ Morrow with Brown, 41.

opposed to intuition and reason. Empirical theories are forms of explanation about some thing or process in the objectified world.

Sustainable community-design principles are often founded upon empirical methods, and are the result of combining interpretations of applied environmental and social sciences. Sustainable community-design practices involve locally based applications and interpretations of these sciences for bringing about change to our physical communities. Empirical theory often provides the basis for the technological innovations that lead to new opportunities and possibilities regarding the implementation of sustainable community-design features. Technological innovations may serve in the development of alternative placemaking practices.

Metatheory involves theories about the presuppositions behind the construction of knowledge (theorizing theory). Metatheory entails “theorizing about the grounds for justifying approaches to knowledge and inquiry.”⁷ It takes a step back by concerning itself with knowledge itself and is thus associated with the major branches of philosophy.⁸ In the context of this work the metatheoretical questions that concern me involve the justification of approaches to knowledge and inquiry concerning dialogue within the *speculative* and *subjective* practice of placemaking. In the chapters that follow, I consider the metatheories of Paulo Freire, Jürgen Habermas, Richard Rorty, and Gilles Deleuze and their potential implications for dialogic placemaking knowledge and inquiry within computer-mediated placemaking contexts.

According to Morrow metatheory in the social sciences can be understood with respect to at least three types of research: ontological, epistemological and methodological, and that these approaches to inquiry may be differentiated according to the following three metatheoretical questions:

1. Ontological: What is the nature of the ‘knowable’? Or, what is the nature of reality?

⁷ Morrow with Brown, 31.

⁸ These include metaphysics, ontology, epistemology, logic, aesthetics, and ethics.

2. Epistemological: What is the nature of the relationship between the knower (the inquirer) and the known (or knowable)?
3. Methodological: How should the inquirer go about finding out knowledge?⁹

For sustainable community design, ontological questions concern the nature of the knowable. What can we know when we design alternative communities? What is the nature of our knowing concerning the sustainability of the places in which we reside? What constitutes useful knowledge in sustainable community-design discourse? I believe that to get at these kinds of questions, which concern what it means to know, we must begin with two types of considerations. The first is the consideration of everyday life, that sustainable community design is not an abstract vision, but the result of our communion with people and place in everyday life, that knowing is about actively, consciously participating in a sustainable way of life. This is reflected in acts of sharing and an attitude of possessing (being responsible for) in common. The second consideration involves placemaking. This is about the relationship between knowledge and dialogue; in particular I am interested in computer-mediated dialogue. Sustainable community design in this way comes from the deliberate intentional dialogue of individuals who form a community. Design through dialogue is not limited to the known, uncovering (evaluating) the nature of the knowable but also involves discovering (interpreting) new possibilities of the knowable.

The epistemological questions concern the nature of the relationship between the participants in a community (the inquirers) and their understandings of the places that they create. These questions are concerned with how sustainable principles are derived, shared, and understood. For example, the relationship between the knower and the known may be understood through some sort of phenomenological relationship (coming from the objects of place in question and accessible to the investigators as long as they engage consistent processes of thought). I will consider how the participatory placemaking approach and the use of digital media begin to affect relationships between the knower and the known.

⁹ Morrow and Torres, 32

Methodological questions are concerned with how we go about finding and identifying sustainable community-design knowledge. This would include a range of different approaches to the acquisition of knowledge and interpretation such as looking at how communities are organized and function around sustainable principles, uncovering the reasons behind individual actions, and how community participation strategies might serve as a means for liberating knowledge. I limit my discussion to the role of communication in social/spatial inquiry, and I am specifically interested in how computer-mediated communications may limit and enhance sustainable community-design dialogue.

This work is a consideration of how metatheoretical approaches to understanding can assist in our interpretation and design of computer-mediated placemaking communications. It is not a rejection of empirical or normative theories. In fact, normative and empirical considerations must be part of any significant sustainable community-design approach, and these theories deliberately influence and permeate my own work.

ROAD MAP

In *Thirdspace: Journeys to Los Angeles and other Real-and-Imagined Places* Edward Soja highlighted the importance of metaphilosophy to geography with his examination of the ideas of the French philosopher Henri Lefebvre. Following from Lefebvre, Soja points to *meta*-philosophy as opening up philosophy to different spheres of representation, to new forms of reflection, meditation, and interpretation. He describes Lefebvre's work as:

... his *transgressive* conceptualization of lived space as an-Other world, a meta-space of radical openness where everything can be found, where the possibilities for new discoveries and political strategies are endless, but where one must always be restlessly and self-critically moving on to new sights and insights, never confined by past journeys and accomplishments,

always searching for differences, an Otherness, a strategic and heretical space “beyond” what is presently known and taken for granted.¹⁰

This dissertation is also about searching for differences. It is an attempt to situate geography within a radical openness of dialogue instead of within the strictures of discourse. I begin by using metatheory as a way of continually looking from the outside in, concerning the relationships between how we embed our systems of knowledge in the ways that we exchange ideas about place and the ways that our systems of knowledge permeate into our modes of communication.

The work is awkwardly situated in the intersection of placemaking praxis, sustainable community-design thinking and computer-mediated communication desires. It is an awkward intersection because of a mix of radical dialogic intentions, a potentially sedimentary discourse, and the implicit dangers that come from technological deterministic tendencies. It is an awkward intersection because instead of providing a set of directions in which geographers should go or answers that would make us feel comfortable, it represents a nomadic geography as a commitment to continually seeking new ways of participating in intertwined historical, social and spatial relationships. Metatheory can be seen as a way of stepping back and teasing out biases that systems of knowledge impose upon relationships. Radical hermeneutics can be a way of keeping the dialogue alive, even under the scrutiny of metatheoretical introspection. Keeping the historical, social and spatial dialogue alive means engaging in the dialogue while simultaneously being involved in its interpretation. Mine is a nomadic geography on the way toward a *geography of edification*.

Goals/Biases

This work began more with an intention rather than with a recognizable *goal*, an intention to engage in a “radical hermeneutic” enterprise regarding alternative ways of thinking about sustainable community design. Or to put it another way, it began as an attempt to

¹⁰ E.W. Soja, *Thirdspace*, (Oxford: Blackwell, 1996), 34.

think about sustainable community design as a process in constant renewal, resisting new-urbanism tendencies to configure our physical environment through picturesque visions of the past and ecologically determined prescriptions of the present. Instead, I was interested in trying to understand sustainable community design as on-going commitment to dialogic praxis regarding the local interrelationships of historical, social and spatial identities. Any “radical hermeneutic” writing may be best understood, at least metaphorically, as the line or place at which the trip has ended only ever uncovered when one takes pause and engages in hindsight.

My second goal was to resist empirical temptations and to develop a more Deleuzian style of seeing the world and writing about it. This meant that the work would have to be nomadic rather than prescriptive, exploratory rather than empirical. This is a bias that has caused the work to become more theoretical and interpretive rather than empirical and definitive. Like the bias running diagonal across the weave, something that exists only when you re-think what the weave actually is, the strength of the work is a result of this transgression.

From what might be considered to be a more pragmatic perspective I was interested in finding new ways to think about computer-mediated placemaking. In the beginning this began with what I consider now to be a naïve view about “trying to build a better mousetrap”. Over time I began to develop an attitude towards the design of computer-mediated communications settings that focussed greater attention on the premises and biases that underlie dialogic spaces, and to consider dialogic hermeneutics as a source of critical reflection concerning CMC design and use.

Objectives

The project began as an approach to determining the features and characteristics that would make up computer-mediated communication systems for placemaking scenarios. This was indeed an object oriented approach that I gradually began to question as being too objective and not open to the thoughts and feelings of the participants. In this

dissertation I return to a number of these case studies and consider them from a dialogic hermeneutic perspective.

A second objective was to allow theory to take root in the work itself. On the one hand this would mean adopting a radical hermeneutic approach to the writing and to conducting the research. On the other hand this would mean engaging in a process of *doing* rather than examining the work of others. By *doing* I mean actively developing a number of CMC case studies based upon the resources available to me (including funding). I return to these case studies in this dissertation and consider them with respect to various dialogic hermeneutic positions. The focus of the CMC environments was on issues of sustainable community design and participatory design processes. Part of this involved an elaboration of SCD principles and practices in one of the case studies, and a broader investigation of participatory planning methods (dialogic methods) through a series of other case studies.

As a form of metatheoretical inquiry I wanted to uncover and contrast differences in dialogic hermeneutic positions. I would use this *interpretation* of different dialogic hermeneutic positions to illustrate how they can be used in the interpretation of computer-mediated placemaking settings. I believe this, much like Lefebvre's rhythm analysis, to be a process of formulating questions rather than of generating answers, something that *is always in process and never totalizable*.¹¹

Method

Within this dissertation the projects serve as the backdrop for my metatheoretical investigation. These projects were produced as either "real world" projects for national funding agencies, Hypermedia projects for (Canada Mortgage and Housing Corporation (CMHC) and Heritage Canada - Virtual Museums of Canada Program (VMC)) and as Computer Supported Cooperative Work (CSCW) prototypes within graduate academic

¹¹ M. Doel, *Poststructuralist Geographies: the Diabolical Art of Spatial Science* (Edinburgh: Edinburgh University Press, 1999), 2.

settings. These projects normally included qualitative research inquiry (usually surveys or interviews regarding user satisfaction with the system performance, communication processes or product outcome). Three CMC environments on sustainable community design were developed for Canada Mortgage and Housing Corporation (a hypermedia questionnaire, an online book, and a “virtual” (computer simulations and digital video based) hypermedia questionnaire. The project for Heritage Canada would be a hypermedia product incorporating VR materials and building upon geo-mapping principles (hypermaps and a customized online spatial database). The CSCW prototypes were either conceived or developed to support typical place-making dialogic settings with students of Architecture, Landscape Architecture, and City Planning. A final CSCW prototype (a customized Weblog approach) was developed to support the development of the Heritage Canada hypermedia environment.

In this dissertation the focus shifts from qualitative research methods and empirical investigations of CMC to metatheoretical concerns of CMC itself. In this way, methods themselves become part of the subject of inquiry. I attempt to differentiate various dialogic hermeneutics perspectives via three sets of metatheoretical writings. I begin this process by looking at the differences in the hermeneutics of Paulo Freire and Jürgen Habermas, and I then extend their insights by considering the dialogic hermeneutics of Richard Rorty.

I present the argument that metatheoretical positions influence our understanding of what we mean by sustainable community design and how we go about constructing systems of communication. The case studies listed above are used throughout the discussion primarily for illustrative purposes, as the basis for critical reflection and interpretation. I move to a place where radical hermeneutics is the on-going search for a *contribution of knowledge* in the slippage of meaning and the flux and chaos of our experiences. I come to rest with the notion of abnormal discourse as a way to look at CMC research as an expression of the flux of participatory knowledge while at the same time contributing to an on-going search for place-making potential through radical dialogic possibilities.

Conceptually, in an attempt to further Rorty's notion of abnormal discourse I turn the discussion toward the writings of Gilles Deleuze and Félix Guattari and to a lesser extent the dialogic philosophy of Alexander Sidorkin and the radical hermeneutics of John Caputo. I present the idea of a geography of edification as an approach to theory that is bound in praxis, a form of deliberate hermeneutic inquiry that is situated within the flux of place-making dialogue.

After having come to a place where I engage metatheory to question CMC *strategies* and hermeneutic differences, I present the final case study as a way of illustrating a flexible (more nomadic) dialogic approach, a working environment based upon the metatheoretical lessons learned. The final project illustrates the interconnection between the process of making and the objects made (cooperatively building a place focussed web-based participatory work environment, and the creation of a place oriented website that may be thought of as a multi-centered approach to the representation of place).

At the end of the dissertation, I turn to a speculative discussion about how a geography of edification may be an example of an on-going approach to geographical thinking, one that is radically open to different possibilities. Included in this discussion is an interpretation of the poststructural geographies of Nigel Thrift and Mike Doel.

A CONTRIBUTION TO KNOWLEDGE

Throughout this work I continually return to my advisor's question, "What's the contribution to knowledge?" It is here more than anywhere that I take pause and wonder about knowledge and its own fixations, its own objectification, its own commodification, and in response I reflect that engaging in any hermeneutic enterprise involves both constitutive and deconstitutive inquiries. On the one hand it is about seeking knowledge about building and living a better world (constitutive inquiry). On the other hand, we must always be concerned with the *faces of knowledge*, and thus hermeneutics is about critical reflection and deconstruction (deconstitutive inquiry). Part of my contribution to knowledge has been about seeking knowledge, while engaging in a conversation

concerning what we mean by knowledge. It is about moving towards a geography of edification, questioning our foundations of truth and understanding and searching for ways of coping with change and keeping place-making conversations alive.

READING THIS DOCUMENT

The chapters that follow involve a discussion of metatheory for the interpretation of computer-mediated placemaking and sustainable community design. I look at the hermeneutics of Paulo Freire, Jürgen Habermas and Richard Rorty and I consider their ontologies, epistemologies and methodologies and apply these ideas to an interpretation of a series of computer-mediated placemaking projects.

Integrated within the chapters that follow are ten projects that were developed to engage the use of the new media as ways of uncovering shared meanings of place and engaging in placemaking activities. These studies range from highly didactic (information rich environments) online settings to very open ended dialogic online settings. The studies represent about eight years of work that evolved along with the Internet technologies as they were undergoing their own change and development. The research process began with a desire to learn about and articulate principles of sustainable community design. This was influenced by two factors. The first factor was that during the 1990s there was a growing recognition, by urban design professionals, of the importance of developing alternative, responsible visions for human settlement. The second factor was a response to the excitement of the time (mid to late 1990s), an optimism (more like a feeding frenzy) about the new millennium characterized by the .com revolution.

In **Chapter 2**, building on the ideas of Anthony Cohen, I consider sustainable community design as symbolic constructs and consider how this begins to inform theory. I look at the idea of sustainable community design as a product of our shared symbolic constructions. Part of my own reflections involve considerations of what we mean by community as well as what we mean by public participation. I consider notions of sustainability and

community as symbolic aspects of dialogue, and consider how hermeneutics might be engaged as part of computer-mediated conversations about place and placemaking.

In **Chapter 3** I describe in some detail the hypermedia and CSCW projects that underpin the rest of the dissertation. As part of this discussion I try to situate the work within the context of similar work and directions in geo-science. I try to limit this discussion to relevant spatial technologies, as well shared and open source dialogic applications.

In **Chapter 4** I consider the ontologies of the three philosophers and consider how their different approaches to what constitutes knowledge could influence our understanding of sustainable community design and computer-mediated placemaking.

In **Chapter 5** I summarize the three SCD projects that use the Internet to study sustainable community design. This was realized by using the Internet as a vehicle for gathering and disseminating information about the sustainable design principles and their implementation in different contexts (North American and Northern European contexts specifically). I discuss briefly some of the findings of the projects, then I consider how the different ontologies could influence such work.

In **Chapter 6** I consider the methodological implications of the critical hermeneutic philosophical positions for planning using CMC. I discuss the role of method as it applies to dialogic and discursive critical interpretation. This chapter also includes a brief discussion of placemaking principles and traditional (not computer based) participatory planning methods. I introduce a project that simulates specific facilitator oriented traditional participatory planning methods (brainstorming and role playing) using CMC. I conclude the chapter by considering how critical hermeneutic methods can inform CMC design.

In **Chapter 7** I look at the epistemological considerations of the same two critical hermeneutic approaches and consider what a more flexible dialogic environment might look like. I introduce three ways of thinking about online participation influenced by the critical hermeneutic epistemologies: *tool assemblages*, *method assemblages* and *dialogic*

assemblages. I present three projects that were developed as investigations of these concepts, and then consider how these types of environments might be extended to reflect, in other ways, the critical hermeneutic approaches.

In **Chapter 8** I look at the pragmatism of Rorty, his *problem with* epistemology and his call for entertaining *abnormal* discourse. I present the philosophy of Deleuze and Guattari as a type of abnormal discourse, and then I turn to the design work of James Corner as a means of considering how this type of abnormal discourse may be applied to design. I respond to Rorty's idea of abnormal discourse by considering the possibilities of using the Internet as a media for conducting a game that influences our conduct in everyday life.

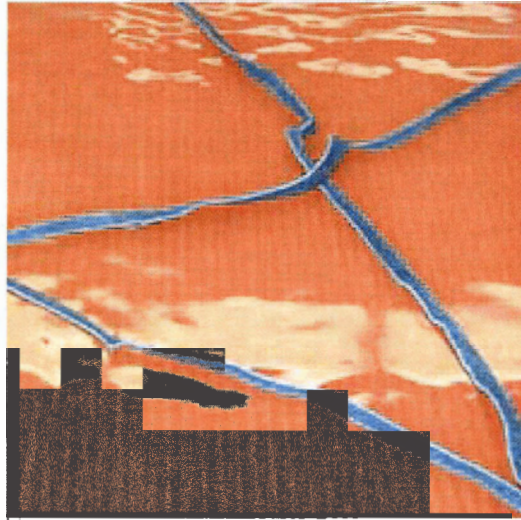
In **Chapter 9** I return to Rorty's concept of edification and the vocabulary of Deleuze and Guattari as a way of thinking about CMC as an environment of Becoming. I illustrate how these concepts are played out in the CMC setting. The final investigations mark a shift from using the Internet as a *strategic* vehicle for spatial inquiry towards an approach at creating online environments for people to share their personal visions and understandings about the nature of place. This has become part of a process about seeking rhizomatic paths, and viewing the Internet less as a repository of (spatial) information and tools, and more as an evolving matrix of intersecting interpretations and desires. I look at how the philosophies of Deleuze and Guattari may be used to think about CMC as a means of liberating rhizomatic discourses and I present a current project that has been influenced by Deleuzian concepts.

In **Chapter 10** I am drawn out by Rorty's challenge to engage in *abnormal discourse*, and I turn to the writings of Deleuze, Guattari, Massumi and Caputo to formulate a radical hermeneutic position that I call a *geography of edification*. In this, the final Chapter I propose the idea of a geography of edification as a *mobile* system of interpretation.

SUMMARY

The research approach may be characterized as an examination of hermeneutics as means to design, build and think about our cities, through what is characterized as *sustainable community design*. Part of these considerations are about how sustainable community design may exist through dialogue and change rather than as an alternative technological epistemology of place. I argue that the *how* of coming together as a community for local placemaking in the information age must be understood in terms of different dialogic approaches. Engaging in technologies has to be seen as part of a process of humanization always on the move, in flux, derived through social dialogic processes. This means that technologies need to be thought of less as ‘solutions’ to our problems, and more as part of ongoing active dialogic praxis.

As I began this work I was frequently asked the questions: What is it that you want to know? What is it that you are going to research? Throughout the work I kept returning to these questions and I found that they always made me uncomfortable. I suppose this is because what I believed I wanted to know was what being postmodern means. What I have come to realize is that one doesn’t learn postmodernism like other epistemologies, like other *isms*: one becomes postmodern, or rather one becomes committed to the process of continually becoming. This commitment is not about an anything goes attitude, but rather about sustaining an attitude of living in the paradox of being deliberately critical (in the constitutive and deconstitutive senses) of *respectable* knowledge while remaining open to abnormal approaches to meaning.



CHAPTER 2. DIALOGUE AND SYMBOLIC COMMUNITIES

I have to be honest. For a long time now I have found myself on the periphery of several communities. I never liked being part of the organized field trip. I resist and usually resent the fact that I have to sit on university committees. Before my children were born, my wife and I thought that we could live our lives in our neighbourhood in relative anonymity. But things change, and gradually one is drawn in, not necessarily by a sense of responsibility, but often through our relationships with others. Still, I would like to think about myself as being closer to the periphery than the center of the communities *that would have me as a member*. This is not because of a desire to be on the outside, but rather because I believe (like Anthony Cohen) that communities only really exist when defined by the periphery.

The periphery that I am referring to is, of course, symbolic rather than material, and the intent behind this chapter is to consider sustainable community design as the symbolic

product of communication. I begin with a brief discussion of some of the theoretical foundations that may be used in the interpretation of communication, particularly phenomenology (which will lead me to look in more detail at the conversation theories of Habermas) and pragmatism (which will lead me to look into more detail at the liberal pragmatism of Rorty). I follow this discussion with a brief overview of some of the developments in computer-mediated communications that have influenced the *interpretation of the case studies*.

PRAGMATISM AND PHENOMENOLOGY

Although pragmatism and phenomenology both reject scientism as an approach to human life their ontological emphases and epistemological orientations are substantially different. “For pragmatists, symbols, values, beliefs and an interest in just how social behavior works are the focus. By contrast, phenomenologists have searched for the essences which undergird the social world, *the universal structures of social orientation*”.¹²

Pragmatism stems back to the end of the nineteenth century with the collaboration of the logician C. S. Peirce (1839-1914) and the moral philosopher William James (1842-1910). Peirce is perhaps best known as one of the founders of *the science of signs*, semiotics. Malone writes:

For Peirce, signs are the basis of communication, and communications presupposes a community. From this perspective, communication is the product of individuals interacting through the use of a system of shared meanings, instantiated in signs. Communication (and thought) takes place when there is a problem to be solved. Pragmatism for Peirce was a method to be used to study the meaning conveyed through signs.¹³

Signs in a sense “stand in” in conversation for the thing being communicated. One of Peirce’s greatest contributions was in his distinction between icons, symbols and indexes.

¹² M.J. Malone, *Worlds of Talk: The Presentation of Self in Everyday Conversation* (Cambridge: Polity Press, 1997), 21.

¹³ Malone, 23.

Icons refer to symbols that were attempts to reproduce the referent in some way. Pierce described three types of icons, all three of which have significance for the representation of space: *images*, *diagrams* and *metaphors*.¹⁴ It follows that icons have a significant place in the design spatial representation systems.

Pierce would refer to the term “index” when referring to “a direct indication of the thing for which it stands”. In indexing the thing that stand in for something else through a direct association with that thing. So, in the classic example, a dog’s growl indicates an intention he intends to bite. Closely associated with indexing are narrative devices such as metonymy, constructing meaning through association, and synecdoche, using part of something to represent the whole. Metonym and synecdoche are semiotic devices that may be used in a didactic sense to bring meaning to place. Indexing is a ubiquitous technique in the design of graphic user interface, the hand for the pan, the arrow for the pointer, etc. Symbols stand in for something through indirect associations with that thing, yet are accepted as part of a collective understanding. So, for example, most flags have little direct association with place (the flag of Canada may be an exception) or flowers and chocolates have little direct association with feelings of affection other than through their symbolic value. This idea would be further developed by Ferdinand de Saussure who challenged the notion of a natural language (language of direct correspondence with reality). Potteiger and Purinton explain:

[de Saussure] posited that there is no one-to-one correspondence between a sign (word) and what it signifies. Because words are learned in particular situations, they are conventional and arbitrary – the transparent window of language becomes shaded, more opaque. Likewise narratives mediate rather than mirror reality.¹⁵

The structural linguistics of de Saussure would underpin much of the structuralist movement that would follow, most notably the work of anthropologist Claude Levi-

¹⁴ T.A. Sebeok, *Signs: An Introduction to Semiotics* (Toronto: Univ. of Toronto Press, 2001), 10.

¹⁵ M. Potteiger and J. Purinton, *Landscape Narratives* (New York: John Wiley and Sons, 1998), 32.

Strauss who searched for universal meaning and structures (often posed in binary terms) that were inherent to the human mind (culturally independent).¹⁶

The semiotic approach to pragmatism may be applied to sustainable community design. SCD may be broken down into a system of shared meaning concerning the formulation of place, instantiated either through the symbols of language (a sustainable community-design discourse) or through the symbolic creation of place (shared meaning that comes from instantiated symbols in space, a form of design discourse). The second CMC project¹⁷ in this thesis (see Chapter 5) is an attempt to identify and articulate a system of SCD shared meaning through a semiotic code articulated as sustainable community-design features. Within this project we applied the feature code to seven case studies of sustainable communities (Ecolonia in the Netherlands, Ecovillage in New York State, Kolding and Slagelse in Denmark, Mckenzie Town and Windsong in Canada). Within these communities a number of didactic design features have been developed specifically with the intent of conveying symbolic meaning. Probably the best examples are the wastewater and groundwater design solutions in Kolding,¹⁸ and the *indoor street* elements of the co-housing design of Windsong.¹⁹ In these examples, the design features do more than perform a design function. They also contain symbolic value about the meaning and intentions behind the building of given community.

William James would bring an interactive view of the person and the understanding of self that would lead to the body of knowledge known as symbolic interactionism. Symbolic interactionism would later become influential in the social sciences through the works of social philosophers such as John Dewey (1859-1952) and George H. Mead

¹⁶ Potteiger and Purinton, 32.

¹⁷ See: www.umanitoba.ca/academic/faculties/architecture/la/sustainable/contents.htm

¹⁸ See: www.umanitoba.ca/academic/faculties/architecture/la/sustainable/cases/kolding/koldindx.htm

¹⁹ See: www.umanitoba.ca/academic/faculties/architecture/la/sustainable/cases/windsong/windindx.htm

(1863-1931). James believed that the human self was in part the result of instinct, but he also believed in habits as being engendered through social interaction (thought of as an evolutionary improvement). “Habits, implying memory and intellectual life, account for the development of various kinds of selves – material, spiritual, social, and the pure ego. The concept of the social self, which for James introduces the role of others in who we are, comes to be of central importance in symbolic interactionism”.²⁰ For Dewey, habits did not come from the outside but were instead the products of social life. For Dewey, our behaviours are based upon the contexts and situations in which they are enacted. Mead would bring together concerns for the influences of social life with aspects of semiotic, symbols, language and conversation.

Mead’s discussion of significant symbols introduces both the social and the self into his account of communication. The Meadian self is a social process. Mead goes beyond James in developing a processual account of the self that uses conversation as its model. The self is a conversation between the “I” and the “me”. The “me” is “the organized set of attitudes of others which one himself assumes”. The “me” then, is the past, “habitualized ways of responding”. Doubt arises when “the exercise of habit will not result in the completion of the act”. The “I” uses those habits but is aware, because of the problematic nature of the moment, that they are inadequate.²¹

Symbols become the basis for exchange, an internal conversation between the habitual world of the “me” and the external problem-solving world of the “I”. (In the chapters that follow I will focus upon another form of pragmatism, the liberal pragmatism of Richard Rorty. In terms of symbolic interactionism, Rorty’s project may be thought of as a way of destabilizing the conversations of the self by undermining the dominance of the “me” and liberating paths for the “I”.)

The other theoretical perspective that may be useful in the interpretation of communication is phenomenology. In the early 20th century the German philosopher Edmund Husserl (1859-1938) developed his theory of phenomenology with the goal “to describe the *universal* structures of subjective orientation in the world, not to explain the

²⁰ Malone, 23.

²¹ Malone, 25.

general features of the objective world”.²² Phenomenology has been the subject of much interest by geographers with some of the most notable work coming from theorists such as Yi Fu Tuan and Edward Relph. Phenomenology for Husserl is not simply a matter of articulating signs, but rather also involves uncovering meanings and intentions and is thus often associated with systems of interpretation or hermeneutics.

Schmitt²³ describes phenomenology according to five characteristics. It is first about describing “essences” or as Husserl describes *eidōs*, features that make up an object (hence descriptions have a direct correspondence with reality). Second, a phenomenological understanding of an object comes from directly experiencing it. In this way phenomenology is a rejection of empirical facts and abstractions, in exchange for an ontology that associates knowledge with experience. Third, the so-called phenomenological method involves *bracketing*, or suspending one’s belief in the object under scrutiny. Bracketing is meant to get at the root of the object under study without the external influences of pre-conceived ideas. Fourth, phenomenological statements are derived from intentional acts. In this way phenomenology is about intention and meaning at the same time, and more specifically phenomena are intentional, that is to say that they have meaning. Fifth, intentionality is directly associated with coherence. In other words intentions are understood as somehow making sense. It is in the last two points that hermeneutics and phenomenology become intertwined.

Sustainable community design understood through the veil of phenomenology begins with the physical world of essences, understood in a temporal, systemic entropic sense. Phenomenological understanding of the sustainable world is based upon individual experiences and actions, a praxis of on-going interaction and interpretation of a changing world of essences. The bracketing of the sustainable world is not only about suspending belief in the static object, but also about suspending belief in a world of flux and allowing

²² T. Luckmann, “Preface,” in *Phenomenology and Sociology: Selected Readings*, ed. T. Luckmann (Harmondsworth: Penguin, 1978), 9; cited in M.J. Malone, *Worlds of Talk: The Presentation of Self in Everyday Conversation* (Cambridge: Polity Press, 1997), 26.

interpretation to take root in the temporality of the moment. Statements about the sustainable world have at best only a correlation with the real world. Instead statements about the sustainable world are conceived in a language of optimism and hope, where meaning is associated with intentions about how we choose to live our lives. Finally, coherence that is built into the statements and intentions about sustainable life is a coherence derived through hope and predictability, as a link between actions and consequences.

Phenomenological hermeneutics, as championed by philosopher Hans-Georg Gadamer, in *Truth and Method*, argues that method (as proposed by positive science) has no role in the humanities, that a theory of hermeneutics is not a method, that each situation is different, and that interpretation should always be engaged in the search for the complex nature of coexisting *truths*.²⁴ For Gadamer hermeneutics must shift its focus from the possible truth of a text (defined either in a dogmatic or objective fashion) to a focus on method, a shift from coming to terms with truth through developing situated procedures for understanding an author's intentions. For Gadamer, hermeneutic inquiry is concerned with uncovering the ambiguities and contradictions that constitute the nature of life itself.

Hermeneutics is often about uncovering underlying tradition, prejudice, and even conscious evasion. In these ways it can be understood as a project of understanding and emancipation from tradition, prejudice, and evasion. Gadamer believed that no understanding is free of prejudices (pre-understanding or what he referred to as horizons).²⁵ The act of understanding the sense of a text came from "the fusion of

²³ R. Schmitt, "Phenomenology," in *The Encyclopedia of Philosophy*, Vol. 6, ed. P. Edwards (New York: Macmillan and the Free Press, 1967); cited in M.J. Malone, *Worlds of Talk*, 26-28.

²⁴ In *Truth and Method* Gadamer examines ideas such as aesthetics, language, and beauty and treats linguistic devices such as paradox as ways of uncovering the complexities of meaning. "Hence the idea of beautiful moves very close to that of good (agathon), insofar as it is something to be chosen for its own sake, as an end that subordinates everything else to it as a means. For what is beautiful is not regarded as a means to something else." H. Gadamer, *Truth and Method* (New York: Continuum, 2003), 435.

²⁵ Gadamer says: "What we encounter in the experience of the beautiful and in understanding the meaning of tradition has effectively something about it of the truth of play. In understanding we are drawn into an event of truth and arrive, as it were, too late, if we want to know what we ought to believe." Gadamer, p#.

horizons” which included an emphasis on what is done to individuals rather than what individuals actually do.

[The Hermeneutic approach] treats social phenomena as a text to be decoded through imaginative reconstruction of the significance of various elements of social action or event. The interpretive framework thus holds that social science is radically unlike natural science because it unavoidably depends upon the interpretation of meaningful human behavior and social practices.²⁶

Phenomenological hermeneutics²⁷ can be considered to be affirming the primacy of subjective understanding over objective knowledge. Such an approach conceives of understanding as an ontological (study of being) problem rather than an epistemological (study of knowledge) problem.²⁸ Phenomenological hermeneutics is often concerned with the issues of power and domination, mining and undermining preconceived notions of meaning, relations, methods, and truth itself.

For Gadamer, hermeneutics must involve distinguishing two types of understanding. The first type of understanding (substantive) involves how we see the truth in things, how we distinguish between good and bad, right and wrong. The second type of understanding (intentional) involves knowledge of conditions, the reasons behind decision, what underlies the determination of truth. “What is understood is not the truth-content of a claim or the point of an action but the motives behind a certain person’s making a certain claim or performing a given action.”²⁹ Whereas substantive understanding provides the closest thing we have to attaining meaning, intentional understanding is necessary when attempts at substantive understanding fail. It is then that we have to uncover intention and other conditions behind the statements of others.

²⁶ D. Little, *Varieties of social explanation: an introduction to the philosophy of social science* (Boulder: Westview Press, 1991), 68.

²⁷ Phenomenological hermeneutics is sometimes referred to as postmodern hermeneutics. G.B Madison, *The Hermeneutics of Postmodernity* (Bloomington: The University of Indiana Press, 1988).

²⁸ P. Slattery, *Curriculum Development in the Postmodern Era* (New York: Garland Publishing, 1995), 106.

²⁹ G. Warnke, *Gadamer: Hermeneutics, Tradition and Reason* (Stanford, CA: Stanford Univ. Press, 1987), 8.

Phenomenological hermeneutics when applied to questions of place and placemaking becomes concerned with substantive issues regarding how we distinguish between good or bad on issues such as urban form, neighbourhood design, systems of transportation, water, waste and soil management, urban ecological integration, etc. Phenomenological hermeneutics concerns regarding how to determine what is good or bad, right of wrong with respect to what we should do (ought to do) in spatial realms can be associated with the theory and praxis of planning and design. Phenomenological hermeneutics is also about uncovering the intentions behind the configurations of lived space and its multiple representations. This is, in part, interpreting why things are the way they are, but it also is about uncovering the relationships between placemaking intentions and their consequences, that is, what spaces mean and how they affect different people or peoples.

[I]n its contemporary form, hermeneutics is faced with three interrelated concerns: understanding, explanation, and critical assessment. The last implies that a community of interpreters must work to unmask ideological distortions, limited “objective” interpretations, and analysis of the meaning of text. This community of interpreters opens hermeneutics to the postmodern discussion. Interpretation in postmodern philosophy must include a relational dimension that is mutually critical.³⁰

Gadamer’s idea of the “fusion of horizons” is perhaps what most distinguishes his philosophical perspective from other hermeneutic philosophers such as Jürgen Habermas. For Gadamer, knowledge derived the phenomenological hermeneutics is fundamentally personal.

Aesthetic experience, like historical understanding, involves a mediation of meaning with one’s own situation, of what Gadamer calls a “fusion of horizons”. By this he means the integration of one’s understanding of a text or a historical event with its relevance to one’s own circumstances in such a way that an ‘original’ or ‘intended’ meaning cannot be differentiated from the meaning of the text or event for oneself. This fusion is part of all hermeneutic understanding, on Gadamer’s view, and, ... , it separates hermeneutic forms of knowledge from what he considers non-hermeneutic forms such as the natural sciences. Hermeneutic sciences have no object that is independent of themselves. The meaning an object has it has as a fusion of the interpreter’s perspective and the object.³¹

³⁰ Slattery, 115.

³¹ Warnke, 69.

Gadamer's view concerning the "fusion of horizon" has a significant impact on how we perceive understanding in the dialogic situation. If the meaning of an object has a fusion with its interpreter then it follows that all meaning is personal, and that no two people can ever really know the same thing. This is a view of shared understanding that echoes Hericlitus' idea that one can never stand in the same water twice. It is similar to where Richard Rorty is coming from with his notion of "coping" that I will return to in subsequent chapters. Because no two people can ever really know the same thing, the best that we can ever do is to "cope" with the circumstances at hand. Part of this "coping" comes from accepting the separation that comes from the "fusion of horizon" and working within the flux. I believe that this relates to what American philosopher John Caputo refers to as engaging in radical hermeneutics,³² an acceptance and sustained commitment to living within the flux of understanding. In committing to the conversation of placemaking contexts, "coping" means looking for ways of identifying our differences in understanding rather than simply our differences.

What distinguishes Habermas from Gadamer is that Habermas wished to be able to somehow substantiate, beyond the "subjective" instance of the current conversation, claims about truth, validity, and appropriate norms of action. For Habermas such claims must exist, in a greater normative sense, outside of the moment. According to Warnke, Habermas is:

... concerned with the truth of assertions and normative validity of actions and norms of actions. [He wants] therefore to counter a position that would reduce ideas of truth and normative validity to matters of differing historical prejudice and [in his] view this is just what Gadamer's hermeneutics threaten to do. It fails to provide any basis upon which to adjudicate the validity of a tradition's self understanding and therefore risks a simple capitulation to it.³³

Rorty would likely argue that this type of approach, although potentially useful, is simply a way of coping and that any such claims can only really be understood as part of the current accepted (or dominant) conversation. In the chapters that follow, the work will

³² By this I mean that there will always be differences in meaning and that meaning even for the individual is subject to shifting horizons.

³³ Warnke, 140.

deviate in a pragmatic way (a liberal/radical coursing), which is seen as a form of coping (feeling the road) with space and place, a philosophical condition (poststructural) where universal structures are put into question. It is not a matter of favouring one approach over another (pragmatism or phenomenology), *either/or*, but of affirming that a deeper understanding of communications (and more specifically the ways that we interact) results from bringing theories together (including abnormal approaches), an approach that may be characterized by the prepositional association *and/with*. I also believe to be truly engaged in computer-mediated communications as placemaking praxis, we must be able to continually wear many ontological *hats* (while living with the paradoxes of their coexistence), and the epistemological relationships that bind them together (coping with the beauties and discomforts that they present).

SYMBOLIC COMMUNITIES

For Anthony Cohen, in *The Symbolic Construction of Community*, communities are relational ideas that are best understood by their boundaries. Communities for Cohen are not defined by what the members have in common as much as how that which is in common may be identified as different or unique. Boundaries (borders, race, gender, etc.) serve to define not by similarity, but by creating difference. For Cohen, boundaries are themselves relative active agents that are symbolic in nature and serve as entities that may be operated upon: “Symbols do not so much express meaning as give us the capacity to make meaning.”³⁴ Meaning as such is not shared between individuals but is subject to idiosyncratic experience and understanding. Boundaries allow meaning to be engaged and acted upon. Defining a sustainable community by a symbolic boundary such as an *attitude towards consumption* doesn’t mean that all participants share the same view of consumption but rather that they agree to be active participants in the dialogue concerning consumption.

Culture constituted by symbols does not impose itself in such a way as to determine that all of its adherents should make the same sense of the world. Rather, it merely gives them the capacity to make sense and, if they

³⁴ A.P. Cohen, *The Symbolic Construction of Community* (London: Routledge, 2003), 15.

tend to make a similar kind of sense it is not because of any kind of deterministic influence but because they are doing so with the same symbols.³⁵

Sharing symbols does not imply that we all share in the same meaning, but instead sharing allows us to actively engage in the creation of the capacity to make meaning together. This does not mean that we are condemned to be adrift in our different interpretations, but instead, as a community we share the symbols that allow us to bring together our difference. In this way sustainable community design is not a formula for the creation of meaningful place but is a way of sharing symbols about place. In this way we come together in everyday relations and events through shared symbols that support our differences in understanding and meaning. Community can be thought of in terms of how we come to grips with our differences.

By their very nature symbols permit interpretation and provide scope for interpretive maneuver by those who use them... [Symbols] express other things in ways which allow their common form to be retained and shared among the members of a group, whilst not imposing upon these people the constraints of uniform meaning. Because symbols are malleable in this way they can be made to 'fit' the circumstances of the individual. They can thus provide media through which individuals can experience and express attachment to a society without compromising their individuality.³⁶

The symbolic construction of community is about a culture in flux. Community is not a fixed idea but is a living realization of our combined webs of significance. These are webs that are created and re-created, a culture in continuous self-realization, in a community sharing symbols as potential agents of individual edification. The symbolic construction of community is an active form of inclusion, supporting a multiplicity of perceptions, not containing meaning but encouraging new forms of determining what is meaningful through persistent interpretation. The realization of a sustainable community involves the multiple simultaneous searches for, and interpretation of what we believe as, meaningful acts in everyday life such as taking the bus, recycling waste, walking to the

³⁵ Cohen, 17.

³⁶ Cohen, 18.

store, and growing a garden. These are very different for all of us, but the symbolic construction of sustainable community implies that we are sharing similar symbols in our own individual self-realization.

Sustainable communities are realized in place, in a number of different ways, through a number of different types of *dialogue*. Dialogue in this sense is considered as a source of text for active interpretation, ways of producing text, where text is not limited to the written word, but also involves the traces of conversations and the marks of actions in a lived world. The dialogue of the sustainable community exists in our manifestations of place, realizations and acceptance of difference in individual action, and through on-going commitment to participation in community-building processes. Beyond the obvious dialogues of common purpose and meaning (for example, recycle/reduce/reuse/restore/retrofit/re-invest), there are less obvious dialogues that symbolically define the sustainable community. These include dialogues of our everyday action that are about how individuals transform the symbols of community into personal conduct in daily affairs.

The dialogue borne in the physical world is about how ideas of sustainable community are transformed into the physical world. This is a dialogue that occurs through the transformation of space into place. This involves the interpretation of the physical world through symbolic ideals of community as well as individual needs, desires, and responsibilities. Instead of thinking about sustainable communities as the objects that we physically create according to a new set of rules, sustainable communities may be thought of as existing through our dialogues (of words and actions). This involves sharing symbols about our long-term relationships to the world. This is a vision that deliberately links placemaking praxis to hope of a better future.

Sustainable community is uncovered from our interactions with one another, and how we participate in the construction of meaning together. The ways that we participate in the construction of meaning together is through our use of symbols. Unlike other types of symbolic communities, sustainable communities are determined by the collective choice of the symbols that define the discourses that coexist. This can be (and maybe should be)

about deliberate acts of interpretation of the symbols that we choose to use to derive meaningful dialogue. While some of these symbols exist in the growing sustainability discourses about changing our relationships with our physical environment (water, waste, transportation, ecology, etc.), many of these symbols also reside in how we approach mutual understanding in our relationships to one another. In this way we define ourselves as a community through the ways that we participate in vehicles of discourse, as well as by the dialogic vehicles themselves.

In this way, sustainable community discourse follows from Lefebvre's spatial *typologies of understanding*. Lefebvre interprets our relations to space in terms of the perceived space of *materialized spatial practice*; the conceived space or *representations of space*; and lived space or *representational space*. A dialogic approach to community uses of Lefebvre's spatial *typologies of understanding* is to engage in the pragmatics of the everyday. This is a pragmatics not simply based on knowledge, but equally lived through action and conceived in hope.

Sustainable community is thus about new spatial practices, seeking new ways of reading, writing, and living space. These are creative acts that look at new media as potentially emergent ways to interpret and construct meaning. A dialogic approach to sustainable communities means that we must engage in new ways of sharing our perceptions of space, while remaining open to *other* ways of seeing. The design of our communities is not simply about what we intend to do to our homes, neighbourhoods or cities, but begins with the ways through which we learn to see our communities. Ways of seeing are not simply phenomenological in the objective sense (about explanation rather than meaning) but in a hermeneutic sense in that they are realized in the translation of meaning to others through representation. In looking for other ways of seeing we are actually seeking ways of bringing about greater understanding and liberating ourselves from discourses of exclusion.

If it is in the type of understanding of *spatial practice* that we negotiate the knowledge of place, it is through the *representations of space* that we deliberately transform it. It is in the representation of space, through the praxis of design, planning and placemaking that,

through dialogue, the formation of symbolic community must emerge as a significant force. For it is in a discourse of representation that symbolic boundaries become articulated and differences are identified. It is through these shared representations (through metaphors, metonyms, narratives, ideograms...) of space that the physical realization of the sustainable community begins to emerge, in possibilities of alternative physical form in the realization of common interest. The formation of the symbolic sustainable community requires its own representations of meaning, acting as local boundaries of resistance to the enigmatic presence of mass media and mass culture, and its massification (media acting upon the consciousness of the people). It is in the local communities that the reverberations of local voices replace the drone of the monologic message. It is in the dialogic space of assembled difference that local meaning constructs community identities, possibilities and hopes.

The praxis of the sustainable community design does not end in an abstract realm of meaning and representation, but can only truly exist in the realm of action (deliberate seeing, writing and participating). In this way discourse extends beyond our representations but becomes part of how we communicate with others through our actions and creations that result from everyday living. Lived space or what Lefebvre calls *representational space* should be based in a praxis that is realized through engaging new dialogic ways of seeing (a deliberate *spatial practice that connects seeing and interpretation*) and new forms of translation.

The community boundary is not drawn at the point where differentiation occurs. Rather, it incorporates and encloses difference The boundary represents the mask presented by the community to the outside world; it is the community's public face.³⁷

Lefebvre's idea of *representational space* is the lived space of the everyday. It is in the representational space that domination and intentions towards sustainable community are played out in the processes of development (including legal controls) and the actions of everyday life. This is the discourse of our actions and must also be about their consequences (hidden or otherwise). The dialogic representational space becomes the

³⁷ Cohen, 74.

active realizing of an alternative local vision of place, and the conscious contestation of dominant monologic approaches of settlement. Critical inquiry is as much about uncovering what is not being said, as it is about uncovering what is not being done.

Together these dialogues form the boundaries that contain a shared multiplicity of meanings. For example, in a sustainable community issues such as transportation and our reliance on the use of fossil fuels may become a significant cause for concern, so much so that it eventually develops into an alternative spatial representation. In a sustainable community we may not all share the same attitude towards transportation, but as active members in the community we must be committed to deliberately engaging in the dialogue of what the implications of different forms of transportation might be. To avoid the dialogue, either verbally or as part of everyday action, is to dismiss one's membership in the community. Communities will aggregate their own specific particularities and differences into their own shared symbols particular to their contexts. This, for example, may mean that in some communities transportation is not a dominant symbol in the definition of the community, but that is not to say that this is not a sustainable community. The measure of a sustainable community would be based on the extent to which other sustainable features emerge as dominant symbols and have become part of an aggregate of deliberate considerations.

... the symbolic repertoire of a community aggregates the individualities and the other differences found within the community and provides the means for their expression, interpretation and containment. It provides the range within which individuality is recognizable. It continuously transforms the reality of difference into the appearance of similarity with such efficacy that people can still invest in the community with ideological integrity. It invites them in their opposition, both to each other, and to those 'outside'. It thereby constitutes, and gives reality to, the community's boundaries.³⁸

It is in the aggregation of our differences that the boundaries of community are constituted. This is about the aggregation of ways of seeing and writing, of action and events that make up the complex webs of everyday life. The ways that we collectively

³⁸ Cohen, 21.

engage in these different 'sustainable actions'³⁹ brings our differences into focus and clarifies community identity; my actions are part of a repertoire of group actions. The group of actions, in the ways that they come together to resolve problems such as transportation, the use of land, the treatment of waste, the consumption of energy, etc., together create unique sustainable community identity. This is about how we render space into place through a shared symbolic repertoire, how my home is part of a sustainable neighbourhood, how our homes are interpretations and expressions of our own sustainable meanings and ideals.

The aggregation of individualities and other differences is also about the ways that we permit ourselves to come together, how we participate in community. These ways of participating are simultaneously inclusive and exclusive with respect to both the participants involved as well as the nature of the symbolic content. Cohen's symbolic construction of community offers a means of understanding the potential multiplicity and complexities inherent in any community definition. Principles of sustainability provide a layer or filter through which *boundaries* of difference can be aggregated and communities may be identified. But community also exists through the interaction of its participants, and symbols emerge not through some sort of invisible hand but through different forms of deliberate dialogue.

The symbolic boundaries that define community may exist in physical and social conditions, but they also exist in processes of community participation. Communities are thus defined by the differences that make up the membership and their attitudes towards issues as well as through the unique reasons and methods through which common ideas and beliefs are entertained and shared. This is a view of community that exists and emerges through communication. This rests in questions of method (how groups come together), but also in questions of purpose (why people come together). Understanding the nature of community involves its deconstruction, exposing the underlying intention and purpose behind our definitions of community (what Habermas refers to looking as

³⁹ By this I mean ways of seeing, writing and acting with deliberate intention of supporting a sustainable future.

for underlying *strategies*⁴⁰), as well as interpreting how the nature of the dialogic event influences potential outcome (communicated action). If sustainable community design is to be an effective approach to the making of place it must be concerned with the nature of intentions that underlie physical change (profit, politics, domination), and how dialogue is facilitated or curtailed as part of placemaking processes. Thinking about the communication of sustainable community design is also about trying to understand the modes of community in dialogue. A dialogic view of sustainable community is thus concerned with the interaction of community members with respect to the symbolic boundaries that constitute difference from within. Sustainable communities are communities in dialogue, where participants share their differences and together seek creative solutions for living with less.

A problem that exists in simply defining community through difference, through boundaries, is that participation in the community is not necessarily tied to a shared sense of purpose. A community defined by its boundaries may actually be identifiable because of the ways that people do not interact. This is a common accusation of new suburban *communities* developed to facilitate automotive transportation while sacrificing face-to-face human interaction. In these situations residents are seldom part of any spatial design discourse but rather their greatest 'speech act' is through their economic commitment, buying the house. A sustainable community, based in deliberate action comes as the result of the direct interaction of the participants.

CONDITIONS FOR THE EXISTENCE OF A SUSTAINABLE COMMUNITY

The caveat that I would add to our understanding of the symbolic construction of community is that such a community must also be understood in terms of the interactions of the members and their individual commitment to action. For Wood and Judikas (1992) a community exists through active commitment and mutual respect for one another and

⁴⁰ Habermas sees strategies as methods of domination; anti-dialogic approaches to the construction of meaning that are based in obfuscation, and patronizing behaviour.

when the following four conditions exist. First, a group of people have a sense of common purpose(s) and/or interest(s) for which they assume mutual responsibility. In the sustainable community a shared purpose may be understood in terms of community values, for example what do we believe is worth keeping, what do we believe should be sustained. Shared purpose also implies that people are willing to engage in dialogue concerning the meanings of place. This is a dialogue that is realized in individual interaction with others as well as how we interact with place.

The second condition of community results from the recognition of our interconnectedness with others. This is a condition of community that is a resistance to boundaries of exclusion and separation. Sustainable community is an engagement with place at the individual level based upon greater concerns, “think globally, act locally”, but it also about making local action visible, act locally speak globally, and extending the dialogue beyond the boundaries of home. This is one way in which communities, defined through their symbolic boundaries and articulated through their local differences, often become identifiable. Sustainable community is also about the complex interconnectedness of economics and ecologies, being played out at scales of the individual to the nation to the multinational corporation. At the local spatial level the interconnectedness exists in how the complex set of parts begin to come together, to realize themselves into form (for example, how home based work may translate into different types of built form such as co-housing projects). At the dialogic level interconnectedness can be viewed in terms of strategic forms of action (usually through deliberate processes of exclusion, working against the status quo), or as conscious attempts at processes of inclusion (community as a field of action).

The third condition of community is that the participants of the group respect the individual differences among members. Within a sustainable community difference can exist as long as common purpose and interests are maintained. When differences exist outside of the framework of identifiable sustainable community boundaries the structure of the community breaks down. It is in difference that creative solutions to common

problems emerge. Finding new ways to allow and encourage difference becomes part of the challenge of sustainable community dialogue.

Finally, members of a community commit themselves to the well-being of each other and integrity and well-being of the group. For a sustainable community ideas of well-being extend beyond ordinary temporal concerns. Well-being of the group extends to a vision of the community in the future. Actions of today do not limit the potentials of the community in the future. This implies that community action must be based in principles of regeneration and the support of healthy ecologies. Well-being of individuals and groups translates into action based upon the consideration of others. Individual difference does not mean that our actions should limit the potential sustainable futures of our neighbours. It is here that I take issue with certain proponents of sustainable development. Sustainable development does not imply simply sustaining growth; it also means sustaining the possibilities for others to achieve new potentials and for communities to be able to continue to share values.

Sustainable communities: exigent boundaries

Community and sustainability are relational ideas that may best be understood by their boundaries. Boundaries define a sustainable community not through its similarity to other communities, but by the difference that exists through the unique interactions between people and place. The symbols of a sustainable community give us the capacity to make meaning and direct forms of dialogic action. Individual action in the sustainable community does not mean that we act in the same manner, but that we are engaged in deliberate attempts to share symbolic meaning through our own idiosyncratic experiences and understandings.

Not all social categories are so variable in meaning. But those whose meaning are most elusive, the hardest to pin down, tend to be those also hedged around the most ambiguous symbolism. In these cases the context of the categories is so unclear that they exist largely or only in terms of symbolic boundaries. Such categories as justice, goodness, patriotism, duty, love, peace are almost impossible to spell out with precision... . But

their range of meanings can be glossed over in a commonly accepted symbol – precisely because it allows its adherents to attach their own meaning to it. They share the symbol but do not necessarily share the meaning. Community is just such a boundary – expressing symbol. As a symbol it is held in common with its members’ unique orientations to it. In the face of this variability of meaning, the consciousness of community has to be kept alive through the manipulation of its symbols, the reality and efficacy of the community boundaries – and therefore the community itself – depends upon this symbolic embellishment and construction.⁴¹

Community and sustainability can act as ambiguous symbols that contain meaning, or as specific constructs that fix meaning. Community and sustainability are thus framed by our ontological perspectives and underpinned by our critical reflections. Acts of seeing, writing and everyday living become part of a community’s on-going symbolic embellishment and construction of understanding. The capacity to make meaning can be seen as a fundamentally dialogic process. A shared culture (community) does not imply that we understand the world in the same way, but instead it implies that we have exigent hopes to engage the same symbols to bring about a shared sense of the world, and ultimately a more *livable* world. The shared goals and purposes that often dominate or determine sustainable community-design discourses are manifestations of exigent hopes symbolized in images of a common future.

Hermeneutics, community and the case of CMC

If it is in the aggregation of our differences that the boundaries of community are constituted, hermeneutics may be seen as a means through which we engage in the aggregation of our differences, the means through which we develop understanding.

Thus hermeneutic science does not offer explanations, but rather understanding. Its goal is to appreciate what people believe, how beliefs develop in societies, and how they are drawn upon as the bases for actions. Such an appreciation helps one to understand the past and the present, and may provide a guide to the future, but it is in no way predictive; it cannot say, “if A then B”.⁴²

⁴¹ Cohen,15.

⁴² R.J. Johnston, *Geography and Geographers: Anglo-American Human Geography since 1945* (London: Edward Arnold, 1991), 32.

The hermeneutics of sustainable community is found in the *voices* of those who make up such a community, how those voices translate into shared understanding, and how shared understanding translates into action. It follows that considerations about the role of computer-mediated communications in the formulation of sustainable communities represents ways of making meaning known to others, aggregating meaning (identifying the substance and meaning of shared differences), and transforming meaning into action (participating in mediated forms of sustainable community-design praxis). Transforming meaning into action in this way is never prescriptive (rather it is always situational), not a formulaic means for placemaking. Instead, it is a process that is guided by shared understanding that is continually being uncovered and revealed.

Cultural geographers are often interested in the unique and idiosyncratic ways of seeing, thinking, and living in our worlds. This is often about unique experiential (phenomenological) world-views, or personal historically situated critical interpretations of the meaning and relevance of space and place. Beliefs and experiences are often conveyed through explanations, narratives, oral histories, or cognitive maps, etc. This is a kind of geography that is about resisting categorization, by encouraging and supporting the presence of the multiple voices of others. The Internet seems built for this type of hermeneutic phenomenological work. Its idiosyncratic nature is well-suited to the co-presence of multiple simultaneous voices that are potentially too unwieldy to co-exist in a single descriptive environment.



CHAPTER 3. MEDIATED COMMUNICATIONS

DRIVING WITH PAUL

As a teenager and later as a young adult I spent a number of summers working at camps for persons with developmental challenges. Near the end of one summer I had saved enough money to buy myself an old car, a 1965 Plymouth Sedan that my uncle had found for me and had left sitting in my yard. No one was happier about my car than Paul, one of campers under my supervision. It turned out that for Paul there was probably nothing more exciting than a new car, and someday he too would drive a car. The problem was that compounding Paul's developmental disability was that he was also legally blind. Paul, however, was one of the most persistent people that I have met and he realized that this was his big chance. On the last day of summer camp Paul and I drove out to a field and I let Paul drive the Plymouth.

Watching Paul drive that car was one of the greatest gifts that I would ever receive. He couldn't see anything that was beyond a meter in front of him, but that didn't matter. We

weren't going anywhere and that didn't matter either. For a moment he was at the wheel. For a moment he could feel the road. For a moment he was driving.

In this chapter I provide an overview of some technologies that I have been trying to understand for the past decade. I have often felt that as a culture we have had a similar relationship with computer-mediated communications. All too often it feels like we are slowly driving in no particular direction, with a foggy vision about what's ahead or where we are going. But once in a while we are allowed to feel the road and once in a while we can see the delight that others get when they are also able to feel the road for the first time.

I refer to a number of case studies (what I call projects) developed to explore computer-mediated communications for placemaking. I think of these projects as part of a praxis of learning, akin to building a go-cart, often cobbling together technologies for specific purposes and then trying to get a feel for the road. I believe that computer-mediated communications should also be structured by the contextual demands of the situation. In other words, whenever possible, CMC technologies should be developed from the ground up by those people who use them. This of course makes traditional scientific inquiry questionable. How can we adequately evaluate something in which we are participants? I believe that this is also a fundamental problem with placemaking praxis, so in later chapters I consider hermeneutics and metatheory as ways of looking at dialogic space while working from within.

I present this chapter as a supplement to the Road Map presented in Chapter 1. It is a way of situating my own CMC projects that I have overseen from 1995 until today (2005). As will become evident the projects themselves serve primarily as interpretive fodder for the chapters that follow. The projects, for better or worse, result from a methodological approach influenced by Donald Schön's theories about the reflective practitioner. I attempt to situate the projects within the academic discourse of computer-mediated communications, specifically regarding the fields of computer-supported cooperative work (CSCW) and hypermedia.

Of the many texts folded into this chapter the ones that are the most interesting, to me at least, are the texts of one's own strategies, pre-conceived notions, post-rationalizations, and prejudices. I believe that the projects themselves, all projects for that matter, are sources of such texts. I end this chapter by presenting a comparison of the projects based upon categories identified in the computer-mediated communications literature.

COMPUTER-MEDIATED COMMUNICATIONS

Throughout the following chapters, I use the term *computer-mediated communications* (CMC) to describe ways of thinking about digital media for sharing knowledge and ideas about place. It is easy to fall into the trap of thinking about computer-mediated communications as a collection of tools in terms of strategic potential uses. For Howard an understanding of computer-mediated communications involves studying the ways that communications tools are embedded in our lives.⁴³ I try to think of the CMC in terms of ways of carrying, crafting, representing, and conveying meaning as well as potential ways of allowing people to participate in alternate interpersonal relationships to uncover their own *meaning*. CMC has become a boundary condition for identifying community. CMC might be thought of as boundary between technology and culture, and a boundary between technology and nature. So, on the one hand, our understanding of the physical world is now something that is mediated by the potentials embedded within CMC environments. On the other hand, and more importantly, CMC is a boundary condition itself embedded in the physical world, a boundary condition that begins to define community by its mediated relations to the physical world.

The term computer-mediated communication (CMC) refers to systems of communication that take place over the Internet. It is a term that is sometimes misleading because it includes communication systems that take place on computer-networked environments, from local area networks to the World Wide Web. This dissertation mostly focuses on

⁴³ P. Howard, *Society online: The Internet in context* (Thousand Oaks, CA, 2003), cited in C. Thurlow, L. Lengel, and A. Tomic, *Computer Mediated Communication* (London: Sage, 2004), 75.

computer-mediated communications that take place on the Internet.⁴⁴ CMC takes advantage of characteristics of the World Wide Web including its open architecture and its allowing users to build from the experiences of others, and CMC provides possibilities for creating interpersonal relationships not limited by traditional geographic and social constraints. For many of us the Internet has become part of our everyday lives but it is no longer seen as simply a means of recreation or a convenient way of accessing information. Increasingly the Internet is also becoming an *embedded media*,⁴⁵ meaning that people are increasingly becoming reliant on the Internet to achieve a range of activities from shopping to socializing to decision making.

Thurlow et al. associate CMC with a number of themes that appear in the CMC literature including electronic commerce, law, virtual organizations, online journalism, higher education, electronic commerce, health, and new media.⁴⁶ The authors go on to distinguish CMC as a sub-field of study (rather than a discipline) of a broader field of research known as Internet Studies.⁴⁷ Internet Studies crosses over into many disciplines. Geographers have been engaging in Internet Studies for a range of reasons that include but are not limited to: urbanism,⁴⁸ spatial theory,⁴⁹ economics,⁵⁰ mapping,⁵¹ tourism,⁵² community participation,⁵³ and geovisualization.⁵⁴

⁴⁴ I use the terms Web and Internet as synonymous with the World Wide Web although the distinction can be made between the network of connected computers (Internet) and the systems of servers that support the exchange of web pages (Web).

⁴⁵ The authors attribute the term *embedded media* to the Internet scholar Philip Howard (2003).

⁴⁶ C. Thurlow, L. Lengel, and A. Tomic, *Computer Mediated Communication* (London: Sage, 2004), 16.

⁴⁷ Thurlow et al., 21.

⁴⁸ R. Laurini, "Groupware for urban planning," *Computers, Environment and Urban Systems*, 22, no. 4 (15 July 1998); N.C. Goldstein, J. T. Candau, K.C. Clarke, "Approaches to simulating the 'March of Bricks and Mortar,'" *Computers, Environment and Urban Systems* 28 (2004); T. Sarjakoski, "Networked GIS for public participation—emphasis on utilizing image data," *Computers, Environment and Urban Systems* 22, no. 4 (15 July 1998); M. Crang, "Urban Morphology and the shaping of the Transmissible City," in *The Cybercities Reader*, ed. S. Graham (New York: Routledge, 2004).

⁴⁹ N. Thrift, "Inhuman Geographies: Landscapes of Light Speed and Power," Chap. in *Writing the Rural: five cultural geographies*, P. Cloke et al. (London: Paul Chapman, 1994); M. Castells, "Space of Flows, Space of Places: Materials for a theory of Urbanism in the Information Age," in *Cybercities Reader*, ed. S. Graham (New York: Routledge, 2004); S. Graham, "Excavating the

For Thurlow et al. CMC is best understood in terms of the core concepts (communication, mediation, computer). They propose that the term *communication* has to be thought of as being dynamic (about shifting meaning), transactional (about negotiation of meaning between people), multi-functional (serving different functions at the same time), and multimodal (occurring in different forms at the same time). I believe that these characteristics of communication are dependent upon one's adopted system of knowledge (ontology), and I try to show how systems of knowledge are involved in interpreting and operationalizing the characteristics of communication.

The second core concept, *mediation*, is "the process or means by which something is transmitted - whether it's a message, a feeling, a sound, or a ghostly apparition."⁵⁵ Beyond the usual psychological, social and cultural channels of communication, CMC also involves *technological* mediation. In CMC, technology usually refers to the machinery (software and hardware) that supports information exchange and communications. McLuhan believes that it is possible to distinguish the media of communication as being either *hot* or *cold*.⁵⁶ *Cold* media may be characterized as low definition media where the receiver is expected to fill in the blanks, compared to *hot* media where the information provided is high in definition and requires less of the receiver (interpretation) and more of the sender (articulation). In thinking about CMC it is

Material Geographies of Cybercities." In *Cybercities Reader*, ed. S. Graham (New York: Routledge, 2004).

⁵⁰ M. Zook, "Cyberspace and Local Places: The Urban Dominance of Dot.Com Geography in the Late 1990's," in *The Cybercities Reader*, ed. S. Graham (New York: Routledge, 2004).

⁵¹ S. Boeri, "Eclectic Atlases," in *The Cybercities Reader*, ed. S. Graham (New York: Routledge, 2004).

⁵² J.M. Dewally, "Sustainable Tourist Space: From Reality to Virtual Reality," in *The Cybercities Reader*, ed. S. Graham (New York: Routledge, 2004).

⁵³ W. J. Craig, "The Internet Aids Community Participation in the Planning Process," *Computers, Environment and Urban Systems* 22, no. 4 (1998).

⁵⁴ A.M. MacEachren, I. Brewer, and E. Steiner, "Geovisualization to Mediate Collaborative Work," in *Proceedings of the 20th International Cartographic Conference* (2001).

⁵⁵ Thurlow et al., 18.

⁵⁶ M. McLuhan, *Understanding Media* (New York: Routledge, 2002), 25.

sometimes useful to use the *hot/cold* metaphors as relative terms for comparing different communication systems. For example, when working on sustainable community-design problems it is useful to consider how hot a system should be. So, for example, one might ask questions related to visualizations such as: When is photo-realism necessary? When does the need for realism begin to interfere (influence and predetermine a vision, or negatively impact the temporal quality of the communication process) with placemaking dialogue? It is possible to think about the hot/cold metaphors in terms of signs use (how and why), directness/explicitness (the extent to which a media has to be hot in order for it to be explicit or directed), and sign comprehension (how much information is required in order to ensure adequate levels of comprehension by the user).

The third core term that Thurlow et al. consider is *computer*. They extend the narrow description of computer (input/output storage device) to include the broad range of emergent information technologies. In fact, they liken trying to describe CMC to trying to hit a moving target, since it is something that is continually changing, and new technological innovations are continually emerging. CMC may be characterized by the emergence of new technologies, and the simultaneous convergence of fields, and disciplines that share interests in communication processes. Thus, CMC may be thought of as including “office, automation, electronic boardrooms, teleconferencing, Computer Supported Cooperative Work (CSCW) and Computer Assisted Learning.”⁵⁷ The projects I describe below would likely fall into the two latter categories. Although the projects may be thought of as experiments in infomatics, my interest has been about what Thurlow et al. call “prioritizing relational communication,” paying attention to computing technologies that facilitate human communication.⁵⁸

Emma Rooksby describes how one way of thinking about CMC is by its reach.⁵⁹ CMC allows social relations to take place over large geographic areas in a number of ways that are new, including the length of interactions, the frequency of the interactions and the

⁵⁷ Thurlow et al., 20.

⁵⁸ Thurlow et al., p. ??.

⁵⁹ E. Rooksby, *E-mail and Ethics* (New York: Routledge, 2002), 2.

types of exchanges (textual/visual) that can take place. The reach means anyone with access to CMC can communicate with anyone else with access to CMC. Social interaction using CMC, unlike other media such as the telephone, does not limit the simultaneous number of users, rather, it can accommodate large groups. The cost of CMC for many people is often less than other communication media (although equitable access to CMC resources remains a concern). The reach of web-based CMCs provides possibilities for new geographically separated communities to come together, communities that are defined by purpose rather than by space. Both Rooksby and Schuler⁶⁰ show CMC communities often develop in response to common interests and interpersonal exchanges rather than in response to traditional spatially determined considerations and coincidences (streets, neighborhoods, etc.). CMC communities offer the added features that issues being discussed may be accessed from anywhere on the Web at anytime of the day or night.⁶¹ CMC allows communities to stay together in societies with ever increasing mobility and scattering (diasporas).⁶²

Online systems also allow for different degrees of anonymity. In real (analogue/face to face) public settings not everyone is equally comfortable speaking in front of a group. The CMC environment can be designed to provide *virtual identities* (assumed identities that exist because of the anonymity that the medium provides, similar to *technologies of self*, Michel Foucault's term that describes "the means by which people are able to construct their identities through talking and writing about themselves"⁶³), that may allow some people to speak more comfortably to an issue. This virtual identity is an anonymity that results from virtual agency; it is present through the communication medium and it is given agency to the extent permitted by the media. Virtual agency is common in text-based CMC environments through the use of nick-names and in graphic virtual environments in the form of avatars (although both forms of virtual agents may be thought of as avatars).

⁶⁰ D. Schuler, *New Community Networks* (New York: ACM Press, 1996).

⁶¹ R. Kingston, S. Carver, A. Evans, and I. Turton, "Web based public participation geographic information systems," *Computers Environment and Urban Systems*, 24 (2000): 111.

⁶² Thurlow et al., 133.

Online meetings can be about people meeting at the same time, such as in chat rooms and Internet Relay Chat (IRC is a synchronous, multi-user, text-based conversation technology), instant messaging chat technologies (such as MSN messenger), multi-user audio chat environments (such as Yahoo's Voice Chats or Audio-Tips), and multi-user domains (MUDs are text-based CMC spaces where people use text to describe and create a shared imaginary environment).⁶⁴ These kinds of CMCs are sometimes referred to as synchronous computer-mediated communications (SCMC).⁶⁵ Conversely computer-mediated communication systems may occur asynchronously where people don't have to be meeting at the same time, for example, in e-mails, e-mail lists, news groups, bulletin boards, mailing lists, online forums, and Weblogs (online journals that consist of short frequently updated postings available in a chronological order. Weblog activity is referred to as blogging).⁶⁶ Participants using asynchronous CMCs do not have to attend fixed time-scheduled public meetings. Participants can respond to the issues presented according to their own schedules.

Computer-mediated Communications: Semiotics revisited

MacEachren distinguishes between two semiotic traditions (that he traces back to Peirce and Saussure) as he develops a semiotics for understanding map representation.⁶⁷ MacEachren shows how dyadic and triadic semiotic models can be associated with meaning and representation with respect to the physical world. This distinction is also useful for distinguishing between cartographic representation of an extant physical world and design and planning representation of a conceived world. In the dyadic model (Saussure) a sign is a relationship between a signifier (a carrier of meaning) and a signified (the meaning or concept). In the dyadic model the sign itself is arbitrary and has

⁶³ Thurlow et al., 250.

⁶⁴ Thurlow et al.

⁶⁵ D. Lawson, "Blurring the Boundaries," in *Readings in Virtual Research Ethics*, ed. E. Buchanan (London: Information Science Publishing, 2004), 81.

⁶⁶ Thurlow et al.

⁶⁷ A. M. MacEachren, *How Maps Work* (New York: The Guilford Press, 1995), 218-225.

no direct correlation to reality. MacEachren believes that applying the dyadic model to cartography means that cartographic symbols simply represent concepts about the real world and not the real world itself. With respect to representation in design and planning scenarios, the dyadic model has currency in that the primary referent is, in fact, a concept, albeit situated within a real world context. The concept itself only exists as an abstract representation of a spatial possibility.

In a triadic model (Peirce) the sign stands for something, the object (also referred to as the referent). A sign, under the triadic model, mediates between the carrier of the sign (also referred to as the sign vehicle) and the meaning or concept (also referred to as the interpretant). MacEachren shows how the triadic view of signs suggests that cartographic symbols are simultaneously linked to actual referents (extant reality) and concepts. “From this perspective map ‘symbols’ might be evaluated on dual grounds: on the basis of the concepts that they prompt (or the knowledge schemata they cue) and on the basis of the manner in which they correspond to the real or the imagined world.”⁶⁸ With respect to design and planning scenarios, the triadic model provides us with a view of signs as mediators between place-based speculations and extant realities. Symbols that act in placemaking contexts simultaneously correspond to extant and conceived worlds, real worlds infused with a mediated potential. My own considerations have been based upon the triadic model.

MacEachren’s interest in semiotics is primarily concerned with visual semiotics following the graphic theory of Jaques Bertin.⁶⁹ In describing semiotics MacEachren focuses his attention upon how and why signs are used (a typology of discourse), the link between sign-vehicle and interpretant (directness/explicitness), and sign comprehension.⁷⁰ I attempt to show that structural systems in computer-mediated communications may also be associated with our own conceptions and relationships to knowledge. In this way

⁶⁸ MacEachren, *How Maps Work*, 221.

⁶⁹ J. Bertin, *Graphics and Graphic Information Processing*, (Berlin: Walter de Gruyter, 1981); J. Bertin, *Semiology of Graphics: Diagrams, Networks, Maps* (Madison: Univ. of Wisconsin Press, 1983).

⁷⁰ MacEachren, *How Maps Work*, 217-243.

CMC may be seen to be political, contextual and arbitrary. I attempt to do this by developing and interpreting my own CMC projects with respect the theories of Paolo Freire, Jürgen Habermas and Richard Rorty, respectively.

As mentioned in Chapter 2, Peirce's classifies signs (a principal classification) as icon, index and symbol. Peirce also develops a sub-classification of icons that includes image (the representation reproduces the perceptive characteristics of the objects); diagram (the representation is based upon the relationships among the parts of the referred object); and metaphor (the representation is expressed through drawing parallels with the represented). Metaphors have been used extensively in computing environments, including character-based user interfaces (references to teletypewriters), graphical user interfaces (GUIs) (desktop concept), pen-based user interfaces (written character gestures such as circling), virtual reality interfaces (marks and gestures associated with flying), Web browser used interfaces (browsing, chatting, linking).⁷¹ Software developers have also relied heavily on spatial metaphors including physical spaces (rooms, buildings, cities, landscapes, planets), specific places (libraries, storehouses, banks, malls, chatrooms), activities (travel, fly, browse, search), and objects (desktops, books, Rolodexes, television sets).⁷² Marcus illustrates how visual metaphors of objects may also depict actions. So, for example, a book might also have a bookmark or a desk might have a drawer. Action metaphors may be linked to object metaphors: *Drop a file* into a *trashcan*. A current challenge is to develop spatial and action metaphors to represent dialogic situations (a chat room, a forum, a decision space, a whiteboard area, formal and informal conversation space, etc.) and events (their unique human-to-human interaction opportunities).

When considering CMC in placemaking activities it is important to make a distinction between the representation of space and the system for making representations of space. For example, Prado et al. show that there exists a significant difference between the

⁷¹ A. Marcus, "Metaphor Design in User Interfaces," *Journal of Computer Documentation* 22, No. 2 (1998): 45.

⁷² Marcus, "Metaphor Design in User Interfaces," 46.

distribution of signs in cartography (34% symbols, 12 % indices, and 54% icons) and the distribution of signs in a GIS (75% symbols, 3% indices, 22% icons). Notably image icons drop from 12% in cartography to 1% in GIS (based upon cartography and GIS literature).⁷³ In the types of CMC for placemaking, images and diagrams make up a significant part of signs shared between the users, while the actual system requirements appear to have a sign distribution that is similar to GIS.

As with cartography, in urban planning and design verbal (and textual) signs often give way to non-verbal signs such as images. In these kinds of situations sign use becomes more complex. Eco points to the problem of developing semiotic systems for non-textual information.

Moreover, nearly all the non-verbal signs usually rely on more than one parameter; a pointing finger has to be described by means of three dimensional spatial parameters, vectorial or directional elements, and so on. So an attempt to establish a complete set of semiotic parameters will involve the entire physical conditioning of human actions, inasmuch as they are conditioned by the structure of the human body inserted within its natural and artificial environment [I]t is only by recognizing such a range of parameters that it is possible to speak of many visual phenomena as coded signs; otherwise semiotics would be obliged to distinguish between signs which are signs (because their parameters correspond to those of verbal signs, or can be viewed as metaphorically analogous to them) and signs which are not signs at all. Which may sound paradoxical, even though it is upon such a paradox that many distinguished semiotic theories have been established.⁷⁴

Semiotics is not simply about distinguishing between the kinds of signs in use; rather, its real purpose is to systematically uncover meaning. For Marcus (following from Eco) semiotics identifies four dimensions of meaning.⁷⁵ The *lexical* dimension deals with how signs are produced. The *syntactic* dimension deals with how signs are arranged in space and time and with what perceptual characteristics? The *semantic* dimension refers to sign

⁷³ A. Bolognesi Prado, M.C. Baranauskas, and C.M. Bauzer Medeiros. "Cartography and Geographic Information Systems," in *GIS: Proceedings of the 8th ACM Symposium on Advances in GIS* (New York: ACM Press, 2000), 161-166.

⁷⁴ U. Eco, *A Theory of Semiotics* (Bloomington: Indiana Univ. Press, 1976), 177.

⁷⁵ A. Marcus, "Dare We Define User-Interface Design?," *ACM interactions* 9, no. 5 (Sept. 2002): 19-24.

reference. (For example, rhetoric, the art or science of using words effectively, is a component of semantics. Metaphor is one of over 1000 rhetorical techniques⁷⁶). The *pragmatic* dimension refers to how signs are consumed and used. All of these dimensions influence CMC design.

Eco describes how verbal language consists of elements that are endowed with meaning (morphemes) which combine to form *syntagmatic strings*, which can be analyzed to hold another order of meaning (phonemes). For some, visual languages can also have similar levels of meaning. For Lévi-Strauss visual art “is considered as the capture of nature by culture; it raises the brute object to the level of sign, and reveals in it a previously latent structure.”⁷⁷ I would argue that in this case Lévi-Strauss takes a rather narrow view of art and that the type of representation that he is concerned with is more closely associated with the kinds of imaging used in placemaking representations.⁷⁸ The syntactic dimension in the placemaking context is different than a text-based system or a natural language-based system, since with text and language we are primarily interested in the arrangement of symbols whose association with the object is usually arbitrary, but whose arrangement is rule based, that is, based upon a grammar that is subject to logical coherence. We are able to determine whether or not something is right or wrong, in that it makes sense and is logically coherent. “Because in natural language, connections can be explicitly enunciated, their correctness is constantly verified against the content of the units that are connected and a connection can in fact be right or wrong.”⁷⁹ In placemaking, although many signs are based upon texts and language, a great deal of the languages used are non-verbal (non-textual) signs where, unlike text, there is often only limited formal grammar, and, unlike maps, coherence cannot necessarily be associated with correspondence to reality.

⁷⁶ Marcus, “Metaphor Design in User Interfaces,” 44.

⁷⁷ Quoted in Eco, 229.

⁷⁸ R. Greenstreet and J.W. Shields, *Architectural Representation* (Englewood Cliffs, NJ: Prentice Hall, 1988).

⁷⁹ C. Mancini and S. Buckingham Shum, “Cognitive Coherence Relations and Hypertext,” in *Proceedings of the twelfth ACM conference on Hypertext and Hypermedia* (New York: ACM Press, 2001), 166.

In placemaking the syntactic dimension often involves the arrangement of a number of sign types, most notably icons (images and diagrams) and indices. For these reasons, in placemaking work, as it pertains to graphic representation, the arrangement of language isn't about being right or wrong but rather it is about being effective or ineffective, good or bad at communicating a design intention. The syntactic dimension of CMC for placemaking may be considered using other forms of correspondences such as time-based correspondences used in cinematic metaphors where the CMC graphic sign is metaphorically equivalent to the film *shot*.

The cinematic minimal linguistic unit is the *shot*, an *iconic* and *indexical* semantically rich element, which in semiotic terms, is the equivalent of a linguistic enunciation [I]n cinema a connection is not in principle right or wrong, but good or bad, effectual or ineffectual, and a cinematic sequence has to be deciphered as a structural whole, the single element (unit or transition) having no specific meaning in itself. This is why cinematic language, unlike natural language, cannot be considered a grammar, but a rhetoric.⁸⁰

In trying to determine the efficacy of rhetoric, hermeneutic strategies come into play. So, syntactically, we are interested in asking questions about how well an assemblage of signs represents or denotes (objects, structures, processes), describes (structures, processes), explains (causes and effects), and expresses/implies/connotes (concepts of values).⁸¹

In computer-mediated communications the syntactic dimension also involves the non-linear, hypertextual nature of the sign assemblage. The *syntactic* dimension is of particular interest in CMC design because of the possibilities and inherent complexities that exist in hypertext/hypermedia environments. Should the system be open or closed? Is there a hierarchical ordering system to the information? How and when do we link graphics to text? How is information stored and retrieved in different dialogic contexts? The *syntactic* dimension is also important as we try to understand the order of things associated with collaborative work situations. How does the dialogic system structure contribute to work flow?

⁸⁰ Mancini and Shum, 167.

Considerations of the *semantic* dimension of CMC for placemaking involves questions of content and user-interface design although, as Marcus also points out, all of the semiotic dimensions influence user-interface design. The semantic dimension involves both the determination of the sign systems that are appropriate to convey meaning concerning place-based content and signify the structure of the possible dialogic contexts. For example, in attempting to communicate sustainable community-design features to user groups in Projects 1 to 3 (described below), we experimented with using hypermedia text descriptions, visual examples, built case studies, and animated simulations. System design concerns included trying to ensure a level of visual semantic clarity such that users could complete required tasks (answering questions) and easily navigate hypermedia content.

In the projects I am also interested in the *lexical* dimension from the point of view of the system design (where do the symbols that represent conversation come from) as well as from the point of view of user needs and desires. This involves questions such as: Is the user involved in determining the lexicon of CMC signs? How is the user allowed to produce signs from within the CMC environment? What kinds of signs are necessary for different design and planning scenarios? From where does the basis of a CMC environment emerge? I regard these as ontological questions, questions about what we constitute as knowledge and I try to address these questions from a meta-theoretical point of view. I argue that ontological considerations should both precede CMC design and be embedded in an on-going CMC design and use.

I believe that computer-mediated placemaking should be based upon systems of knowledge that privilege dialogue over discourse, and I consider how different approaches to dialogue may influence CMC design and use.

In other words the semiotician should always question both his object and his categories in order to decide whether he is dealing with the abstract theory of the pure competence of the sign-producer (a competence which can be posited in an axiomatic and highly formalized way) or whether he is concerned with a social phenomenon subject to changes and

⁸¹ Marcus, "Metaphor Design in User Interfaces," 44.

restructuring, resembling a network of intertwined partial and transitory competences rather than a crystal-like and unchanging model. I would put the matter this way: the object of semiotics may somewhat resemble (i) either the surface of the sea, where, independently of the continuous movement of water molecules and the interplay of submarine streams, there is a sort of averaging resulting form which is called the sea, (ii) or a carefully ordered landscape, where human intervention continuously changes the form of the settlements, dwellings, plantations, canals, and so on. If one accepts the second hypothesis...one must also accept another condition of the semiotic approach which will not be like exploring the sea, where a ship's wake disappears as soon as it has passed, but more like exploring a forest where cart-trails or footprints do modify the explored landscape, so that the description the explorer gives of it must also take into account the ecological variations that he has produced.⁸²

Ontological considerations are like the many paths through the forest. This is a view of ontologies of difference (that form many paths and leave many traces of language) rather than a single ontology, a singular explanation or system of truths. The many paths represent many sign systems, some of which may be codified for computational environments. In some ways these paths may be characterized by their political boundaries such as codes of taste, kinesics and proxemics, formalized languages, written languages, visual communication, systems of objects, cultural codes, etc.⁸³ Although these paths claim to be innocent and neutral they are always 'motivated'.

Frequently to be really 'scientific' means not pretending to be more 'scientific' than the situation allows. In the 'human' sciences one often finds as 'ideological fallacy' common to many scientific approaches, which consist in believing that one's own approach is not ideological because it succeeds in being 'objective' and 'neutral'. For my own part, I share the same skeptical opinion that all enquiry is 'motivated'. Theoretical research is a form of social practice. Everybody who wants to know something wants to know it in order to do something. If he claims that he wants to know it only in order 'to know' and not in order 'to do' it means that he wants to know it in order to do nothing, which is in fact a surreptitious way of doing something, i.e. leaving the world just as it is (or as his approach assumes that it ought to be).⁸⁴

⁸² Eco, 29.

⁸³ Eco, 9-12.

⁸⁴ Eco, 29.

Ontological considerations are by no means new to computational environments. According to Guarino ontology in the philosophical sense is different from the way the term is used in the field of Artificial Intelligence.⁸⁵ According to Fonseca et al., in Artificial Intelligence, “ontology is seen as an engineering artifact that describes a certain reality with a specific vocabulary. Meanwhile, in the philosophical arena, ontology is characterized as a particular system of categories reflecting a specific view of the world.”⁸⁶ For example, epistemic logic (notions of knowledge and belief) is a major area of research in artificial intelligence.⁸⁷ Smith makes a distinction between R-ontology, referent or reality-based ontology (singular philosophical point of view about how the universe is organized), and E-ontology (an elicited or epistemological ontology, about how an individual conceptualizes a given domain. In this view there may be many coexisting ontologies, different theories about a given domain).⁸⁸ Although Smith regards R-ontology to be the domain of philosophers and E-ontology the domain of engineers and information scientists, recent philosophers (pragmatists, radical hermeneutics, and post-structuralists) would be more closely aligned to E-ontology. My own treatment of ontology approaches E-ontology. I take a view that different ontologies can and should coexist, and although they may not be so grand as to explain the organization of the universe they do strive to make a reasonable attempt at reaching acceptable, agreeable concepts of knowledge. In this way ontology is more like an agreement than a fixed point of view. It is something that is essentially dialogic in nature, something that we strive for together, but never fully realize.

⁸⁵ Cited in F. T. Fonseca, M. J. Egenhofer, C. A. Davis Jr, and K. A. Borges, “Ontologies and knowledge sharing in urban GIS,” *Computers, Environment and Urban Systems* 24, no. 3 (2000): 225.

⁸⁶ Fonseca et al., 255.

⁸⁷ M.Y. Vardi, “On Epistemic Logic and Logical Omniscience,” in *Theoretical Aspects of Rationality and Knowledge: Proceedings of the 1986 conference on Theoretical aspects of reasoning about knowledge*, ed. J.Y. Halpern (San Francisco: Morgan Kaufmann, 1986); R.C. Moore, “A formal theory of knowledge in action” in *Formal Theories of the Commonsense World*, ed. J.R. Hobbs and R.C. Moore (Norwood, NJ: Ablex, 1985).

⁸⁸ B. Smith and D. Mark, “Ontology and geographic kinds,” in *Proceedings 8th International Symposium on Spatial Data Handling*, eds. T.K. Poiker and N. Chrisman (Vancouver, BC: IGU, 1998); cited in Fonseca et al., 255.

Fonseca et al. provide a good example of an applied approach to E-ontology that builds upon the theoretical work of Smith and Mark.⁸⁹ Smith and Mark identify a number of ontology issues for urban systems that Fonseca et al. use to make inferences about the relationships between knowledge and data sharing.⁹⁰ Much of their emphasis is placed upon the existential nature of our spatial realm. For example, a major distinction is made between *bona fide* boundaries (objects that have boundaries that exist outside of cognitive acts) and *fiat* boundaries (abstract objects created by human decisions). In design and planning scenarios we are simultaneously dealing with *bona fide* and *fiat boundaries*. An example would be the site analysis, which involves both extant (*bona fide*) physical characteristics such as depth of soil and vegetative cover and conceptual (*fiat*) spatial characteristics such as legal and political boundaries. Fonseca et al. develop a system of software components to share boundary knowledge for general characteristics of boundaries, typological (crisp or intermediate, complete or incomplete, enduring and transient, symmetrical and asymmetrical), topological (connected or contiguous, scattered or separated, closed or open), and hierarchical (such as political hierarchies). For Fonseca et al. there is a strong correlation between the adopted ontology and the CMC symbols that they develop. However, does the lexical dimension adequately represent the complexity of the urban design problem? Although the ontological distinction between the *bona fide* and the *fiat* is an interesting philosophical problem concerning the nature of reality it is worth asking: Is this type of lexical dimension critical to urban problem solving? Eventually it might be, and I am optimistic that it will be, but I also believe that we should be actively engaging in changing our urban environments and so I am trying to deal with another lexical dimension. This is a lexical dimension that finds its symbols through collective, participatory involvement in shaping our cities such that the symbols emerge as our systems of knowledge evolve.

I think that it is more 'scientific' not to conceal my own motivations, so as to spare my readers any 'scientific' delusions. If semiotics is a theory, then it should be a theory that permits a continuous critical intervention in semiotic phenomena. Since people speak, to explain why and how they

⁸⁹ Smith and Mark.

⁹⁰ Fonseca et al.

speaking cannot help but determine their future way of speaking. At any rate, I can hardly deny that it determines my own way of speaking.⁹¹

The *pragmatic* dimension refers to how signs are consumed and used. I believe that our consumption and use of signs is an epistemological concern related to our systems of knowledge. In other words it is not enough to use signs, we must also be concerned with the situations, intentions, and presumptions behind such use. In the context of this work the consumption and use of signs involves considerations associated with CMC design and use, considerations about collaborative planning and design approaches, and considerations about what happens when CMC and design/planning methods come together as simulations or as new hybrid approaches to placemaking.

MacEachren's interest in semiotics would take him beyond traditional concepts of maps and map-making into the field of geographic visualization (geovisualization). For MacEachren geovisualization "is about the use of visual geospatial displays to explore data and through that exploration to generate hypotheses, develop problem solutions, and construct knowledge."⁹² In many respects these are the same challenges that we are faced with when dealing with problems of urban design. Within our (data) models (virtual environments) of place we explore alternative spatial possibilities, make conjectures about (local) problem solutions, and test those solutions through computer-mediated experiences. We construct knowledge about how the world could be through our experiences of virtual worlds (including hypertextual realities).

MacEachren believes that there are three geovisualization research challenges for the coming decades: "(1) developing a typology of operations for interactive georepresentations and a syntactics for their use; (2) balancing abstraction and realism in GeoVirtual environments; and (3) facilitating different place collaborations."⁹³ The latter two challenges have been part of my current research and relate to this dissertation. In

⁹¹ Eco, 29.

⁹² A.M. MacEachren, "An evolving cognitive-semiotic approach to geographic visualization and knowledge construction," *Information Design Journal* 10, no. 10 (2001), 30.

particular I have been interested in virtual worlds that take advantage of the concepts of hypertext. As well, I have been concerned with the ways that community groups can work together on the Web to share representations of place and to work collaboratively on problems of sustainable community design. Hopefully this becomes clearer in my descriptions of the projects below.

The problem with method

My own CMC projects represent only a modest attempt to construct shared online communication *space*. The projects are based mostly upon text and 2D images, digital video, VRMLs (Virtual Reality Modeling Language) and QTVRs (QuickTime Virtual realities), digital videos, online database solutions, and online questionnaires. These *spaces* often involve virtual rooms where meetings and discussions about local *real world* placemaking problems occur. My approach is similar to the methodological and theoretical approaches of Harrison and Zappen in developing web-based computer-mediated communication environments.⁹⁴ For these authors the research and development of CMC environments also stems from ontological considerations. Specifically, Harrison and Zappen were interested in *phronetic research*, research associated with ethics and values when determining action. The geographer Bent Flyvbjerg describes *phronetic research* as follows.

Phronetic social science is an approach to the study of social phenomena based on a contemporary interpretation of the classical Greek concept *phronesis*, variously translated as practical judgment, practical wisdom, common sense, or prudence. Phronetic planning research is phronetic social science employed in the specific study of policy and planning ...

The principal task for phronetic research is to clarify values, interests, and power relations as a basis for praxis. The point of departure for such research can be summarized in four value-rational questions, which researchers ask and answer for specific problematics in their fields of interest, for instance in urban policy and planning:

⁹³ MacEachren, "An evolving cognitive-semiotic approach to geographic visualization and knowledge construction," 26.

⁹⁴ T.M. Harrison and J.P. Zappen, "Methodological and Theoretical frameworks for the Design of Community Information Systems," *Journal of Computer Mediated Communication* 8 no. 3 (2003).

- (1) Where are we going?
- (2) Who gains and who loses, and by which mechanisms of power?
- (3) Is this development desirable?
- (4) What, if anything, should we do about it?

In sum, the primary purpose of phronetic social science is not to develop theory, but to contribute to society's practical rationality in elucidating where we are, where we want to go, and what is desirable according to diverse sets of values and interests. The goal of the phronetic approach is to add to society's capacity for value-rational deliberation and action.⁹⁵

In this dissertation I also concentrate on systems of knowledge and how systems of knowledge influence the spaces of virtual communication. I am interested in how meta-theory can be used to interpret and articulate systems of knowledge that affect the design of shared digital spaces, spaces that I refer to as *web-based dialogic spaces*.

And if they are good designers, they will reflect-in-action on the situation's back-talk, shifting stance as they do so from "what if?" to recognition of implications, from the involvement in the unit of consideration of the total, and from exploration to commitment.⁹⁶

In *The Reflective Practitioner* Donald Schön makes a distinction between the dominant research paradigm of technical rationality (a positivist epistemology) and an approach to accepted professional practice (praxis) that he calls reflection-in-action. He states technical rationality is characterized by instrumental problem solving and that instrumental problem solving rests on three points. To paraphrase Schön, the three points are:

- Instrumental problem solving is a technical procedure measured by its effectiveness in achieving pre-established objectives.
- Instrumental problem solving brings to practice research-based theories and techniques whose generality are derived from the controlled experiment.

⁹⁵ B. Flyvbjerg, "What is Phronetic Planning Research? What is Phronetic Social Science?," <http://flyvbjerg.plan.aau.dk/whatisphronetic.php> .

⁹⁶ D.A. Schön, *The Reflective Practitioner* (New York: Basic Books, 1983), 103.

- Instrumental problem solving can only serve to implement and test technical decisions.⁹⁷

Instrumental problem solving is effective when dealing with well-structured problems, problems with clearly identifiable objectives. However, most urban design and planning problems fall into the realm of ill-structured problems, problems with emerging objectives and multiple possible solutions. Schön believes that problems of practice such as engineering design and urban planning reflect different, more flexible kinds of research inquiry that are often based upon analogies, metaphors, and conflicting desires and view points. Schön believes that these kinds of problems need an alternative epistemology that he calls reflection-in-action.

When someone reflects-in-action, he becomes a researcher in the practice context. He is not dependent on the categories of established theories and technique, but constructs a new theory of the unique case. His inquiry is not limited to a deliberation about means which depend upon prior agreement about ends. He does not keep means and ends separate, but defines them interactively as he frames a problematic situation. He does not separate thinking from doing, ratiocinating his way to a decision which he must later convert to action. Because his experimenting is a kind of action, implementation is built into his inquiry. Thus reflection-in action can proceed, even in situations of uncertainty or uniqueness, because it is not bound by the dichotomies of Technical Rationality.⁹⁸

This does not mean that the theories emerge from a vacuum, but it does mean that praxis is not necessarily driven by dominant theoretical agendas, that praxis involves considering problems through emerging theoretical agendas: seeing-as (seeing this situation or problem as *some other*). My own project work through the course of this dissertation has been about considering sustainable community design and the development of computer-mediated communication systems through the epistemological lens of seeing-as. Schön believes that seeing-as does not mean that there is no basis for rigour. On the contrary:

When a practitioner sees anew situation as some element of his repertoire, he gets a new way of seeing it and a new possibility for action in it, but the

⁹⁷ Schön, 165.

⁹⁸ Schön, 165.

adequacy and utility of this new view must still be discovered in action. Reflection-in-action necessarily involves experiment.⁹⁹

Rather than taking the view that practice follows theory, that practice follows from understanding that comes from controlled experiments, Schön advocates a different way of thinking about experiments: “to experiment is to act in order to see what the action leads to. The most fundamental research question is, ‘What if?’.”¹⁰⁰ Schön calls action that is undertaken to see what follows without preconceived expectations or predictions *exploratory experimentation*. The idea of exploratory experimentation is similar to the use of experimentation in *evolutionary prototyping*, an approach to software development that has been used in the evolutionary development of participatory GIS.¹⁰¹ This is a research process that relies upon dialogue and the interpretation of dialogue to move the research along: *this works well (adequate, inappropriate, effective, etc.) but what we really should be doing is ...*

In the projects I summarize below, I try to undertake a praxis of exploratory experimentation, actions to see what follows. This has led me in two directions. On the one hand, the projects have led to new and different projects and/or approaches to CMC and placemaking. On the other hand, the exploratory experimental process has resulted in my own philosophical speculations about the relationships between information technologies and placemaking. In this way the projects and the approach to meta-theory go hand in hand. This has been an extended experiment in applying meta-theory to CMC focussed reflection-in-action.

Reflection-in-action is based upon the idea of *tacit-knowledge*, a knowing about what to do next in a situation of uncertainty (knowing-in action).¹⁰² Tacit-knowledge has been identified by Tweed as an important aspect of design for urban design and planning CMC

⁹⁹ Schön, 141.

¹⁰⁰ Schön, 145.

¹⁰¹ A. Voss, K. Denisovich, P. Gatalsky, K. Gavouchidis, A. Klotz, and H. Voss, “Evolution of Participatory GIS,” *Computers, Environment and Urban Systems* 28, no. 6 (November 2004): 638.

¹⁰² M. Polanyi, *Personal Knowledge* (London: Routledge, 1958).

systems designed to support argumentation practices.¹⁰³ In many of the projects described below the tacit-knowledge about system development was often derived from a review of the comments of users (designers and planners) and of participants, as well as from discussions with the software designers. Part of these discussions involved the kinds of questions like: “What are the common tasks that you have to perform?” or “What do planners do?” or “Are you satisfied with the quality of the outcome?”, etc. The CMC settings that we would design were meant to support, uncover, and develop the tacit-knowledge of planners or designers rather than replacing such knowledge. This is a view of CMC as a medium to support communicative action.

THE PROJECTS

In the projects that I describe below I am interested in how the Web can be used to effectively disseminate placemaking knowledge and how the Web can be used as a medium for engaging in the communications of design and planning praxis. These include CMC environments that have been designed to disseminate place based principles and place specific impressions, as well as how we go about participating in local design activities using the Internet. Specifically I focus on four types of CMC environments. For the purposes of this discussion I distinguish these types of environments by their *use*. The first type of CMC use that I am interested in is the information seeking hypermedia environment. The second is the univocal (didactic) hypertext document. I characterize the third CMC as the place-based polyvocal hypermedia setting. The fourth type of CMC environment is the computer-supported cooperative work environment (CSCW). I go into more detail concerning these types of CMC setting as I discuss the projects below.

These projects, or case studies, gradually move towards developing inclusive dialogic computer-mediated communication systems related to problems of space and place. From

¹⁰³ C. Tweed, “Supporting Argumentation Practices in Urban Planning and Design,” *Computers, Environment and Urban Systems* 22, no 4 (1998): 360.

a technical point of view, and from the point of view of building CMC environments, I have been primarily concerned with a number of issues including:

- the development hypermedia environments that could be used to disseminate sustainable community-design ideas and principles;
- the development of hypermedia environments that could be used to study user preferences regarding sustainable community-design alternatives;
- the development of a hypermedia that would support multi-vocal impressions about the personal meanings of place;
- customization of meeting areas (where individuals or small groups could work on specific problems);
- the extension of the co-authored hypertext concept to a CSCW setting;
- problems faced by communities when building their own CSCW environments, and how communities think about CSCW possibilities for their own communication requirements, and
- how our concepts regarding useful and valuable knowledge influence the design of CMC environments.

Projects 1 – 3: Hypermedia for Sustainable Community Design

Hypermedia environments allow multiple users to have access to a wide variety of visual and textual, static and dynamic information assembled in non-linear arrangements.

Information in the hypermedia is usually assembled based upon many connected yet predetermined data structures. The non-linear nature of the hypermedia document means that the user may navigate the information according to the network structure. Nodes that connect information within the network structure are referred to as links. Geographers have had an interest in using hypermedia in different contexts. For example, Keller and

Davis have shown that hypermedia can be an affective strategy for teaching principles of GIS.¹⁰⁴ Robert Laurini extends the hypermedia concepts to Hypermaps as means of organizing and distributing spatial data over the Internet. In particular, Laurini is interested in how hypermaps may be used for urban-planning purposes.¹⁰⁵ Bell et al. demonstrate how the Web may be interfaced with GIS and 3D animation for forecasting patterns in urban growth.¹⁰⁶ Dodge and Kitchin treat the internet (cyberspace) as the object of mapping spatialities, spatial forms, and space-time relations.¹⁰⁷ They also include discussions about the social interactions in cyberspace and conjecture about what cyberspace might look like.

The first three projects use CMC to conduct research into the public's knowledge and attitudes about sustainable community design and to disseminate SCD theories, principles, and examples.

Project 1 - The hypermedia questionnaire

Objective: To develop a hypermedia questionnaire to be used to analyze residents' receptivity to sustainable community-design principles.

Client: Government of Canada, Canada Mortgage and Housing Corporation.

Partnership: Researchers from the Department of Urban Planning, University of Calgary (U of C).

Method: We would develop a hypermedia questionnaire through evolutionary prototyping. Versions of the questionnaire were developed for the U of C research team

¹⁰⁴ C.P. Keller and T.J. Davis, "A Hypertext Tutor for Teaching Principles and Techniques of GIS," *Journal of Geography in Higher Education* 20, no. 2 (1996): 193-207.

¹⁰⁵ R. Laurini, *Information Systems for Urban Planning – a hypermedia cooperative approach* (New York: Taylor and Francis, 2001).

¹⁰⁶ M. Bell, C. Dean, and M. Blake, "Forecasting the pattern of urban growth with PUP: a web based model interfaced with GIS and 3D animation," *Computers, Environment and Urban Systems* 24 (2000): 559-581.

¹⁰⁷ M. Dodge and R. Kitchin, *Mapping Cyberspace* (New York: Routledge, 2001).

and adjusted according to its identified needs through a series of design iterations conducted through e-mail discussions. The final version was used in a traditional research environment, where participants came to the U of C for testing. Users (residents) were then interviewed regarding their satisfaction (technical and knowledge building) with the hypermedia questionnaire approach. Researchers were interviewed regarding their satisfaction with the product and their satisfaction with the CMC media-building process. These factors would influence subsequent projects.

Discussion: The hypermedia questionnaire was designed as a closed system, meaning that although users were provided with a relatively rich set of hyperlinks associated with each question, the system was designed to restrict navigation to anything 'outside' of the questionnaire site. This meant that participants were forced to complete the entire questionnaire. Research subjects provided mostly positive feedback regarding the process although they felt that the supporting information could be provided in more dynamic ways. The researchers felt that the hypermedia questionnaire contributed to a positive and dynamic environment, possibly due to the novelty of the approach at the time, and that hypermedia allowed different participants new strategies for making informed decisions regarding the research questions (especially relating to recent or innovative design alternatives).

Project 2 – The Sustainable Community-design Web Site

Objective: To develop a Web-based hypermedia environment to disseminate sustainable community-design principles and examples and to seek methods for increasing SCD dialogue nationally.

Client: Government of Canada, Canada Mortgage and Housing Corporation.

Partnership: Researchers from the Department of Urban Planning at the University of Calgary, Departments of Urban Planning at the University of British Columbia, Departments of Architecture and Landscape Architecture at the University of Manitoba.

Method: The project involved a number of interrelated research activities that would lead to the production of a multi-faceted Web environment. Much of the background research for this project was conducted through sustainable community-design literature reviews.¹⁰⁸ Most of the case studies were discovered using the Internet. The case studies sites that were inaccessible (because of the cost to physically visit) to the research team were studied using a questionnaire supplied to residents, urban designers, and local administrators. In the cases where we could visit we conducted interviews with local residents. The CMC design was based upon reviewing computer science literature on hypermedia design and then conducting evolutionary prototyping. In this case the evolutionary prototyping took greater advantage of the web (posting versions of the site and soliciting responses from researchers using a combination of web forums and e-mails). The subjects of research included:

- Identification and description of sustainable community-design principles.
- Develop visual representations of sustainable community-design principles through the use of photographic examples, or through various 2D approaches to envisioning information.¹⁰⁹
- Develop a series of case studies of sustainable communities in North America and Northern Europe based upon the vernacular application of the SCD principles.
- Consider hypermedia from the point of view of activities rather than structures.
- Attempt to improve strategies for working collaboratively with researchers in other provinces (at other universities and with researchers in Ottawa).

¹⁰⁸ Asustainable community design bibliography is available on the SCD web site at: <http://www.umanitoba.ca/academic/faculties/architecture/la/sustainable/biblio.htm> (accessed March 2005)

¹⁰⁹ E.R. Tufte, *Envisioning Information*, Chelshire, (CT: Graphics Press, 1990); E.R. Tufte, *The Visual Display of Quantitative Information*, (Chelshire, CT: Graphics, 1983); R.L. Harris, *Information Graphics: A Comprehensive and Illustrated Reference*, (Cambridge: Oxford University Press, 1999).

- Design, build, and test the CMC environment as an iterative process.

Discussion: For De Kerckhove three characteristics of the World Wide Web may be used to interpret the ways that people come together in virtual environments: connectivity, interactivity, and hypertextuality.¹¹⁰ Whereas connectivity usually refers to the technical features and means through which information is transferred, interactivity is associated with the ways that an individual interacts with information within the media itself including the representations of others. Associated with interactivity is hypertextuality, the structure and links within the information space that provide for possibilities for information access and virtual human interaction.

The basic principles of hypermedia are derived from the concept of Hypertext, a term coined by Theodor H. Nelson in the 1960s. “By ‘hypertext’, I mean non-sequential writing – texts that branches and allows choices to the reader, best read at an interactive screen. As popularly conceived, this is a series of text chunks connected by links which offer the reader different pathways.”¹¹¹ Landow uses semiotician Roland Barthes description *lexia* to describe these chunks of information that are held together with electronic links.¹¹² Hypermedia is an extension of the hypertext concept by including other forms of data (sound, images, diagrams, etc.).

Rosenberg offers a framework for understanding hypermedia environments based upon the structure of hypertext activity.

A hypertext is a document in which interactive structure operations are intermingled with text; hypertext structure is usually investigated from the point of view of the “real” structure connecting these operations

¹¹⁰ De Kerckove, *Connected Intelligence: The Arrival of the Web Society*, (Toronto: Somerville House, 1997).

¹¹¹ T.H. Nelson, *Literary Machines* (Swathmore, PA: Self-published, 1981); cited in G.P. Landow, *Hypertext* (Baltimore: The John Hopkins University Press, 1992), 4.

¹¹² Landow, *Hypertext*, 4.

Readers *discover* structure through *activities* provided by the hypertext

...¹¹³

Rosenberg recasts the rhetoric of hypertext, that of a fixed set of nodes and links, by applying an activity framework based in the concepts of acteme, episode, and session. Together these concepts provide a useful means for considering issues of navigation and orientation within the information space.

We will count as hypertext any kind of system in which text contains embedded interactive structure operations. The lowest level of hypertext activity is to execute such an operation, e.g. following a link. We coin the term 'acteme' to describe this level of activity.¹¹⁴

Actemes may be thought of as metaphorical devices (links in action) that have directional (forward/backward), *relational* characteristics (inside/outside), structuring characteristics (disjunctive/conjunctive) as well as *simultaneities* (simultaneous coexisting possibilities for action, similar to what is sometimes called spatial aggregates or piles). In its simplest form, the acteme may be thought of as menu choice, leading the reader to another activity. The lexica, or the text itself, on one hand may be thought of in terms of containing the actemes for a linear, or on the other hand the lexica may be seen to contain the actemes and as such contain the possibilities for multiple readings of the same text. Our first design challenge was to develop a graphic vocabulary that would limit the actemes and provide as much consistency as possible between actemes across the web site. For example, we would limit the activities within a single lexica, such as in the lexica of the SCD principles, to actions that either linked to other principles or to the web site's glossary. Similarly, because we were trying to create a sense of 'geographic' clarity within the information sets, the composition of all of the web pages was based upon a consistent (graphically and functionally) set of acteme signs.

Episodes are considered higher-level entities made up of multiple actemes. "An episode is simply whatever group of actemes cohere in the reader's mind as a tangible entity."¹¹⁵

¹¹³ J. Rosenberg, "The Structure of Hypertext Activity," in *Hypertext '96, Proceedings of the seventh ACM conference on Hypertext* (Bethesda, MD: ACM Press, 1996), 22.

¹¹⁴ Rosenberg, 22.

¹¹⁵ Rosenberg, 23.

Although an episode is not a mappable, tangible hypertext activity, since we can't necessarily predict how the reader will associate the actemes, an episode may still be a means of considering the syntactic dimension of hypermedia. In other words, within most hypermedia environments we cannot predict where the reader will go or the links they will make. But we can structure the information in ways that enable the reader to know where they are in the information space and provide the reader with clues about intended logical coherence (graphically coherence between lexica define possible episodes).

In Project 2 we believed it necessary to provide the reader with clues to indicate that he/she is in one case study or another, although case studies themselves share a common set of actemes. Similarly, the case studies may differ substantially from the description of the SCD principles, each with some actemes that vary but maintaining enough of the actemes (as well as consistency in the graphic language, colour, typography, etc.) to give the reader a sense of presence within the web site itself. This highly structured approach to the web site design means that we would give up a degree of visual interest in exchange for navigational clarity. Geographic concepts, such as arrival and departure associated with consistent sets of actemes and graphics, can serve as signs to help the reader become oriented within information space.¹¹⁶ Rosenberg refers to the way that the user structures an episode as a process of gathering and outlines some of the characteristics that could go into a gathering interface.¹¹⁷ A hypertext session may be thought of as a series of episodes that begin with the connection to the media and end when the media is turned off.

Using the activity model we developed the Project 2 CMC environment with regards to discreet anticipated episodes. The episodes were identified through a series of discussions with the SCD researchers concerning common design activities. The activities that were identified are highly didactic in nature. The anticipated episodes included:

- “looking up” SCD principles according to categories,

¹¹⁶ G.P. Landow, “The rhetoric of Hypermedia: Some Rules for Authors,” *Journal of Computing in Higher Education*, no.1 (1989): 39-64.

- accessing linked lexica (graphic and text) describing an SCD principle,
- answering an SCD questionnaire, participating in a discussion with respect to an SCD principle,
- linking to related SCD sites,
- examining the applicability of SCD principles to real world case studies, • searching a bibliography of SCD reference.

The anticipated episodes became the basis for structuring the web site.

Questions would arise during the development of Project 2 concerning the efficacy of the graphic content. We were interested particularly in examining the advantages of using virtual reality and video strategies to increase the communicative potential of the SCD hypermedia environments.

Project 3 - Integrating VR into the SCD questionnaire

Objective: To develop and evaluate a Web-based SCD questionnaire that incorporated virtual reality and digital video technologies.

Client: Government of Canada, Canada Mortgage and Housing Corporation.

Partnership: Researchers from the Departments of Architecture, Landscape Architecture and City Planning at the University of Manitoba. Test subjects were graduate planning and design students as well as a local community group.

Method: The SCD questionnaire developed for Project 2 was considered in terms of how it might be enhanced using commercially available technologies (that were at the time relatively new commercially available tools such as Quicktime, VRML, QTVR). For the

¹¹⁷ Rosenberg, 27.

most part the questions were *matched* to an appropriate technology and redesigned. Test subjects included graduate students and members of a local community. Two digital questionnaires were developed. The first questionnaire was a 3-D version of the previous questionnaire. Test subjects were asked to compare the new questions with questions from the previous questionnaire with respect to their explanative power and their potential for introducing biases into the SCD research program. Similarly, SCD researchers were asked to make the same comparisons. The second questionnaire followed from the lessons of the first and was used to study an alternative community-design scenario.

Discussion: The greatest advantage of hypermedia is that it provides capabilities to link textual and non-textual data. Urban spatial problem-solving often involves work with textual and non-textual information. Visualization, from sketches to virtual reality models, provides a common language for most participants in an urban design problem. Three types of visualization were of particular interest to us, virtual reality models, animated 3-D models for SCD process simulations, and digital video models that captured real world case studies. We were interested in these types of data models in two respects. First, we were concerned with the feasibility of using these types of data models in CMC applications. We would eventually run into problems of bandwidth. Second, we were interested in trying to make a correlation between urban content/issue and the appropriate data model for its visualization

Al-Kodmany distinguishes between computer-generated 3-D modelling and virtual reality:

The field of geography has provided the link from scientific visualization to organized visual and spatial data for planners. In the past few years, researchers in planning have taken full advantage of advances in three dimensional (3-D) graphics, computer simulations, digital video, interactive maps, virtual reality, and the Web, at least at the stage of prototypes, if not in actual planning practice... These new technologies enable the temporal and sensory experiences of place to become non-space specific and these techniques can elicit a very high level of audience engagement. This raises questions, however, about what types of tools are best for communicating

spatial ideas and encouraging discussion and decision making with the public.¹¹⁸

Although 3-D modelling and virtual reality are similar they may be distinguished by the users ability to interact with the data. In 3-D models the user is allowed to view the 3-D models on the screen, whereas virtual reality provides a dynamic virtual environment that the user can interact with, most commonly through navigational (movement simulation) strategies. The advantage of these kinds of representations has to do with their intuitive power. “The public understands these scenes and buildings intuitively, without any knowledge of cartography or having to decipher map symbols because the images closely imitate a real-life experience of the built environment.”¹¹⁹

The new questionnaire (based upon the previous 2-D questionnaire) included 3-D models and animations developed to allow the participants to make comparisons between design features. These visualizations would include:

- Exploding animations that would uncover sustainable design systems, such as energy-efficient wall construction, urban densification (granny flats), district-heating systems, grey-water management.
- Videos of examples complex urban features (mixed use urban-design settings, community gardens).

The 3-D models and VR settings were developed to study participant attitudes regarding a proposed urban design scenario.¹²⁰ The model of the community was developed to highlight specific urban design features that included:

¹¹⁸ K. Al-Kodmany, “Visualization Tools and Methods in Community Planning: From Freehand Sketches to Virtual Reality,” *Journal of Planning Literature* 17, no. 2 (2002): 190.

¹¹⁹ Al-Kodmany, “Visualization Tools and Methods in Community Planning,” 197.

¹²⁰ S. Afolayan, *Decision Support Technique for Sustainable Community Design: developing a Sustainable Community Design Evaluation Methodology* (Winnipeg: Univ. of Manitoba Press, 2001), 176-183.

- The compactness of urban form (patterns of aggregation of elemental units, the uniqueness and individuality of residential clusters, the exterior spatial harmony and visual continuity of community streetscape).
- The permeability of urban form (the proximity and connection of residences to activity centers, separation of pedestrian and vehicular networks, length of blocks, location of activity centers with regards to automobile dependency).
- Openness (the assessment of building setbacks, height to width ratios of buildings, the street enclosure by buildings, building density).

These experiences would teach us a few important lessons about virtual reality. A major advantage of web-based VR is in its dissemination: the limitations that we encountered with our first questionnaire (based upon a lab setting with one machine to one user) could be alleviated. But bandwidth became our biggest stumbling block and models and animations had to be simplified. In many cases, within the context of a questionnaire, 3-D visualizations were considered to better than VR. In the questionnaire we wanted the users to consider specific aspects of the design problem, and in VR it was often hard for the user to find the aspect of the simulated space that we wanted them to interpret. 3-D visualizations would *get to the point* right away. The limits of VR to our problem may be related to our limited vision of VR itself, something that one can move through rather than something in which we can communicate.

The term virtual reality, referring to computer simulations of 3D space, was coined by Ian Sutherland in 1965.¹²¹ Three years later Sutherland would be experimenting with head-mounted displays as an interface for experiencing 3D representations of space. In 1991 Rheingold would define virtual reality in terms of a person's three-dimensional experience of a computer-generated representation. In the virtual reality that Rheingold describes the user is able to move around in the virtual world, visually experience it from

¹²¹ A good list (2004) of VR research organizations, research and projects can be accessed through: http://www.ozedweb.com/infotech/virtual_reality_proforma.htm

different angles, and manipulate it in ways that are similar to how we manipulate physical reality. Rheingold's vision of virtual reality is probably the one that has most captured the modern imagination and is present in a great deal of our popular media, such as in cinema from *Lawnmower Man* to *Minority Report*. Within these three-dimensional worlds users are able to experience simulated spaces, make changes to their virtual environments, communicate with one another, and potentially access deeper levels of information and experiences of places than physical realities can readily provide.

The term virtual reality also refers to the types of technologies that allow the user to experience virtual spaces such as head-mounted displays, boom-mounted displays and surround-screen projection-based displays, and so on.

An artificial environment created with computer hardware and software and presented to the user in such a way that it appears and feels like a real environment. To enter a Virtual Reality, a user dons special gloves, earphones, and goggles, all of which receive their input from the computer system. In this way, at least three of the five senses are controlled by the computer. In addition to feeding sensory input to the user, the devices also monitor the user's actions. The goggles, for example, track how the eyes move and respond accordingly by sending new video input. It is difficult to decide where to begin a discussion about Virtual Reality, or VR. Although constricted by the technology supporting it, VR actually has no natural limits. There is no absolute beginning, end, top, or bottom to Virtual Reality. The fact of the matter is that VR is as unlimited as the imaginations of those who are building these new virtual universes, and from what I have seen, the virtual worlds now coming to life on the Internet are being created by people with astounding imaginations indeed.¹²²

In the 1984 work of fiction *Neuromancer*, William Gibson introduced a number of virtual reality and global networking concepts and terms (most notably popularizing ideas of the Web and Cyberspace) that began as spatial metaphors.

Program a map to display frequency of data exchange, every thousand megabytes a single pixel on a very large screen. Manhattan and Atlanta burn solid white. Then they start to pulse, the rate of traffic threatening to overload your simulation. Your map is about to go nova. Cool it down. Up your scale. Each pixel a million megabytes At a hundred million megabytes per second, you begin to make out certain blocks in midtown

¹²² http://webopedia.internet.com/TERM/v/virtual_reality.html

Manhattan, outlines of hundred-year-old industrial parks ringing the old core of Atlanta ...¹²³

But Gibson's later vision of the virtual worlds of cyberspace surpasses the limits of 3D-spatial metaphors as he adopts metaphors of human-to-human interaction, or more specifically entity-to-entity interactions, as the means of representing cyberspace. Gibson continually returns to the notion of the cyborg, the physical convergence of technology and humanity. Gibson's cyborg fictions would soon be taken up as part of a serious feminist discourse by Haraway,¹²⁴ in extreme experiments in cyborg art in the work of the performance artist Stelarc,¹²⁵ and with experiments in *Mediated Reality* by researchers such as Steve Mann¹²⁶ (influencing in part the field of *ubiquitous computing* where computing would be in direct *contact* with the physical world).¹²⁷ Gibson's own writing blends spatial metaphors with metaphors of hypertextual communication. In *Mona Lisa Drives* he writes:

Somewhere over a river they'd left the highway. Trees and fields and two-lane blacktop, sometimes a lonely red light high up on some kind of tower. And that was when the other voices had come. And then it was back and forth, back and forth, the voices and then Molly, and then the voices, and what it had reminded her of was Eddy; trying to do a deal, except Molly was a lot better than Eddy; even if she couldn't understand it, she could tell Molly was getting close to what she wanted ...¹²⁸

In this vision of cyberspace the spatial realm is not dropped entirely but becomes a deeper and wider means of connecting, or identifying, with knowledge and information. The 3D virtual reality becomes a world of clues and beacons, symbols and icons, which point the way to the potentials of a complex universe of human interactions. Thus

¹²³ W. Gibson, *Neuromancer* (New York: ACE Science Fiction, 1984), 43.

¹²⁴ D. Haraway, *Simians, Cyborgs and Women: The Reinvention of Nature* (New York: Routledge, 1991).

¹²⁵ <http://www.stelarc.va.com.au/>

¹²⁶ S. Mann and H. Niedzviecki, *Cyborg – Digital destiny and human possibility in the age of the wearable computer* (Toronto: Doubleday Canada, 2001).

¹²⁷ M. Weiser, R. Gold, and J.S. Brown, "The origins of ubiquitous computing research at PARC in the late 1980s," *IBM Systems Journal – Pervasive Computing* 38, no. 4 (1999).

¹²⁸ W. Gibson, *Mona Lisa Overdrive* (New York: Bantam Books, 1988), 277.

cyberspace may be thought of as n-dimensional space or perhaps even a space of open topological abstractions accessed via virtual reality road maps.

Gibson's portrayal of cyberspace in *Neuromancer* and later in *Mona Lisa Overdrive* relied heavily on real world spatial metaphors combined with an abstract vision of a fluid nomadic environment where humans took on cyborg characteristics in order to enhance their abilities to connect to the information space. Cyberspace theorist Marcus Novak would pick up on Gibson's metaphors with the creation of abstract spatial modelling experiments that blended Gibson's nomadic ideals with abstract visions of alternative realities.¹²⁹ Novak's work is based upon three separate tasks (navigation, motion, and spatial synthesis).¹³⁰ For Novak navigation involves three dichotomies: static/dynamic (fixed links or changed manually); passive/active (passive means nodes are fixed although links may change/active means the nodes themselves may change); and pure /hybrid (pure hypermedia exist within the confines of a specific medium/hybrid hypermedia roam freely between different forms of media). Each of these dichotomies is critical to understanding one's spatio-temporal possibilities in cyberspace, whether it is built according to spatial metaphors or exists simply within the realm of text-based communication.

Perhaps Rheingold's greatest contribution was his notion of the *virtual community*. The virtual community would become synonymous with forms of computer-mediated communications that could be characterized by their long duration and their textually-mediated conversations. Rheingold offered the first survey of these types of virtual environments in 1993.¹³¹ Schuler presents a thorough account of virtual and networked communities as they were emerging in the mid 1990s.¹³² Since then there has been a significant proliferation of virtual communities on the Web.

¹²⁹ M. Novak, "Liquid Architectures in Cyberspace," in *Cyberspace: First Steps*, ed. M. Benedict (Cambridge: The MIT Press, 1992).

¹³⁰ Novak, 229-243.

¹³¹ H. Rheingold, *The Virtual Community: Homesteading on the electronic frontier* (Reading: Addison-Wesley, 1993).

¹³² Schuler.

Porter defines a virtual community as “an aggregation of individuals or business partners who interact around a shared interest, where the interaction is at least partially mediated by technology and guided by some protocols or norms.”¹³³ This is a definition of community that is less about shared spatial conditions and more closely associated with personal or business relationships.¹³⁴ Porter proposes a typology of virtual communities that includes five attributes: purpose (the specific focus and/or content of the dialogue; place (the extent to which the interaction occurs virtually); platform (the technical, synchronous and asynchronous; design of the for interaction); population (the pattern of interaction by members as described by group structure); and the profit model (the extent to which a community generates revenue).¹³⁵

Projects 4 – 8: Human Computer Interaction

In the four projects that ensued, I would direct the CMC work to investigate different forms of human-computer interaction. The projects would look at CMC design from the perspective of computer-centered design to approaches that were increasingly about user-centered design.

Project 4 – From Traditional to Electronic Planning

Objective: To develop and evaluate Web-based planning tools to simulate planning methods. The two planning methods studied were Brainstorming and Role-Playing.

Partnership: Researchers from the Departments City Planning and Computer Science at the University of Manitoba. Test subjects were graduate and undergraduate students.

¹³³ C.E. Porter, “A Typology of Virtual Communities: A Multi-Disciplinary Foundation for Future Research,” *Journal of Computer Mediated Communication* 10, no. 1 (November 2004): 2.

¹³⁴ D. Weiner, T.M. Harris, and J.W. Craig, “Community participation and geographic information systems” in *Community participation and geographic information systems*, eds. Weiner et al. (New York: Taylor and Francis, 2002), 5.

¹³⁵ Porter, 5.

Method: We began by asking: How are planners using the Web? A number of urban-planning oriented web sites were examined in terms of the types of communication that take place. We then surveyed the literature for planning methods. Through discussions with senior planners we identified two planning methods that were frequently used and which were believed to have potential for CMC implementation. Partnering with a 3rd year undergraduate computer science class we decided to build the CMCs from the ground up. Two city planning graduate students partnered with computer science programming teams to develop user-friendly Web tools. Role-playing and brainstorming sessions were conducted in the traditional manner and using the CMCs. Test subjects were interviewed and surveyed for user satisfaction and general feedback.

Discussion: Erickson's semiotic approach to CMC involves treating online conversations as genres of discourse.¹³⁶ By treating online conversations as genres, Erickson shows how conventions and expectations underlie the conversation (such as the length of the conversation, what is deemed to be acceptable behaviour, etc.). In Erickson's view user expectations about what participation entails determines the nature of communication more than the media does. Erickson's notion of genre differs from traditional classifications of types of spoken or written work such as elegies, epics, or articles in refereed journals. Instead Erickson views a genre as something more situated such as "rhetorical actions carried out in socially defined, recurrent situations," and so Erickson returns to the idea of communities, which in this case are called *discourse communities*. "Members of a discourse community are those who participate in a genre: they have shared goals, they communicate with one another, and they use various participatory mechanisms to provide information and feedback... discourse communities are more in the background, as mechanisms for supporting conversation, rather than as an end in themselves."¹³⁷ This is a view of community that exists through a form of action, through participating in a genre (rhetorical action) as opposed to existing to perform an action.

¹³⁶ T. Erickson, "Social Interaction on the Net: Virtual Community or Participatory Genre," *ACM SIGGROUP Bulletin* 18, No. 2 (August 1997).

¹³⁷ Erickson, 27.

Following from Anthony Cohen (see Chapter 2) the participatory genre may be thought of as a form of action that provides the community differentiating boundaries. By this I mean that a community can be differentiated from another community by the participation of its members in situated forms of rhetorical action. In some cases the rhetorical action may follow established scenarios such as exchange relationships in business situations or it may follow established participatory methods such as those used by urban planning professionals. A current challenge involves identifying the types of rhetorical actions that place-makers use and determining the costs and benefits (including social, cultural, economic) associated with establishing CMC alternatives. A second challenge involves recognizing and realizing the potentials associated with converting established face-to-face rhetorical action into computer-mediated genres of communication.

Project 5 -The Cutlers assemblage

Objective: The objective was to examine the complexity of communication activities in urban design problems and to consider how to apply computer-supported cooperative work tools to these settings.

Method: The project involved a content analysis of events in the urban design process identified by Cutler and Cutler.¹³⁸ Specifically we were trying to map communicative activities to the events identified in the design process. We then considered how to support these communicative activities using Computer Supported Collaborative Work tools. The project is based upon two premises, that CMC environment use can be designed to respond to the kinds of communication activities that take place in existing urban design processes, and that the structure of a placemaking CMC setting may be patterned on the structure of existing urban design processes.

¹³⁸ L. Cutler and S. Cutler, *Recycling Cities for People: The Urban Design Process* (Boston: Cahners Books International, 1976), 19.

Discussion: Smart et al. argue that the Internet, as a communications medium, lacks a coherent, accepted semiotics; they propose six categories (also referred to as dimensions) of design issues relating to the interpretation of web environments.¹³⁹ A semiotic approach is useful for at least three reasons. First, the semiotic dimensions may be used as a means of assessing Web-design quality. Smart et al. provide examples of questions used to evaluate elements in each semiotic category. Second, the semiotic categories provide the web designer with the means of thinking-in-action about the nature of the Web-design exercise. The semiotic categories are not meant to serve as rules of thumb as much as categories in which rules of thumb may be situated. Third, the semiotic dimensions can assist us in questioning what the web is all about, including what is going on when we are using the Web, and whether or not the Web is an effective communication device for the problem at hand. In so doing the semiotic categories point to the complexities inherent in understanding Web-based communication. The semiotics of Web communication offers a systematic approach to the development of such a line of questioning. The semiotic system, proposed by Smart et al. includes six categories (or dimensions) that are used frequently to describe and evaluate Web sites. Two of these categories are of interest in the current discussion: medium use and site structure.

Medium use refers to how the computer medium itself becomes a dimension in creating the Web site. “The appropriate use of unique Web features such as scrolling, interactivity, hypertext, multimedia, frames, and virtual reality all enhance users’ online experience. The problem designers face involves identifying the appropriate use of these elements.”¹⁴⁰ Concerns include issues of page length and movement options, how interactivity relates to the acquisition of information (such as special features like chat rooms or email), page structure, hypertext (see discussion below), kinetics and kinetic interference, etc. One of the challenges that we face when designing CMC is using the media in ways that appropriately represent the types of conversations that have to take place. So medium use may also be associated with the discursive genre, and the urban design process may

¹³⁹ K.L. Smart, J.S. Rice, and L.E. Wood, “Meeting the Needs of Users: Towards a Semiotics of the Web.” In *Proceedings of IEEE professional communication society* (2000), 593.

¹⁴⁰ Smart et al., 597.

thought of as composed of different genres of communication. Building a CMC for urban design problem solving means identifying not only the types of data needed within these genres but also how information is used.

Site structure is directly associated with a Web site's usability and refers to how the information is organized on the site. More importantly, site structure relates directly to individual orientation and the ways that we assign meaning in a cognitive space. "People use this structure to assign meaning to the materials at the site and to orient themselves as they traverse the Web space."¹⁴¹ This may also be understood in terms of a Web site's episodic characteristics.¹⁴² Site structure is directly associated with the notion of *site maps*, linked maps for cognitive orientation, that illustrate the linkages between web pages that make up the site or overall structural organization of the site. Associated with issues of orientations are what I call *cognitive way-finding aids* or what Smart et al. refer to as *landmarks within the virtual landscape*. Effective site structure may be considered with respect to a number of user problems that include: disorientation, distraction, unclear messages, slipperiness (inconsistent navigational features from page to page), side effects (getting something other than what was expected), paradoxical or ill-fitting metaphors or mental models and limited constraints on user actions of direction.¹⁴³

It is not simply enough to know where one is within the media space when dealing with complex planning problems; one may also wish to keep track of where one is within the problem space. If the CMC site is a reflection of a well-articulated design process then the site itself may provide cognitive support about the problem space. The CMC site with a high level of correspondence to a well-structured design process can serve as a cognitive aid about the design process, so where one *is* in the CMC site corresponds to where one *is at* in dealing with the urban design problem. This is approach to design is user centered, modelling what the user should or could be doing relative to our

¹⁴¹ Smart et al., 596.

¹⁴² Rosenberg, 24.

¹⁴³ J. Carroll and M.B. Rosson, "Network communities: community networks," in *CHI '98 conference summary on Human factors in computing systems* (Los Angeles: ACM Press, 1998).

assessment of the problem at hand. In the communication context, it involves modelling the types of interactions that take place in a community.

Sanderson believes that there are problems with creating system metaphors which are derived from real world communities. He believes that issues and problems will be the direct result of the metaphors. "Real-life communities are embedded in a complex social ecology, with long established practices and rituals underpinning their construction and destruction. It may be unhealthy to transpose only parts of this ecology, through the use of selective metaphors, to an electronic form."¹⁴⁴ Within our own work we found that developing a communication model for the entire urban design process was an immense and unwieldy task. Although we could map many of the communication activities in terms of data flow, it was almost impossible to identify the subtleties of communication that take place in the process steps. Sanderson's other concern is about the nature of virtual communities themselves. He argues that instead of trying to design virtual communities we should be trying to design technologies *for* existing communities. The model of planning methods would not necessarily reflect the user community itself.

Project 6 - An Interactive Display Prototype

Objective: The objective was to use a *technology-centered approach* to a common urban design activity, the design review activity.

Method: At the time it was still unclear to us if we should be simulating planning methods or developing CMC for the context. We chose to work on the design review activity because it was something that was a part of all design processes. Instead of working with computer programmers I worked with three architecture students who had very limited programming experience. We wanted to see if we could cobble together available Web-based CSCW technologies into a site where a design review process could occur online. This involved: analyzing the nature of the communication problem (activity

¹⁴⁴ D. Sanderson, "Virtual Communities, Design Metaphors, and Systems to Support Community Groups," *SIGGROUP Bulletin* 18, no. 1 (1997): 44.

analysis); searching for available technologies (whiteboards, forums, etc.); developing a CMC environment; posting an architectural design proposal on the system; undergoing an online design evaluation; and assessing (through interviews) the technology from the point of view of the design critic and of the designers.

Discussion: In the technology-centered approach the attributes of the technology take priority in the development process. One type of specialized CSCW environment is the decision room. Decision rooms can be developed as web-based settings that can include electronic face-to-face technologies allowing for more natural forms of conversation to take place. Decision rooms can be built using tools found on the Internet. Decision rooms for handling visual information can include drawing display and mark up devices (such as digital white boards) as well as provide a number of other tools for purposes of discussion and visualization.

Our analysis of the design review activity involved two approaches, a review of urban design methodological literature and a brainstorming session with graduate design students. We developed a simple model of the communication activities that involved an iterative process of posting design ideas and allowing critics to respond using graphic tools to mark up the work. A final presentation of the work would be posted in a web site environment and participants and critics could post written feedback using e-mail links.

In this project we found that although many CSCW tools were available online it was difficult to find tools that satisfied user expectations. For example, part of the review process involves marking up existing drawings. In face-to-face environments this can occur using trace paper, keeping the original drawing intact. The whiteboards that we tested seemed to have great promise, but there were serious limitations regarding the ability to archive critical commentaries on the fly. This could be alleviated through the use of postings (using a bulletin board model). However the use of postings introduced a number of extra steps in the review process and placed expectations upon the resources of all of the participants (such as access to Photoshop) that were not part of the original vision of a CMC for online design review.

Although we were trying to adopt a more participatory approach we found that the available technologies still imposed a computer-centered agenda prioritizing the attributes of the technology over the desires of the participants. In the end the CMC system that we developed was still disconnected (in terms of the user expectations) from many of the actual users, particularly the urban designers and the design critics. It was naïve to believe that we could cobble together technologies. We were essentially designing *for* participants rather than *with* participants. There was a growing consensus that we should be looking for ways to engage in a more critical interpretation of the communicative aspects of the planning process. In the next project we would adapt our approach to CMC by developing an online studio review system with a *user-centered approach* that involved greater levels of participation.

Project 7 – A user-centered approach to the online studio review

Objective: The objective was to experiment with a *user-centered approach* to CMC development for urban design, specifically with respect to the design studio review activities.

Method: Instead of conducting interviews with users to ascertain their needs we embedded ourselves (myself and a computer programmer) into an urban design studio. We would take part in the studio for one academic term, engaging in a form of ethnographic research about the nature of design communication and participating in the studio discussions when asked. The students were aware that we were trying to develop CMC technologies for the urban design studio. Part of our approach involved presenting and rationalizing our interpretations to those involved (students and staff). The participants were encouraged to provide suggestions and commentary about the CMC design.

Discussion: According to Preece a user-centered approach means that real users and their goals should be the driving force behind CMC product development.¹⁴⁵ Rather than

¹⁴⁵ J. Preece, *Interaction Design: beyond human-computer interaction* (New York: John Wiley and Sons, 2002), 285-306.

developing *for* users, a user-centered approach develops software *with* users. This approach to software development incorporates ethnography into the software development process.

Ethnography is a method that comes originally from anthropology and literally means “writing the culture”... . It has been used in the social sciences to display the social organization of activities, and hence to understand work. It aims to find the order within an activity rather than impose any framework of interpretation on it... The aim of an ethnographic study is to make the implicit explicit. Those in the situation, the users in this case, are so familiar with their surroundings and their daily tasks that they don’t often see the importance of familiar actions and happenings, and hence don’t remark upon them in interviews or other data-gathering sessions.¹⁴⁶

Ethnographic studies do not necessarily translate easily to software design. Preece describes a framework to help structure ethnographic findings in ways that enable software designers to use them. The framework consists of *distributed co-coordination* (focus on the distributed coordination of tasks and activities), *plans and procedures* (focus on the organizational support of the work), and *awareness of work* (focus on how people keep themselves aware of others at work).¹⁴⁷ At first glance this framework may seem to have more relevance to distributed work environments (production or commercial oriented settings) than cooperative design settings. Design work is often less *task oriented* than industrial or commercial activities. Creative activities are often hard to anticipate or predict and the interaction between individuals is often playful and unpredictable. Rather than focussing on specific tasks and activities, design-focussed ethnographic research may be thought of as focussing upon modes of communication and the flexibility that teams require when working together.

Our ethnographic work would reveal that the communication processes in the design studio were much more complex than the model of communications that we adopted for project 6. Other modes of communication included informal one-to-one exchanges, small group discussions, class postings, class discussions, topic- oriented discussions, personal

¹⁴⁶ Preece, Interaction Design, 288.

¹⁴⁷ Preece, Interaction Design, 293.

discussions between students and the studio critic, different graphic mark-up strategies, different uses for a number of visualization strategies, different ways of grading and posting grades of work, cross-referencing links to relative case studies, and so on.

The ethnographic approach can be a much more time-consuming approach to CMC design. It involves on-going observation and involvement of the daily work routine. The ethnographic approach can be both intrusive and serendipitous in nature. Participants in the process may feel uncomfortable with the idea of continually being under surveillance and this may cause them to change or hide certain common behaviours. There is no guarantee that the observers in the process will notice rare and idiosyncratic activities that occur, especially those that occur in one-to-one correspondences.

Preece describes two structured approaches to software development that are based upon ethnographic research. *Coherence* is a method that combines ethnographic findings with object-oriented analysis from software engineering. “Coherence does not prescribe how to move from social analysis to use cases, but claims that presenting the data from an ethnographic study based around a set of “viewpoints” and “concerns” facilitates the identification of the product’s most important cases.¹⁴⁸ Coherence builds upon Preece’s framework outlined above by developing a set of focus questions for the three dimensions of the framework. The focus questions are intended to guide the observer to specific aspects of the workplace. Coherence also involves a set of concerns about the nature of the work and the nature of the organization that may serve to guide the requirements of the activity.

Contextual design is the other structured approach to software development for dealing with the collection and interpretation of data from fieldwork including ethnographic information. Contextual design is a seven-part process that involves: contextual inquiry (software designer learns by acting as an apprentice to the user); work modelling (modelling aspects of work including flow, sequence, artifacts, culture and physicality); consolidation (organize the interpretation of contextual inquiry and work modelling into

¹⁴⁸ Preece, *Interaction Design*, 293.

common themes and structures); work redesign (changing work practices); user environment design (conceptualizing a CMC prototype); mockup and test with customers (develop and evaluate a usable CMC prototype); and putting it into practice (implementation).

There are some problems with the contextual design for dealing with the urban design problem. The fundamental question is: How do we design for design? Contextual inquiry is problematic because of the complexity of the practice being learned. Design work often requires a wide range of graphic and analytical skills that may be difficult for the apprentice to overcome. The idiosyncratic nature of design thinking means that the consolidation activity may be unique to specific design problems rather than producing something that is transferable to other design settings. Work re-design may be a fundamental part of the urban design process (not in all cases) so we are trying to codify a moving target. Customer expectations may vary considerably. For example, some of the customers, the clients, often do not want to be part of the entire design process but would rather want to have feedback carefully orchestrated. Other clients want to be on-going participants in the design process. CMC design solutions may have to be highly specific to a particular client's desires or flexible enough to allow for multiple configurations of the communicative possibilities in participatory design settings.

Project 8 – Placegames

Objective: The objective of this project was to investigate ubiquitous computing and to propose urban designs concepts that made use of context-aware computing to achieve sustainable community-design ideals.

Method: The concept of ubiquitous computing was posed as a strategy for thinking about human-computer interactions within the urban environment. Placegames was developed as a studio vehicle to generate metaphors about human activities in an urban setting. The placegame metaphors were extended into design concepts that integrated ubiquitous computing concepts.

Discussion: Ubiquitous computing represents a major shift in terms of the physical nature of human-computer interaction, moving the computer from the desktop to the places in which we live, work, and play.

The first wave of computing, from 1940 to about 1980, was dominated by many people serving one computer. The second wave, still peaking, has one person and one computer in an uneasy symbiosis, staring at each other across the desktop without really inhabiting each other's worlds. The third wave, just beginning, has computers serving each person everywhere in the world. I call this last wave 'ubiquitous computing'.¹⁴⁹

Recent technological innovations such as hand-held multi-functional computing devices, like the Blackberry, have begun to turn computing into a ubiquitous enigma. Ubiquitous computing is an attempt to make the computer disappear (from our awareness) while making *computing* increasingly available in our everyday activities. One way of looking at ubiquitous computing is about "contemplating the place of today's computer in the actual activities of everyday life."¹⁵⁰ I try to situate such contemplation within socially responsible (SCD) ideals about everyday urban life. In other words it is possible to think about ubiquitous computing not only as something that helps us in the performance of everyday activities but it can also help us interpret everyday actions.

Ubiquitous computing is about allowing people to work on the task at hand, unencumbered by the computer itself. The placegame concept was developed as a way of conceiving of the tasks at hand as activities that occur in dynamic contexts, as situated actions and as meaningful purposeful social acts. Sustainable community design exists as a dynamic context that is in constant physical and social change, that should be reflected in the CMC design. "[C]ontext emerges as a result of the activities that occur in a given setting. As the setting and the artifacts within the setting encourage different activities, these activities change, which thus changes the context in turn."¹⁵¹ Places (the physical environment) and people (their needs, desires, goals and intentions) are constantly

¹⁴⁹ M. Weiser, *Open House*, Xerox PARC (March 1996), 2.

¹⁵⁰ M. Weiser et al.

¹⁵¹ G. Gay and H. Hembrooke, *Activity-Centered Design: An Ecological Approach to Designing Smart Tools and Usable Systems* (Cambridge: The MIT Press, 2004), 74.

shifting. Thus ubiquitous CMC may be understood as tools for assisting in the interpretation of such change.

Gay and Hembrooke use the term *context-based design* to advocate a more human-centered and place-centered approach to computer-mediated communication.

Context-based design builds on human-centered design by positioning the interaction between users and mediating tools within the motives, community, rules, history and culture of those users. In addition, context-based design calls for designers and evaluators to reflect on the elements of their own context and on the way that this space interacts with the space of technology use.¹⁵²

A context itself is never static but always dynamic, and the communication (such as the sequence of actions that are carried out in a given context) is always fluid and responsive to social and physical change.¹⁵³ The challenge is to approach ubiquitous computing as a way of revealing social and physical change. This is not simply about mapping what is *out there*, it is also about mapping our interpretations about what is happening *out there*. Placegames is proposed as a way of interpreting everyday activities as games (codified goals and objectives) that can be won or lost according to the extent to which community members adopt environmentally sustainable behaviours. It is not simply that we make sense of the world through our participation in it, as per phenomenology, rather it is that ubiquitous computing can reflect sensible actions about our participation the world.

Projects 9 – 10: The virtual museum

Projects 9 and 10 are interrelated projects. Project 10 describes a web site developed for as a virtual museum project. Project 9 is a CMC environment developed to support collaborative work on Project 10. Whereas project 10 is a site where multiple voices and tools come together to provide the reader with insights about the nature and history of the tall-grass prairie, Project 9 is a real world case study in developing and using a computer-supported cooperative work environment.

¹⁵² Gay and Hembrooke, 1.

¹⁵³ Gay and Hembrooke, 74.

Project 9 - Living Prairie Weblog

Objective: The primary objective was to develop a CSCW environment to assist in the development of a virtual museum web site. The secondary objective was to explore an *interpretivist* approach to CMC design.

Client: Government of Canada, Heritage Canada.

Partnership: Researchers from the Living Prairie Museum, the Department of Landscape Architecture at the University of Manitoba, several private consultants including writers, web designers, graphic artists, computer programmers, natural scientists, animators, and story tellers.

Method: A working team was assembled to develop a Virtual Museums of Canada web site. The team was physically dispersed across the city and the physical site of the project (Living Prairie Museum) did not have the space to house all of the participants in the project. Collaborators on the project would meet face-to-face on a weekly basis to move the project ahead. We developed a CSCW environment to support some of the on-going project activities. The CSCW environment was developed based upon an *interpretivist* approach to CMC design.

Discussion: An *interpretivist* approach to CMC design extends the notion of user-centered design by pursuing a social construction of technology framework. In other words, it is not enough to model for the needs of the users, the CMC should also represent a negotiation between the users. The *interpretivist* approach:

takes a contextually based perspective that values the multiple understandings, intentions, involvement, and perspectives of all of the participants. This approach orients interpretivist inquiry within a meaningful framework that facilitates the evaluation processes, illuminates tacit assumptions and contextual issues, and enhances trustworthiness and credibility of the findings by grounding them in users' understandings.¹⁵⁴

¹⁵⁴ Gay and Hembrooke, 28.

The *interpretivist* approach builds upon the user-centered approach to CMC design by directly involving the users in the technological development process. Users are directly involved in identifying technological goals and objectives as well as interpreting the technology design as the system evolves. CMC technology design is more than building tools to do work. It is also a reflection of the intersecting desires of people involved in a network of social systems. “Design is situated in a network of influencing social systems, and building any technological system is a socially constructed and negotiable process.”¹⁵⁵ Challenges of applying the *interpretivist* approach to CMC design involves creating an open atmosphere of conversation where different points of view about technology development can co-exist and finding ways of reaching consensus about technology design (negotiating desires about possible aspects of the technology).

[T]he design of any technical system requires careful consideration of the interactions among the various groups that are working to define and develop the system. To design an effective system that meets the needs of the various users, consistent and simultaneous attention must be paid to a variety of social, organizational, administrative, and technical concerns.¹⁵⁶

Instead of viewing it as designing a finished product the Living Prairie Weblog is developed as a continually changing communication environment that adapts to user needs and desires throughout the working life of the project. The Weblog incorporates on-going changes according to communication needs that the working group identifies. The programmers who modify the Weblog are part of the working group developing the end product; instead of actively assessing user needs they are active participants in the user-needs discussions with the rest of the group. (In this way they take on two roles, working on the end product and programming the on-going communication environments as members of the team). The Weblog can take on different semiotic characteristics and adopt different communicative functions. The Weblog becomes a chronological record of the changing communication practices over the life of the project.

Shared-space technologies attempt to integrate physical realities with their digital counterparts. “In a more general sense, spatial approaches to Computer Supported

¹⁵⁵ Gay and Hembrooke, 28-29.

¹⁵⁶ Gay and Hembrooke, 29.

Cooperative Work (CSCW) might be seen as a shift of focus toward supporting the context within which work takes place, rather than the process of work itself.”¹⁵⁷ Shared-space environments begin to blur the boundaries between real the world and virtual realities. Benford et al. offer a taxonomy for differentiating shared-space technologies according to *transportation* (the extent to which users leave real space behind and enter into a virtual meeting space), *artificiality* (the extent to which a space is synthetic, that is, an imagined electronic fabrication, or is based on the physical world), and *spatiality* (the degree to which the system supports fundamental spatial properties). Benford et al. also identify five spatial approaches to CSCW: media spaces, spatial video-conferencing, collaborative virtual environments, telepresence systems, and collaborative augmented environments. To a limited extent telepresence systems and collaborative virtual environments were incorporated within the projects described below. “The concept of telepresence involves allowing participants to experience a remote physical space through computer and communications technologies”¹⁵⁸ The potential for the use of telepresence in design settings is probably best captured by the optimism of the Director of the MIT Media Lab, Bill Mitchell, in *City of Bits*:

Fast forward. The year is now 1994, and I am typing this text on a computer in my office at MIT. On the same screen, there is a video window open to the design studio upstairs where my students are working, and there are additional windows to studios at universities in St. Louis, upstate New York, Vancouver, Hong Kong, and Barcelona. There is a small video camera on my desk, so that the students can also see me at work. We are all interconnected by the Internet, and the students in these different locations and time zones are working together on proposals for some new housing in an old area of Shanghai. Through their computer workstations, the students and their instructors can exchange CAD models and rendered images of proposals, get answers to queries about site and program, and discuss and criticize each other’s work. For the moment, at least, we scattered souls have become an electronically linked virtual community. Bodily location is no longer an issue; for me, the students in Hong Kong are as much a part of it as are those to be found within walking distance of my office.¹⁵⁹

¹⁵⁷ S. Benford, C. Greenhalgh, C. Brown, and B. Koleva, “Understanding and Constructing Shared Spaces with Mixed-Reality Boundaries,” *ACM Transactions on Computer-Human Interaction* 5, no. 3 (September 1998): 186.

¹⁵⁸ Benford et al., 188.

¹⁵⁹ W. Mitchell, *City of Bits: Space, Place, and the Infobaun*. Cambridge: The MIT Press, 1995.

Sadly, the shared spaces that Mitchell speaks of in this (1994) passage leaves the reader wanting. Telepresence technologies would have to serve a purpose greater than being able to “see me at work,” otherwise they become little more than a glorified surveillance system.¹⁶⁰ As a visual artist, Naimark engages telepresence as a means of challenging our pre-conceived notions of space.¹⁶¹ Goldberg et al. developed the Tele-garden in 1996-1997; it was an early experiment that brings telepresence to the natural landscape.¹⁶² Within placemaking contexts telepresence should be designed to reflect the situated action, the local spatial needs associated with the collaborative work being undertaken. This means that telepresence should be more than simply viewing a space; it should also be about navigating a space and interacting with objects within a space.¹⁶³

Collaborative Virtual Environments (CVEs) are defined as:

a computer based, distributed, virtual space or set of places. In such places, people can meet and interact with others, with agents or with virtual objects. CVEs might vary in their representational richness from 3D graphical spaces, 2.5D and 2D environments, to text-based environments. Access to CVEs is by no means limited to desktop devices, but might well include mobile or wearable devices, public kiosks, etc.¹⁶⁴

For Snowdon et al. the main distinction between CVEs and other computer environments is that a CVE is a *space* that contains or encompasses both users and data representations. This definition of CVEs is useful in that it is based upon the conception of a virtual space not necessarily dependent upon 3D representations. CVEs are best understood as places for certain types of actions that involve the interaction between people, information, and pre-programmed situational heuristics (agents and virtual objects).

¹⁶⁰ See for example, telepresence in environmental research at the following Web sites: <http://www.chooseclimate.org/climate/train/futproj.html> and http://ranier.hq.nasa.gov/astep/related_projects.htm

¹⁶¹ See <http://www.naimark.net/projects.html>

¹⁶² See <http://cwis.usc.edu/dept/garden/>

¹⁶³ Benford et al., 188.

¹⁶⁴ D. Snowdon, E.F. Churchill, and A.J. Munro, “Collaborative Virtual Environments: Digital Spaces and Places for SCCW: An Introduction,” in *Collaborative Virtual Environments: Digital Places and Spaces for Interaction*, eds. E.F. Churchill, D. Snowdon, and A.J. Munro (London: Springer-Verlang, 2001), 4.

CVEs represent the computer as a malleable *space*, a space *in which* to build and utilize shared places for work and leisure. CVEs provide a terrain or digital landscape that can be ‘inhabited’ or ‘populated’ by individuals and data, encouraging a sense of shared space or place. Users, in the form of embodiments or avatars, are free to navigate through the space, encountering each other, artefacts and data objects and are free to communicate with each other using verbal and non-verbal communication through visual and auditory channels.¹⁶⁵

Although Snowdon et al rely heavily on spatial metaphors to describe CVEs they make a distinction between space and place that is interesting when viewed from a geographical perspective. Space is described as a physical volume, capable of housing artefacts, where events can take place. Their notion of place “has inherent within it a notion of the activities that occur there – activities that *take place* there. The space only becomes a “place” when an activity is scheduled or on-going.”¹⁶⁶

Snowdon et al also point out that even within 3D representations spatial rules do not necessarily apply. Benford et al. refer to this as the spatiality of a collaborative environment. Spatiality in this context refers to the extent to which a system supports physical spatial properties such as containment, topology, distance, orientation, and movement.¹⁶⁷

The descriptions of the CVE place and space reflect an influence by a phenomenological approach found in *real world* geography, an interpretation of meaning that results from situated human experiences. However, the space of the CVEs differs substantially from real world spaces in that they house information (predefined knowledge based) artifacts and events that are subject to the (knowledge laden) technologies through which we connect and interact with the information. It is not simply a problem that all of our interpretations are bound in the historical moment or influenced by the past; instead the problem is that the information we experience within the virtual space is already a fabrication, a space of *structured* information. These fabrications are inherent in the

¹⁶⁵ Snowdon et al., 6.

¹⁶⁶ Snowdon et al., 7.

¹⁶⁷ Benford et al., 195.

medium itself. The CVE space is, in fact, more than a container for artefacts and actions; it is also a container where ontological perspectives and epistemological channels are allowed to reside. The CVE place is where actions are played out according to the possibilities inherited from pre-determined views about one's associations with knowledge.

Project 10 – Landscape Change/Landscape Loss

Objective: The primary objective was to develop a museum Web site for Virtual Museums of Canada. The Web site is meant to be a reflection of cross-cultural experiences and beliefs about the tall-grass prairie.

Client: Government of Canada, Heritage Canada.

Partnership: Researchers from the Living Prairie Museum, the Department of Landscape Architecture at the University of Manitoba, several private consultants writers, web designers, graphic artists, computer programmers, natural scientists, animators, and story tellers.

Method: The project brought together a multidisciplinary working group to develop content and visualize environments about the tall-grass prairie. Visualization strategies include video interviews, a live Web camera feed, digital panoramas, time-based QTVR models, computer animations, interactive stories, Web-based hyper-maps, an image oriented data-base, an image magnification tool, and online computer game. The CMC environment is meant to contain a wide range of content that represents many prairie *voices* and is developed in Canada's two official languages.

Discussion: In the final project we begin to question the user-centered/computer-centered distinction to try to develop a CMC environment that provides for many voices (pluralistic) and uses a wide range of digital media (multi-functional). We would use an ethnographic approach to determine which media was appropriate for which stories. As a

working group we would operate through face-to-face, telephone conversations, e-mails, and the interpretivist strategies outlined in Project 9.

Hypermedia environments often incorporate a number of audio-visual formats that allow the user access to different types of graphic and textual information, including video streaming, control over virtual realities, and graphic imaging and content manipulation techniques. The hypermedia concept comes from the literary hypertext concept, where links are established between different text-based content streams. The hypertext and hypermedia concepts revolutionize the idea of text because of the open-ended possibilities for connection that the media provides and because it allows the published text to be the subject of constant revisions and reconnections. But the beauty of hypermedia isn't about the possibilities of the technology, it is found in the potential ways that the technology allows us to construct our languages and tell our stories.

The project is really about finding *ways of seeing*, of resisting our panoramic tendencies for prairie descriptions, by looking closer, by looking through the eyes of painters, historians, story tellers, scientist, gardeners and others. It is about finding the beauty in the details and the complexities of the experiences. It is also about finding ways to express these ideas through the new media. The prairie, perhaps because of its apparent simplicity, becomes a backdrop for sharing the experiences of Others.

Deleuze sees the construction of Other as a means whereby one experiences oneself as an imagining being – arguing that the thought Other is a means whereby those places, things, ideas and sensations which are not directly experienced can be conceived of as having an existence, experienced by him/her. The act of constructing Others is unpleasant, but most of us, for lack of any better way to think, find ourselves performing it most of the time, trapped in the structures which help to impose order upon the mass of variation that is the world.¹⁶⁸

CMC can and should be more than a way of exchanging information and sharing dialogue. It is also, perhaps, a way of loosening those traps and seeing the world through the lenses of an Other.

¹⁶⁸ P. Shurmer-Smith and K. Hannam, *Worlds of Desire Realms of Power: A Cultural Geography* (New York: John Wiley & Sons, 1994), 89.

Comparing the projects

The projects are all very different in terms of their content, style, the intentions behind them, etc. In concluding this chapter I have developed a comparison of the ten projects. This comparison is based upon many of the topics covered in this chapter; as well, it serves as a summary (more of a quick sketch) of the considerations that follow. The projects are differentiated in Table 3.1 below. The categories for comparison serve to summarize the differences between the projects and the ways of thinking about CMC.

Transactional - The projects are characterized by four types of communication transactions. The CMC environment may be designed for more than one kind of transaction.

- Inquiring (the CMC is designed to elicit specific kinds of information from the participant).
- Didactic (the CMC is designed as a source of information or knowledge; participation is limited to the one-way flow/information-access).
- Closed dialogic (the CMC is designed for dialogue between participants within a controlled setting. The setting may be controlled by the use of a moderator or facilitator, as well the setting is controlled by *fixing* the parameters of the design).
- Open dialogic (the CMC is designed for dialogue between participants within an open setting. The setting is controlled by the participants themselves and the CMC setting may evolve according to participant needs and desires).

Dynamic - The dynamic nature of the projects describes the extent to which meaning is allowed to shift within the CMC. This can range from the static to the highly fluid.

- Fixed (communication within the CMC is predetermined).

- **Intentional** (communication within the CMC is more fluid but is subject to specific goals and objectives).
- **Fluid** (communication within the CMC is highly fluid, not linked to fixed goals and objective. Goals and objectives may be treated as transitory conditions. Many of the goals and objectives are determined ‘on the fly’).

Functionality - The CMC environments may be compared with respect to the number of different tasks that are allowed to take place. Functionality is associated with Modality described below, where modes of communication may allow for a range of functions (for example in a digital white board setting the user may be required to sketch and comment). Conversely, a particular communication function may require the user to engage different modes of communication (for example watch the video then answer the question). Similarly, the transactions described above may also be understood as consisting of a number of functions (for example one could describe the communication functions required to fulfill specific didactic objectives). Functionality is a relative term and is characterized here as high, medium, and low, where low refers to one or two primary communications functions and high refers to more than eight communications functions.

Modality – CMC environments may take advantage of a number of modes (or forms) of communications. In comparing the projects I describe the modes of communications by their technological differences such as recorded digital video, chat room, forum, 2D hypermedia, 3D visualizations, virtual reality, interactive databases, e-mail communications, live controllable digital video, etc. The CMC modalities may be associated with the Key Features described below (although some of the key features may be multimodal). Modality is also a relative term characterized here as high (greater than ten modes of communication) and low modality (less than four modes of communication).

Key Features – Key features refer to the ways that the modes of communication have been brought together to perform specific communication functions (for example,

combining a visualization technique with questionnaire technology to get community feedback on specific issues) or the types of communication functions that take place within a mode of communication (e.g., the facilitated brain storming session may take the user through a series of steps that move from the vague to the specific). Key features are descriptive (iconic) terms that are used to identify the unique characteristics of the CMC setting. Key features can be associated with communication activities (a feature describes a situated action).

General Description – The General Description is a term that summarizes the intention(s) behind the design of the CMC setting. The general descriptions of the ten projects are:

- Research tool (CMC environment developed for researchers to study user preferences to sustainable community-design alternatives).
- Didactic hypermedia (hypermedia environment designed to provide communities with sustainable community-design information and knowledge).
- Conceptual design (design proposal for CMC settings).
- Participatory simulation (CMC environment to allow participation in online version of traditional (face-to-face) participatory urban design method).
- Participatory constructed (CMC environment built through user-system designer interaction).

Vocality - Vocality refers to the communications between individuals using the CMC environment. Vocalities are not necessarily limited to text messaging and can include visual communication strategies. Vocalities in the ten projects include:

- Uni-vocal (system characterized by a single authoritative voice).

- Bi-vocal dominated (system is characterized by two voices in some form of conversation. This includes the hypertext or hypermedia that the participant experience and their responses).
- Bi-vocal (potential for equal two way conversation such as through e-mail).
- Poly-vocal controlled (potential for multiple participants to engage in a conversation that may be controlled by a moderator or by the theme of the discussion area).
- Poly-vocal edited (potential for multiple voices to be included in an edited multimodal CMC environment. In this case there is limited opportunity for on-going dialogue).
- Poly-vocal open (potential for multiple on-going conversations to be included in an open multimodal CMC environment. In its simplest form this might take place in a well-structured setting (for example, an online forum), or alternatively it may take place in a *participatory-constructed* setting (where the CMC environment is constantly being revised)).

Design Orientation - Design Orientation refers to the theoretical biases of the system designer. In other words, is the system designer primarily interested in the technology or in the user? The two approaches are described as computer-centered and user-centered approaches. Under the user-centered approach I am interested in four ways of engaging in CMC design (ethnographic investigations, contextual design, context aware design, and interpretivist design).

- Computer-centered (is an approach to CMC design that focuses on the potential uses of the technology and applies the technology to the given situation).
- Ethnographic investigation (is a user-centered approach to CMC design that begins by studying user culture behaviours and practice and applies those findings to the system design).

- Contextual design (is a well-structured user-centered approach to CMC design that incorporates ethnographic investigations).
- Context-centered design (is a form of human-centered design that contextualizes the interaction of users and tools within the motives, community, rules, history, and culture of the users. Context-centered design may also associate CMC with the users' real world environment and is related to the field of ubiquitous computing.)
- Interpretivist approach (is a user-centered approach to CMC design that is based upon a social construction of technology framework. The CMC should represent a negotiation between the users.

Semiotic Focus – The semiotic focus refers to the semiotic dimension that became the principal focus of the work. All projects require some degree of attention (consciously or subconsciously) to all four of the semiotic dimensions (semantic, syntactic, lexical, and pragmatic). The semiotic focus is the dominant dimension in the particular case of the CMC design inquiry. Based upon my own subsequent reflections I believe that I have tried to develop a semiotic focus for each of the projects based upon the first three semiotic dimensions (semantic, syntactic, lexical). The pragmatic dimension is taken up by what I refer to as the dialogic orientation.

- Semantic (the determination of sign systems specific to communication modalities, the determination of sign systems specific to sustainable community-design concepts, the determination of the appropriate sign vehicle (based upon the available modalities) for realizing the pragmatic concerns).
- Syntactic (this includes the arrangement of sign types on an individual web page, the arrangement of web pages into networked structures (often identifiable by the arrangement of sign types) sometimes approaching abnormal rhizomatic structures, the

arrangement of modalities specific to desired functions, and the arrangement of desired functions for generating desired effects (both communicative and strategic)).

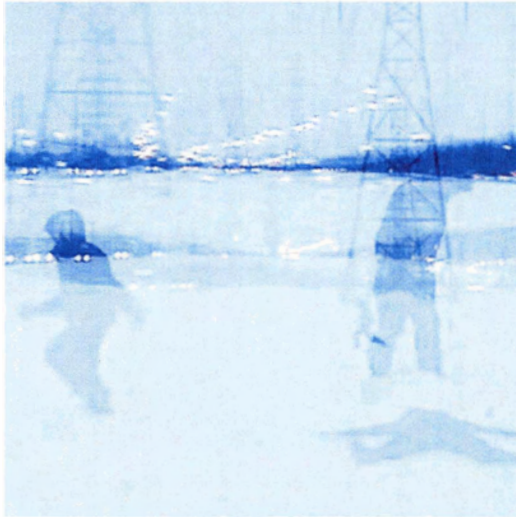
- **Lexical** – (I view the lexical dimension in CMC design to be a concern with the sources and intentions behind the use of signs and sign systems. In other words it is looking beyond the semantic and syntactic dimensions into the conditions of emergence of CMC environments. In part, this may be considered to be a phronetic activity, an activity about questioning the relationships between the sources of communication and the modes, media, functionality, dynamics, and vocality that permeate the CMC environment. In the life of each project different vocabularies emerge (textual, graphic) that are also a reflection of (participant and/or system designer) values, interests, and power relations. The semiotic focus can be approached as either a hermeneutic activity occurring after the fact or as a radical hermeneutic enterprise that is on-going throughout the life (real and imagined) of the CMC environment).

Dialogic Orientation - In the chapters that follow I attempt to link CMC design to conceptual perspectives of knowledge. I argue that our systems of knowledge are reflected in our approaches to computer-mediated communication and infused into the CMC environments that we build. I consider my own case studies as reflections of different systems of knowledge that attempt to become increasingly dialogic in nature. I don't necessarily regard the systems of knowledge as always being mutually exclusive, but instead I believe different systems of knowledge subsume and/or displace others as values, interests, and power relations begin to influence urban design praxis. In my own deliberations about the projects I reflect upon a number of philosophical perspectives and show how they can be part of the design and development of CMC environments. I relate a number of ontological and epistemological perspectives to CMC and SCD design thinking and I illustrate how these perspectives impact our methodological considerations about CMC development for an evolving urban design praxis. Each of the projects is characterized by one of these perspectives, which may be viewed as reflection of my own CMC design intentions.

- Empirical (CMC design is based upon empirical objectives, either as a tool for gathering knowledge or as a tool for disseminating knowledge).
- Critical hermeneutic (CMC design, either as a response to a critical theoretical concern or as a means of engaging in critical reflective praxis. The critical hermeneutic approach may be used to distinguish the CMC environment as either strategic or communicative).
- Conscientizing (CMC design as a means of supporting a praxis of conscientization. The CMC design may be linked to life goals and objectives identified by the user community).
- Edifying (CMC design as a reflection of a process of edification, resembling a form of open-ended design inquiry. This involves adopting abnormal discourses (and new lexical sources) as part of the communication space. This also involves a reflective praxis of building CMC environments as means of coping).
- Radical hermeneutic (CMC design as a reflection and/or adaptation to changing systems of knowledge).

Topics	Hypermedia Questionnaire	SCD Web Site	3D Visualization Questionnaire	Traditional to On-Line	Cutlers' Assemblage	Interactive Display Prototype	Ethnographic approach on- line studio	Placegames	Living Prairie Weblog	Landscape Change Landscape Loss
Transaction	Inquiring	Didactic	Inquiring	Closed dialogic	Closed dialogic	Closed dialogic	Open dialogic	Open dialogic	Open dialogic	Didactic
Dynamic	Intentional	Mostly fixed	Intentional	Intentional/fluid	Intentional/fluid	Intentional/fluid	Fluid	Fluid	Fluid	Mostly fixed
Function	Low	High	Low	Low	High	Medium	High	Medium	Medium	High
Modality	Low	Medium	Medium	Low	High	Medium	High	Low	Medium	High
Key Features	2D hypermedia questionnaire	SCD design features, SCD Case Studies, on- line forum	Integrated Hypermedia, 3D visualization, questionnaire, VR	Custom built facilitator oriented discussion areas	multi-featured design concept (visual simulations, sketch pads, forums, etc.	digital whiteboard, image posting, digital forum	digital whiteboard, image posting, digital forum, 3D visualizations, VR	digital surveillance, image analysis, on- line feedback	weblog, visualizations, link editing	3D visualizations, on-line graphic database, map linked video library
General Description	research tool	didactic hypermedia	research tool	participatory simulation	conceptual design	participatory simulation	participatory constructed	conceptual design	participatory constructed	didactic hypermedia
Vocality	bi-vocal dominated	mostly uni-vocal	bi-vocal dominated	poly-vocal controlled	poly-vocal open	poly-vocal controlled	poly-vocal open	poly-vocal controlled	poly-vocal open	poly-vocal edited
Design Orientation	interpretivist	interpretivist	interpretivist	interpretivist	interpretivist	interpretivist	interpretivist	interpretivist	interpretivist	interpretivist
Semiotic Focus	semantic	semantic/syntactic	syntactic	lexical	syntactic	semantic/syntactic	lexical	lexical/syntactic	lexical	lexical/syntactic/semantic
Dialogic Orientation	empirical	empirical	empirical	critical hermeneutic	critical hermeneutic	critical hermeneutic	conscientizing	edifying	radical hermeneutic	edifying

Table 3.1



Chapter 4 - PLACEMAKING AND THE NATURE OF THE KNOWABLE

THE TOBOGGAN HILL

I grew up in a small town on the edge of a mid-western Canadian city. The town was characterized by two things: it was French and it was Catholic. It was also its own little fortress buttressed on its sides by a Catholic monastery, a Catholic convent run by the Grey Nuns that doubled as a school, a monolithic Catholic Oblate mission, a Catholic retreat, an outdoor Catholic chapel and, of course, a Catholic church. What strikes me now is how closely tied my memories of place were to the dominant system of beliefs. When we had a parade, it was usually part of a Catholic ceremony, which ended up at someone's house that coincidentally had been converted into a temporary Catholic chapel. If we found a dead animal we would gather up the kids and put on a mock Catholic funeral. One of my older protestant friends would ironically respond by putting on a Protestant funeral if ever a cold-blooded animal was found. There was one significant hill in this prairie town where we could go tobogganing. It was built on top of a Catholic grotto where we would occasionally attend summer services. One winter one of the kids fell off the front of the grotto, which resulted in the leveling of the hill. I would think about how easily things changed, how removing such a thing of significance for my friends and I was just like letting air out of a balloon.

As I think back about my childhood town I consider how place, actions, and meaning seemed then to be intrinsically linked but seem in hindsight to have been strategically developed. What we did, who we were, and where we lived were all consequences of the beliefs that we held, beliefs that were prescribed for us, beliefs that united us in our goals and in our imaginations. Back then knowledge about the world that we lived in was made stable for us, a stability that came from interpretations of the Word of God and optimistic outlooks about the possibilities of science. Today I am part of a much more secular culture, a culture that resists dominant fixed narratives and is often suspicious about the impacts of our scientific achievements. It is a culture in which knowledge has lost its shoring. This dissertation flows from a recognition of this loss and an optimistic vision that knowledge, understanding, and hope for our physical environment may come from dialogue.

This thesis is not about replacing that shoring; instead it is about trying to get at ways of coping with place when knowledge is cast adrift. I begin with two theories of knowledge that nudge it from its fixations while controlling its drift with a tether of critical thinking. I then turn to a third way of looking at knowledge that commits it to the winds of change. These ways of thinking derive mainly from three theorists, the political theorist and educator Paulo Freire, the critical social theorist Jürgen Habermas, and the pragmatist philosopher Richard Rorty.

After discussing these theories of knowledge (ontologies) I outline three projects that used new media for studying and disseminating ideas about sustainable community design. I then discuss how different views concerning ontology can be used to influence new media research. The intentions behind this exercise are twofold. First, I consider the relationship between ontology and communication. Second, I try to show how ontology can influence the ways that we think about computer-mediated dialogic space. Although I am dangerously close to mixing my metaphors, I will return to the toboggan hill for a moment. In this work I am not trying to tease out a new theory of knowledge or to differentiate differences between meaning, language, and action. I want to think about how to *let air out of the hill*, how to think about meaning, language, and action as they

come together to change the ways that we change ourselves and the places in which we live.

PAULO FREIRE AND THE GNOSIOLOGICAL RELATIONSHIP

Paulo Freire was a Brazilian educator who believed education was more than a way of transferring knowledge. For him it was a source of individual liberation and empowerment. The dialogical, according to Freire, has a revelatory relationship with the knowable. Language not only represents the world in a signifier-sign relationship but also reveals truths about the world that only can be made available (knowable) through inter-subject relations. Subject-subject, or inter-subject relations “allows them to mediate together in relation to knowing ... what [Freire] calls the ‘gnosiological relationship’.”¹⁶⁹ This is an ontological view that knowing the world (of objects) develops from subject-subject exchanges. This is an iterative process of dialogic action and individual reflection.

The gnosiological relationship is a helpful concept as we begin to consider problems of understanding our world in sustainable terms. Subject-subject exchanges are particularly important means of uncovering what we take for granted. As an educator Freire’s primary concern was with how education served as an oppressive force in society; he was interested in developing a pedagogy of liberation. For Freire the oppressed must recognize that they are also part of their own oppression.

Only as they discover themselves to be “hosts” of the oppressor can they contribute to the midwifery of their liberating pedagogy. As long as they live in the duality in which *to be* is *to be like*, and *to be like* is *to be like the oppressor*, this contribution is impossible. The pedagogy of the oppressed is an instrument for the critical discovery that both they and their oppressors are manifestations of dehumanization.¹⁷⁰

For participants in the sustainable community this translates to a critical discovery that we are not simply affected by the systems and structures that determine how places work

¹⁶⁹ Morrow and Torres, 35.

¹⁷⁰ P. Freire, *Pedagogy of the Oppressed* (New York: Continuum, 2003), 48.

or how places are built. We are also part of our own oppression in the unsustainable ways that we build, buy, and *live*. We are part of our own oppression when we choose to not participate in the resistance of our own oppressions.

Within the urban condition the gnosiological relationship may be seen as a purposeful way of reconnecting us to place, reconnecting our actions to their consequences, reconnecting us (through our understanding) to the deliberate absences of urban living. This is a critical hermeneutic enterprise about considering not only what we say but also what we do. This means that our interpretation within the gnosiological relationships involve treating our everyday actions as forms of utterance that are perhaps more powerful than that which we actually say. These utterances of everyday living become the subject of ongoing reflection and interpretation of our relationships with the world and those with whom we share our lives.

Freire's ontological view of dialogue may also be seen as a starting point for designing new media to support discourse. This includes not only how the media supports the nature of gnosiological relationships but also how it supports our own personal interpretations and relationships with place. For this to be possible it means that the new media must be more than a way of providing or accessing information (parallel to Freire's critique of teaching pedagogy concerned with *banking information*). This also means new media must be about new possibilities for us to become involved in our own education, in what Freire refers to as *educational projects* "carried out with the oppressed in the process of organizing them."¹⁷¹ This is opposed to *systematic education*, which is directed at dealing in specifics that are reflections of prevailing political and economic ideologies. The sustainable community pedagogy exists, at least in large part, outside of the frameworks of educational institutions. For placemaking, the Internet should be thought of as media that suspends (holding or supporting media) local *educational projects* which are realized in alternative symbolic communities.

¹⁷¹ Freire, *Pedagogy of the Oppressed*, 54.

But we should also be concerned with the new forms of oppression that the new media might introduce. It may be possible that the media itself changes the meaning by supporting and limiting different types of action or providing support for different types of qualitative and quantitative reflections. If new media is to support the gnosiological relationship we must also be concerned with the ways in which it supports and facilitates new reflective possibilities to frame educational projects. We must also look critically at how the media itself frames and limits reflective potentials. This could mean, for example, that we treat consensus building (and new media that support consensus building) not as ways of resolving conflicts but as ways of building shared knowledge of our physical social realities.

According to Morrow and Torres, Freire views dialogue as the basis of knowing in society, where true dialogue is grounded in honest human relations.

Dialogue is thus grounded in several fundamental forms of relationship that are ontologically the conditions of possibility of human society In short, dialogue presumes a matrix of interaction grounded in relations of “empathy” that are “loving, humble, hopeful, trusting, critical”. Further there must be linguistic media of communication through which these relationships can be made comprehensible.¹⁷²

It is these ontological conditions of possibility that could lead to a dubious attitude concerning the use of new media technologies in placemaking discourse. Concerns about humility, trust, and hope often result in having to look someone in the eye, give someone a hug, or share a handshake. Following Freire’s approach to critical hermeneutics means that our questions concerning the real potential for media become even more complicated. Does computer-mediated communication limit conditions for realizing empathy and love? Can it provide new ways of knowing what we mean by empathy and love?

Perhaps a more realistic approach would be to look at how new media might be able to support comprehension. This may be through heuristic programs that interpret agreement (recognize when agreement has been reached) and/or heuristics that identify differences

¹⁷² Morrow and Torres, 37-38.

in comprehension based upon differences in linguistic patterns (do we seem to mean the same thing when we say *measure*?). One might imagine having at your disposal a *humility checker* that operates on text in the same way that a grammar checker works. Like the theoretical humility checker, new media technologies that support the ontological conditions of possibility should be considered in reverse, conceived as tools that recognize anti-dialogical action (the three strikes and you're out domination filter, the alienating attitude identifier). As ludicrous as these ideas might sound, and they may be difficult and questionable tools to implement, they could easily be imagined as part of a participation facilitator's or web moderator's tool kit. Keeping with the spirit of Freire's ontology however, these tools would be better situated within democratically constituted decision-making contexts.

What begins to fall out of this sort of thinking is an understanding of the nature of questions regarding our actions and what constitutes ethical placemaking practices. Questions about how we should proceed, such as how to decide about the *best* design solution, become bounded in the active ontology. What I ought to do is a direct consequence of what *knowable* means. If to *know* is a condition of dialogue in a matrix of interactions of relations of love, hope, empathy, etc., then answers to the *what ought I do* questions (especially those about the nature of dialogue) must be interpreted according to the same matrix of interactions of relations. In the current example, adopting Freire's ontological views would mean that the appropriateness or inappropriateness of using facilitators or moderators in dialogic situations should emerge from the dialogic situation rather than impose upon it. Similarly, the appropriateness or inappropriateness of using and even developing technologies that impose structures over dialogue should become dialogic event-driven decisions determined by the participants from within the community.

In the gnosiological relationship answers to questions concerning the appropriate development of technologies would be determined within purposeful contexts that come from active dialogue which is based upon mutual respect for one another and grounded in concerns about empathy, love, humility, hope, trust, and critical reflection. Concerns

about empathy and love are considered determinants of real dialogic contexts. In this way of thinking formulating good judgements is not simply the outcome of critical, logical discourse. Rather, good judgement is about finding empathetic solutions to real world problems that come from the contradictions and paradoxes inherent in everyday society. This is a view that knowledge, useful meaningful knowledge, occurs where empathy, love, and trust influence what we know as truth and what we accept as understanding.

Part of the challenge of thinking about sustainable communities is whether or not concerns about empathy, love, and trust can be extended beyond our considerations for one another to a way of thinking about the physical environment. If such an approach is appropriate (taking for example an environmental ethics view over a conservation ethics view of the world) how do we deal with the contradictions that arise between human needs and other needs in the real world? Who determines the priority of needs, and how? A sustainable community design response to Freire may be thought of as developing creative alternatives to the making of place based upon empathy, love, and trust in people and the environment. This concept of design evolves in the commitment by a community to actively engage in the processes of bringing about physical change while giving care and consideration to each other and to their environments. This is a view of SCD that incorporates placemaking principles and considers useful important knowledge to be the result of dialogic relationships between people who are committed to environmental considerations. It is a view of knowledge where scientific and hermeneutic ontologies come together to mix their meanings and resolve their differences through shared knowledge and critical reflection.

HABERMAS AND THE ONTOLOGY OF COMMUNICATIVE ACTION

If our ontological positions are different then it would follow that the ways that we construct dialogic situations and think about technologies that support dialogue would also be different. Jürgen Habermas also considers language and discourse to be central to answering ontological questions concerning the nature of the *knowable*. However, in the Habermas ontology truth is not based upon an action/reflection model that grounds

concerns in empathy, love, humility, hope, trust, and critical reflection. Habermas believes that truth is based upon validity claims and our development of competence in the interpretation of validity claims. He describes this as the *theory of communicative action*.

I call interactions *communicative* when the participants coordinate their plans of action consensually, with agreement reached at any point being evaluated in terms of the intersubjective recognition of validity claims I distinguish between communicative and strategic action. Whereas in strategic action one actor seeks to *influence* the behavior of another by the threat of sanctions or the prospect of gratification in order to *cause* the interaction to continue as the first actor desires, in communicative action one actor seeks *rationally* to *motivate* another by relying on the illocutionary binding/bonding effect (*Bindungseffect*) of the offer contained in his speech act.¹⁷³

Habermas' *theory of communicative action* differentiates between claims to knowledge and truth according to their source. Habermas' hermeneutics involves the systematic approach, or method, for uncovering the sources of knowledge conceived as forms of either strategic or communicative action. *Strategic action* always begins with a predetermined point of view. Claims to knowledge and truth are seen as the result of supporting or refuting a point of view. Strategic action is directed to preconceived solutions or intentions. Technology is usually suspect and viewed as a means of supporting and implementing specific strategies. In my own computer programming experiences this has a strong resonance, where system structure (available algorithms, graphic user interfaces, etc.) is subject to the developers ability to predict and thereby predetermine the users needs.

Developer and often designer driven approaches to building our urban fabric are forms of strategic action. All too often our cities are the result of the strategic actions informed by profit maximizing short-term capitalistic motives. Sustainable design concerns enter into development scenarios as ways of marketing the neighbourhood as being *green*. Not all *green* design is actually that *green*, more accurately it is *green* enough to substantiate a

¹⁷³ J. Habermas, *On the Pragmatics of Communication* (Cambridge: The MIT Press, 1998), 119.

limited *green* discourse (which may be considered in terms of its potential as a market strategy).

In other sustainable community developments strategic actions are the result of the overly literal interpretation of prescriptive set of rules or design guidelines with little consideration given to the specific of the physical context of the desires of the local residents. A checklist driven design process, for example, a simple (lacking critical local considerations) application of the LEED building specification, could be thought of in this manner. The strict adherence to these types of specifications may be thought of as strategic action since the principal way of rationalizing needs and desires is the result of pre-determined rules. This is a way of thinking about sustainable design knowledge as bracketed by identifiable (quantifiable) criteria and rules and strategies and solutions (epistemological and methodological considerations). Hence, the nature of the knowledge is often limited by the methods we determine are appropriate for solving a given *type* of problem (a prescriptive approach to the physical design process).

Understanding, within the context of *communicative action*, is the result of consensus built upon the realization of shared knowledge. Communicative action is not bound by predetermined ways of acting or understanding; rather it is a *condition of possibility*.

In identifying strategic action and communicative action as types, I am assuming that concrete actions can be classified from these points of view. I use the terms "strategic" and "communicative" not merely to designate two analytic aspects under which one and the same action can be described—on the one hand, as a reciprocal influencing of one another by agents acting in a purposive-rational manner and, on the other hand, as a process of reaching understanding among members of a lifeworld. Rather, social actions can be distinguished according to whether the participants adopt either a success-oriented attitude or one oriented toward reaching understanding. And, under suitable conditions, these attitudes should be identifiable on the basis of the intuitive knowledge of the participants themselves.¹⁷⁴

In other words, that which is knowable through communicative action emerges through the possibilities resulting from dialogue. Mutual understanding occurs when we

¹⁷⁴ Habermas, *Pragmatics of Communication*, 119.

recognize and resist domination. The developer's approach to neighbourhood design, even in its attempts to be sustainable, should be critically inspected in terms of how they act as forms of domination. As domination invades processes of communicative action it transforms them into strategic action (albeit often covertly). As sustainable community-design dialogue becomes more and more about prescriptive knowledge (akin to systematic knowledge) instead of a source of shared possibilities, then it too must be addressed as a potential source of domination.

For Habermas communication takes place not simply by saying something to someone else but when "*one says something to someone else in a way that allows him to understand what is being said.*"¹⁷⁵ It is in this understanding of communication that the speaker becomes morally (distinguishing between right and wrong conduct) obliged to ensure that the other members participating in the communicative action are allowed to understand.

Communicative action, oriented toward consensus and mutual understanding, is more closely aligned with Freire's action/reflection model of communication than is strategic action. Communicative action is thought to be a more broadly inclusive approach to dialogue than strategic action, undermining sources of domination that suppress communication while recovering *truth* through processes that are oriented towards the building of consensus and reaching mutual understanding. The differences between strategic action and communicative action echo differences in attitude and approach toward computer-mediated communication (CMC) development.

We call an action oriented toward success instrumental when we consider it under the aspect of following technical rules of action and assess the degree of efficiency of an intervention into a complex of circumstances and events. We call an action oriented toward success strategic when we consider it under the aspect of following rules of rational choice and assess the degree of efficiency of its influencing the decisions of a rational counterpart in action. Instrumental actions can be connected with social interactions; strategic actions are themselves social actions. By contrast, I speak of communicative action whenever the plans of action of the actors involved are coordinated not through egocentric calculations of success

¹⁷⁵ Habermas, *Moral Consciousness*, 24.

but through acts of reaching understanding. In communicative action participants are not primarily oriented toward their own individual successes; they pursue their individual goals on condition that they can harmonize their plans of action on the basis of common situation definitions. To this extent the negotiation of definitions of the situation is an essential component of the interpretive accomplishments required for communicative action.¹⁷⁶

Strategic action is characteristic of the development of many of today's online technologies (chat rooms being the most obvious exception). For example, many computer-supported cooperative work settings are designed to support what are called exchange relationships. In the exchange relationship the dialogue that is supported is highly specific, providing *required* knowledge such as product information, delivery schedules, and ordering procedures. Technologies that support exchange relationships are often measured in terms of success with respect to the needs of the seller and the buyer. Although other measures such as trust and familiarity in the seller-buyer exchange may also determine what the technologies include, these measures are usually secondary to questions of efficiency.

Understanding the strategic use of new media technologies involves uncovering the domination that exists as a result of, or is implicit in, the use of the media. This involves domination both at the level of discourse, how to *speak* to each other, as well as at the level of production (software development). In the latter case the domination may always exist because adopting a technological approach predetermines how work can be produced. In professional design contexts CMC technology would, for example, have to reflect the design teams' adopted design conventions. For example, architectural drawings usually have to conform to specific conventions of visual expression (from the symbols used to represent objects in space to the kinds of information that are compiled into a specific drawing type, layering conventions, relational data base structures, etc.). The adoption of a given form of visual expression would have a direct consequence on the nature of the virtual exchange relationship and would consequently impose constraints on the design of the collaborative design setting. The design of a professional online virtual exchange setting would have to facilitate issues concerning file formats,

¹⁷⁶ Habermas, *Pragmatics of Communication*, 118-119.

layering systems, shared symbol libraries, etc. If such a system is narrowly defined then participants are limited in the ways that they can *speak* to one another using the same technological language. If the system is too open, if the language has too many possibilities, cooperation between the participants may be hampered because too much time is spent translating what each other is saying and/or translating the information being exchanged to formats that each individual prefers using.

Herein lies one of the ironies affecting the design of our cities. By restricting our design expression (such as having everyone working with the same design software) we limit the possibilities for advancing our shared understanding through communicative action. We limit the types of information that we choose to share. At the same time restricting design language (for example, information format consistencies developed for a particular office environment) often results in greater production efficiencies and improved collective understanding of design intentions. In the simplification of our design language we make our work more legible (easier to read) while introducing a form of domination over the individuals potential for creative design exploration. On the one hand we may facilitate *good judgement* by ensuring, for example through drawing conventions, that we all mean the same thing when we put it down on paper. On the other hand we may also be limiting good judgement by limiting alternative forms of expression. We must ensure that the shared languages are at the same time comprehensible and effective.

For good judgement to occur it is not enough that our utterances are accurate; for Habermas they must be understood as valid. In ensuring that we are saying things in ways that are understandable by others we commit ourselves through an utterance of language, spoken or written word, and arguably visual representations, to three types of validity claims.¹⁷⁷

In cases where agreement is reached through explicit linguistic processes, the actors make three different claims to validity in their speech acts as they come to an agreement with one another about something. Those claims are claims to truth, claims to rightness, and claims to truthfulness,

¹⁷⁷ Action may also be considered to be a form of utterance subject to interpretations similar to other verbal or textual utterances.

according to whether the speaker refers to something in the objective world (as the totality of existing states of affairs), to something in the shared social world (as the totality of the legitimately regulated interpersonal relationships of a social group), or to something in his own subjective world (as the totality of experiences to which one has privileged access).¹⁷⁸

Placemaking involves all three types of claims to validity. Truth claims support much of the analytical part of design inquiry. These are claims concerning the conditions of the physical and social realities that define a design context. These claims are often the results from careful site analysis and are usually quantified through interpretive techniques that can be replicated. In a sustainable community-design scenario truth claims may be derived from the evaluation of site conditions that look at such things as the makeup of the soil, drainage patterns, landscape ecological structure, microclimatic conditions, and so on.

Claims to rightness reflect our interpersonal relationships with others and the kinds of shared meaning that can come from these relationships. In some cases these validity claims are the direct result of professional interdisciplinary dialogue. In other cases claims of rightness reflect the dialogue that develops between the client and the designer. In placemaking contexts, claims of rightness are reflected in methods and strategies for community inclusion in the design process. Claims of rightness in placemaking involve how people come together to reach consensus and shared meaning about conditions of the real world and to find ways to translate such meaning into shared-design intentions. For example, claims of rightness are about sharing our personal visions about living in a sustainable community (how individual actions contribute to the whole) or participating in a design process (individual commitment to methods and strategies where design knowledge is shared). Claims of rightness can also represent a shared vision about the nature of dialogue, realized in even the simplest terms such as a shared excitement regarding implicit design potentials. It is through expressions of one's relationships to others that placemaking utterances are more than representations of information, they are

¹⁷⁸ Habermas, *Moral Consciousness*, 58.

reflections of personal commitments to realizing a different future. These claims for rightness are about considering that the *right thing to do* comes from reflecting upon actions in a social world, actions that not only have consequences on others but actions that are also part of dialogues with others.

For Habermasian hermeneutics the way that we interpret the world involves the interpretation of our utterances. Hermeneutics for Habermas:

... deals simultaneously with the threefold relationship involved in an utterance, which serves as (a) an expression of a speaker's intention, (b) an expression of the establishment of an interpersonal relationship between speaker and hearer, and (c) an expression about something in the world.¹⁷⁹

For Habermas, hermeneutics are dislodged from the careful inspection of the fixed text. For him they are a way of watching language at work, a way of seeing language as it brings about "common understanding or a shared view."¹⁸⁰ The threefold relationship of the utterance means that we are never simply speaking about the object; we are also saying something about our relations with others in our social world, as well as something about our own (personal) relationship with everyday life. For example, consider the statement: The design of a new community should be based upon a public transportation system. As a world expression, the statement represents a conceptual ideal regarding a sustainable design feature that could be part of a real world solution. At the same time, the statement is about establishing a personal relationship between oneself and others who are concerned about transportation. The shared personal relationship that one might be trying to establish may simply be about seeking collective ways to adopt less consumptive lifestyles. The intention behind such a statement might simultaneously be about linking concerns about consumption to concerns about transportation. For Habermas the foundation of all claims to truth "are embedded in a shared desire for understanding."¹⁸¹ The shared desire for understanding implies an obligation to making *validity claims* understandable and commits individuals to become better at understanding others (developing interpretive competence).

¹⁷⁹ Habermas, *Moral Consciousness*, 24.

¹⁸⁰ Habermas, *Moral Consciousness*, 25.

Hermeneutics, as watching language at work, subjects the threefold relationships of the *utterance* to concerns for comprehensibility, truth, sincerity, and rightness. The comprehensibility of a sustainable community-design proposal (utterance) should be an accurate reflection of the state of things (how the speaker sees the world) and of the state of what things could be. The proposal should be truthful in the sense that the speaker believes in the (economic, environmental, social) basis for the proposal. It must be presented in a manner that supports shared understanding and is an accurate reflection of the intentions of the person making the utterance.

In a sense people actively engage in this type of critical hermeneutics as part of most conversations. In trying to make sense of what a speaker says, the interpreter asks if the speaker makes sense, if the statements appear to be truthful, if the speaker is sincere, and whether or not one can agree with the conclusions. The interpretation of a placemaking utterance, such as a design proposal or the value of implementing a specific design feature, would also include critical considerations concerning criteria of comprehensibility, truth, sincerity, and rightness with respect to how the utterance corresponds to the real world. The difficulties arise when the interpretations of these utterances require critical considerations that are beyond the abilities of the interpreter, such as the use of professional jargon or abstract visual representations. Similarly, it may be difficult to surmise the sincerity of the speaker's intentions and to predict how a speaker's intentions will translate into longer term commitments to the community.

RICHARD RORTY: EDIFICATION AND CONVERSATION

The American philosopher Richard Rorty places the idea of conversation at the centre of his form of (humanistic) pragmatism. For Rorty it is important that we break down the distinction between empirical reasoning and hermeneutics since, he would argue, all types of understanding are essentially hermeneutic. By this Rorty means that all systems of knowledge are rooted in interpretations constructed as conversation and agreement.

¹⁸¹ Morrow and Torres, 41.

For Rorty, philosophy's focus upon the nature of the knowable or the nature of reality misses the point. This focus is what he refers to as the *mirroring of nature*. Instead Rorty argues that the best that we can ever do is to be a critical part of the conversation and, more interestingly, to be involved in finding new, alternative conversations, ways of speaking, and ways of seeing. This is about resisting the domination of established discourses and uncovering the potential of what might be considered to *be abnormal discourses*. Our tendency to resist dominant forms of explanation is part of what Rorty calls an edifying philosophy.

One way of thinking of wisdom as something of which the love is not the same as the argument, and of which the achievement does not consist of finding the correct vocabulary of essence, is to think of it as practical wisdom necessary to participate in conversation. One way to see edifying philosophy *as* the love of wisdom is to see it as an attempt to prevent the conversation from degenerating into inquiry, into a research program. Edifying philosophers can never end philosophy, but they can help it from attaining the secure path of science.¹⁸²

The edifying philosopher is not interested in trying to explain phenomena. Instead he/she is concerned with finding ways of coping with everyday life ironies and the contingencies of language. This is about being part of an on-going discussion of what it means to be human. It is a philosophical position that shifts the attention from ontological concerns (and research programs) to everyday pragmatic concerns.

The alternative to the epistemological *contribution to knowledge* is a radical hermeneutic enterprise, about finding ways of letting go, un-mooring knowledge from its own fixations, providing few answers and multiple paths, and searching for practical wisdom to engage in conversations about the making of place. These paths are best understood perhaps as ways of releasing one's own hermeneutic enterprise. For example, rather than thinking about geography as a discipline engaged in grand narratives of explanation (discourses) that engage in pursuits of replicable knowledge, a project that has dominated academic dialogue for centuries, geography may be thought of as an edifying philosophy committed to hermeneutics.

¹⁸² R. Rorty, *Philosophy and the Mirror of Nature* (Princeton: Princeton Univ. Press, 1987), 372.

... hermeneutics is not the name for a discipline, nor for a method of achieving the sort of results which epistemology failed to achieve, nor of a program of research. On the contrary, hermeneutics is an expression of hope that the cultural space left behind by the demise of epistemology will not be filled – that our culture should become one in which the demand for constraint and confrontation is no longer felt Thus epistemology proceeds on the assumption that all contributions to a given discourse are commensurable. Hermeneutics is largely a struggle against this assumption.¹⁸³

From this perspective the hermeneutics endeavours of placemaking may be thought of as participating in struggles against commensurable discourses. I would like to think about placemaking as an approach to edification, an expression of individual hopes and ethics, and a continued search for relevance realized through our participation in conversations about meaning and our collective actions in everyday life.

Placemaking as an approach to edification involves continually searching for the means to *cope* with place. I interpret Rorty's idea of coping in terms of uncovering potentials (new ways, new ideas) that involve pragmatic reflections about living and affecting place. Placemaking is an edifying philosophy that involves keeping hopeful, ethical (one aspect of which may be sustainable) conversations alive and realizing new (abnormal) conversations as ways for communities to cope with bringing change to place.

I shall use "edification" to stand for this new project of finding, new, better, more interesting, more fruitful ways of speaking. The attempt to edify (ourselves or others) may consist in the hermeneutic activity of making connections between our own culture and some exotic culture or historical period, or between our own discipline and another discipline which seems to pursue incommensurable aims in an incommensurable vocabulary. But it may instead consist in the "poetic" activity of thinking up such new aims, new words, or new disciplines, followed by, so to speak, the inverse hermeneutics: the attempt to reinterpret our familiar surroundings in the unfamiliar terms of our new inventions.¹⁸⁴

Placemaking as an edifying philosophy is about an individual's commitments to difference and change. It is not about explaining or describing the world or finding the

¹⁸³ Rorty, *Philosophy and the Mirror of Nature*, 316.

¹⁸⁴ Rorty, *Philosophy and the Mirror of Nature*, 360.

best way of changing the world. It is about searching for ways of coping with change in the world through dialogue instead of discourse.

The idea of an edifying philosophy also has resonance for this thesis for what might seem obvious reasons. The idea of using CMC to support placemaking may be thought of as ways of supporting new hypermedia vocabularies to construct knowledge and share meaning in different ways. CMC, if thought of as environments that could support public access to maps, images, and text information such as in the Hypermaps described by Laurini,¹⁸⁵ provides new opportunities for collaborative social exchanges built upon established knowledge structures. CMC environments that reflect some of the thinking coming out of SDSS and PPGIS provide local communities with analytical strategies previously beyond their reach. The idea of embedded GIS models packages heuristic knowledge and the potential of artificial intelligence for groups with minimal computational skills and possibly for those with limited financial resources. (I still maintain reservations concerning the dangers of depending on black box solutions). Computer-mediated cooperative work environments (such as exchange relationships) provide lessons about how highly structured communication relationships based upon specific needs might be codified and made more efficient. A real benefit of using the hypertext concept in participatory design is in the exchange of knowledge. By this I am referring to the kinds of hypermedia exchanges that extend beyond the knowledge contained in our representation (including maps and models) to a way of sharing the heuristics about how to extend such knowledge through cooperation. This is about linking with communities not simply to look at what they do or who they are but also to share knowledge about how participation and action are interrelated, understood, and realized. At a technical level this might take place through the exchange of CMC resources (such as DSS's) between communities.

The idea of an edifying philosophy also has resonance for those undertaking design pursuits. Design remains a creative activity. Even within the constraint of established discourses designers look for new metaphors, new ways of attaching meaning to place,

¹⁸⁵ Laurini, *Information Systems for Urban Planning*, 2001.

new ways of satisfying and creating desires, new ways of making environments that we love and want to cherish. Design is a discipline that is always suspicious of the merits of solutions built from prescriptive processes. Established discourse, especially design discourse, carries with it connotations of creative stagnation and social irrelevance. Design is a language of the new, built upon critical interpretations of place and the technical limitations of the real world. Design is an activity of finding new incommensurable ways of seeing the world from the constraints of established discourses and challenging people to think about the built world in new unconventional ways.

WHAT FOLLOWS

In the next three chapters I look at the theories of Freire and Habermas from epistemological and methodological perspectives and I consider how their dialogic and discursive hermeneutics can be applied to computer-mediated communications for sustainable community design. In Chapter Eight I return to Rorty by considering his approach to hermeneutics and his call for engaging in abnormal discourse as a departure from fixed epistemological and methodological pursuits. In Chapters Eight and Nine I consider how the theories of Deleuze and Guattari may be thought of as a useful abnormal discourse for thinking about place-oriented computer-mediated communications. Throughout the chapters that follow, I introduce a number of CMC projects that serve to link theory with practical issues and concerns.



CHAPTER 5 - SCD AND CMC

BUILDING A BUILDING

I was never particularly good at building things. My older brother did that well and so I was usually relegated to the position of the assistant to the assistant. For a number of reasons though I decided I should also design and build a building as a way of learning about sustainable design. For the past five years this project has been a labour of love at a remote location near the end of an abandoned logging road in North-Western Ontario. It was there I began to understand it is not enough to want to act in a sustainable manner; rather one also has to be continually learning about how to act in a sustainable manner. I developed a new appreciation for the ways that things go together, and increasingly I would think of the home as a combination of systems for living.

But this home is also something else, something more than a building. It is a record of learning from doing and a translation of the lessons learned from others. It is a record of my own relationship to the landscape, in every tree that was damaged, in the moss that was trampled, in the rocks that were displaced. Each of these moves is a record of an activity and also a record of an attitude that I have taken to the land. The landscape of that place has such a presence that it can be impossible to ignore. It may be the lack of

such a presence that makes sustainable urban life difficult to imagine. Perhaps sustainable design is more than a prescription for living; perhaps it is also a process of becoming aware of the meaning that we construct to allow us to live.

TOWARDS ONLINE SUSTAINABLE COMMUNITY DESIGN

I begin this chapter by describing three computer-mediated communications (CMC) projects used in sustainable community design (SCD) research. I then consider how the ontologies of Freire and Habermas and the views of Rorty may be used to look at how ideas about knowledge influence and even determine what CMC will look like.

The following three CMHC projects were based upon the premise that public education and participation is essential to advancing sustainable community design. Our research team believed that until the public recognizes the implications of sustainability at the individual and community levels little progress would be made in making cities more sustainable.¹⁸⁶ Our work was an endeavour to advance a discourse on sustainable community-design concepts while investigating innovative design practices in North America and northern Europe.

Our research advanced with the belief that designers working together with experts and the public could provide a broader and richer understanding of sustainable community design. Design praxis and education were considered to form the basis for understanding of what is feasible and desirable in the development of our communities. The three projects discussed in this chapter represent initial explorations into the possibilities of using computer-mediated communications to support design understanding.

¹⁸⁶ The chapter summarizes a paper by P.R. Perron and E. Epp., "Visualizing Sustainability: Educating the public on the nature of sustainable community design," presented at the ACSA International Technology Conference, MIT, Boston, 2000.

The internet and sustainable community design

The world does not speak. Only we do. The world can, once we have programmed ourselves with a language, cause us to hold beliefs.¹⁸⁷

As a working group our research team brought variety of perspectives (that included architecture, landscape architecture, social planning and physical planning) into a dialogue about the meaning of sustainable community design. The initial challenge was to develop hypermedia products that could contribute to the SCD discourse. Part of the idea behind the work was to provide a set of tools that could be used by a community to help facilitate local communities in their own placemaking dialogues. This involved the development of two types of hypermedia questionnaires and the development of an online source book of SCD principles and case studies.

The goal of the SCD projects was to investigate how new media technologies could be used to move concepts of sustainable community design from the academic and professional 'studio' to become useful to communities of users. Primary to our research was the development of a visual and textual sustainable design vocabulary, which was developed in three new media-based environments. The Web site includes sustainable design concepts, demonstrations of empirical work, illustration of built projects, and recent technological initiatives in sustainable community design. The research focussed upon finding new ways of advancing a more innovative and open dialogue between the design disciplines and the public on the nature of sustainable community design.

The initial research project was designed as an interactive hypermedia questionnaire. The second research project, which developed an interactive Internet (world wide web) document, was developed as an extension to the first project. The third research project combined aspects of both previous projects, however, it was oriented toward the use of virtual reality tools and digital video sampling applied in surveys of community design preferences.

¹⁸⁷ R. Rorty, *Contingency, irony, and solidarity* (Cambridge: Cambridge Univ. Press, 1989), 6.

Project Objectives

The objectives behind these projects were twofold. The first objective was to develop and bring together sustainable community concepts into an easily shared design language (visual and verbal that might be thought of as an alternative design epistemology). The second objective was to consider how computer technologies could support design decisions. Our hypothesis was that both the designer and the user could derive a better understanding of the implications of sustainable planning and design strategies using advanced computer visualization (ACV) technologies.¹⁸⁸

Project 1: The hypermedia questionnaire

Hypermedia Tools for the Evaluation of Sustainable Community Design Alternatives with Reference to the Community of Edgemont (1994).

This project began by focusing upon a variety of digital media that would allow non-technical audiences to participate in the design process through the evaluation of sustainable community-design features. Prior to undertaking our research an existing conventional suburban community was redesigned to incorporate a broad range of sustainable community-design features. The conventional and proposed communities differed radically in programmatic, spatial, and formal terms. Working collaboratively with researchers from the University of Calgary, a digital hypermedia document was designed to incorporate 32 survey questions. The document was designed in the 'Macromedia Director', a hypermedia program that provided a linked platform for text and image-based data. This was the only project developed for an environment other than the Internet.

A combination of text and illustrative images, including drawings and diagrams, was developed to outline a series of sustainable community-design features and conventional

¹⁸⁸ In hindsight, a term like *advanced* is always loaded and subject to the research of the day.

community-design features. These formed the basis for a comparative analysis of user preferences at scales that included: the home, the lot and block, and the community. More specifically survey questions addressed: alternative energy sources, conserving water strategies, permeable surfaces for driveways and walkways, street design, property size reductions, diversity of housing types and densities, home offices, public places and neighbourhood centers, community gardens, recycling centers, participation and stewardship roles, and so on.

Two surveys were conducted with two different user groups, one urban and the other suburban (the suburban user group was drawn from the existing suburban community). The hypermedia document allowed users to work forward or backward through the document to cross-reference ideas and to gain further insight into the issues. 'Navigation tools' were provided on screen after the orientation of both survey groups. Almost all the users were able to navigate through the hypermedia document without any assistance from the research team.

The questions posed required the participants to make choices based on economic and environmental criteria in relation to their own preferences. For example, under the heading of 'home' a series of issues were introduced with related questions including:

Energy Conservation: Heating Systems

District heating is an alternative system for home heating that can achieve energy conservation. It is commonly used in many countries. Underground pipes bring hot water heating to the home from a co-generation plant - a plant that produces some electricity as well as hot water. Advantages include no need for home furnace, a net gain of floor space and less energy consumption; utility payment savings of up to 35%.

Question

Assuming for a moment that the district heating system would cost you the same as a conventional heating system, and your utility bills would be reduced by as much as 35%, would you favour a District Heating System over a conventional heating system for your home?

Under the heading of 'Lot and Block', a series of questions were asked regarding the size, composition, and material constitution of the neighbourhood including:

Street Design: Traffic Calming

Traffic calming generally refers to measures which makes drivers more cautious and sometimes make it more difficult for a car to travel at high speed. A 'calm' street includes landscape features, various surface treatments, alternative parking arrangements and changing road alignments. Generally, a narrower 'calm' street is the same cost as a wide conventional suburban street.

Question:

Would you be inclined to choose a 'calm street' design for your home environment, if the width of the road was narrower than conventional street designs, and it meant no additional costs in the initial home purchase price, over and above what a conventional street costs?

Results of the questionnaire were somewhat predictable in that although the public generally favoured sustainable design principles, their responses were less favourable if they had to pay for implementations. For example, 83% clearly favoured street calming. However, when the same question was posed with an additional cost factor to the initial home price from \$500 to \$800 dollars the averaged response dropped to 71%. With respect to the survey, most participants clearly supported sustainable community-design features although preferences were notable between both survey user groups (urban dwellers as opposed to suburban dwellers). Common remarks noted in the survey included: "Why have we not been exposed to these ideas before?" and, "I liked [a particular feature], however, I think it could work better if [changes to a particular feature]".

Research regarding computer-mediated communications usually is conducted to measure the efficacy of the media and/or user satisfaction with the media. With respect to the use of the hypermedia document three observations were noteworthy. First, almost all of the participants felt that the computer visualizations were effective in communicating sustainability issues, and most felt that their understanding of the community-design issues was enhanced because of the media. Second, participants felt that a wider range of

sustainable community-design features should be developed and illustrated and made more widely accessible. Third, the participants were interested in alternative modes of communication, for example, other new media tools as well as alternative models of participating in community-design processes. This would lead to the two CMHC projects that would follow.

Project 2: The SCD Website

The second research project, which built upon the knowledge developed in the first project, was an interactive World Wide Web document entitled:

Visualizing Sustainability: An Investigation into the Use of Interactive Computer Visualization, on the Internet, as a Means of Communicating the Implications of Sustainable Community Design.

The hypothesis was, first, the Internet could advance sustainable community-design issues by taking advantage of visualization techniques; and second, the Internet could serve as a forum for the exchange of public and professional ideas and concerns regarding sustainable community design.

The second project was developed as a WWW hypertext document on sustainable community design.¹⁸⁹ It was a collaborative research project including researchers from the University of Manitoba, the University of British Columbia, and the University of Calgary. Sustainable community-design concepts were identified and defined as 150 sustainable community-design features. Six case studies of built projects in North America and Europe were considered in terms of how the design features had been implemented and integrated. The web site also included an online interactive forum for discussions concerning a range of sustainable community-design topics, a glossary of sustainable community-design terms, a number of links to addresses of related websites in North America and Europe, and an extensive listing of key bibliographic references.

¹⁸⁹ See: <http://www.umanitoba.ca/academic/faculties/architecture/la/sustainable/contents.htm>

The design features and case studies and their hypertext links were used to demonstrate how sustainable community-design research linked through Internet technology could be used as an educational tool before the design process begins. The site has since been used in a number of contexts ranging from classrooms to community workshop settings.

The web document was designed in HTML (hypertext markup language), which at the time proved to be a difficult and time-consuming process. While it afforded us the opportunity to cross-reference and to make linkages between a vast amount of textual and visual data, it had limitations in terms of individual screen content, composition, and information navigation.

The web document was initially installed on the WWW in 1998 to facilitate discussion between members of the research team. Once the document was substantively completed, it was installed and the site, at its busiest, was accessed over 5000 times (hits) per day.¹⁹⁰ This came as a great surprise to us partly because of the somewhat cryptic website address and the fact that the website was never actually advertised.¹⁹¹

Generally, in terms of the web site content, the case studies and design features have been reviewed favourably by a wide international user base. However, the scope of research in this area has increased at a significant pace, making much of the information seem dated today (eight years later). Links to other sites have proved problematic, requiring constant revisions because of the shifting nature of other websites. The parts of the document that seemed of greatest interest (based on the number of *hits*) were the features lists, the case studies, and the bibliography. Although we were very pleased with the extent the site has been used we were surprised and disappointed with the limited use of the online forum. Our “build it and they will come” philosophy did not work, indicating perhaps that *online participatory design environments* require careful design according to specific needs, contexts, and applications.

¹⁹⁰ This was an estimate provided by Steve Shaw, web administrator for the Faculty of Architecture, University of Manitoba.

¹⁹¹ (<http://www.umanitoba.ca/academic/faculties/architecture/la/sustainable/contents.htm>)

Lessons derived from this work led to the following areas of concern. First, it was felt that the 150+ criteria developed may only prove to be a subset of a much more comprehensive body of knowledge (co-researcher Dr. David van Vliet believes that this list should be extended to 300+ features). Second, it was felt that although online forum activities (including graphic insertion) provide venues for discussion, online discussions tend to lack direction and often do not lead to any form of closure. We concluded that for forums to be effective and active they must be either moderated and deliberately disseminated or developed with a specific community in mind. Third, the web itself imposed serious limitations upon the type of visualization tools that could be employed. Although significant advances in web-based technologies were emerging at the time, including tools such as online whiteboards, quick-time VR, and VRML models, they were for the most part either not robust enough to use or prohibitively expensive. Finally, it was felt that the web was effective for disseminating sustainable community-design information but that specific community-design scenarios require new types of environments for communication. For example, computer models subject to design evaluation may be better *situated* in virtual reality (VR) design environments.

Project 3: Integrating VR in the SCD questionnaire

Virtual Reality Tools for the Evaluation of Sustainable Community Designs (1998).

In order to assist in the decision-making/design process, the design community/users may be provided with the means to understand the impacts of design alternatives and design criteria on an experiential level. In the third project for CMHC we looked at how web-based virtual reality tools could be used to demonstrate sustainable community-design principles. If “a picture is worth a thousand words” then simulations and animations should prove to be useful in illustrating concepts revealing the *hidden* aspects of sustainable living. An important feature of this work includes the creation of a set of

virtual environments used to communicate formal, spatial, and contextual attributes of sustainable community-design propositions as dynamic environments.

This project was framed as a *virtual questionnaire* using a refined set of questions derived from our earlier research. Questions that referred to experiential information such as street character or community gardens incorporated digital video of real world examples to illustrate possible alternatives to the current community practices. At the scale of the home, virtual models of buildings were developed into animations that allowed the uncovering of aspects of the home that are not usually visible such as grey water management strategies or the building system (exploding axonometric drawing) of an energy efficient wall. Community systems such as district heating systems and alternative street calming strategies were simulated and animated.

This project resulted in a number of observations. First, users on the hypermedia VR questionnaire found it very easy to grasp SCD concepts.¹⁹² We are indeed a culture immersed in video and our literacy concerning this type of information is well developed. The ability to slow down or replay animations, something most users understood as a potential benefit, provides the user with a way of studying the site or building elements in more detail. The sequential nature of the animations and the use of time as a factor in the representation provide immediate access to the systemic nature of many design criteria. The use of representational devices, like the exploding axonometric drawing, provide the reader with a picture of how a building comes together (the order of things) and prove to be more legible than conventional working drawings for people that are less literate in areas of graphic communication.

Concerns about the use of virtual reality in CMC environments are summarized into four categories: navigation, bandwidth, complexity of programming, time and expertise required for modelling and simulation. First, navigation refers to a process of reading, how we proceed through the given information. With all of the claims that the Internet

¹⁹² Users groups included undergraduate and graduate students as well as people drawn from the community for in-house testing and interviews. User response also came online from individuals who had discovered the sight while searching for particular community design content.

being a non-linear easily navigated environment, it remains a highly linear environment.¹⁹³ But for all of its strengths the Internet still has limitations in simulating everyday activities such as randomly *flipping through* a magazine. A hypertext document may allow the reader to begin at the end or at any point in the document. However the Internet limits navigation from page to page by pre-determined links (and in this the author imposes his/her own limiting structures). Links constructed by the author usually are based upon specific intentions or strategies.

It is not enough to develop a preset path through information; users studying spatial possibilities must have access to open navigational possibilities. Concepts such as Hypermaps may be transferable from mapping physical phenomena to mapping and linking communications space. The design of these kinds of Hypermaps could be based upon spatial metaphors (such as shuffling cards or tracking past movements) to generate new maps for navigating CMC space. Similarly, CMC users of virtual reality information should be able to take advantage of time-based content through tools that borrow from time-based metaphors. For example, users of CMC environments that incorporate VR animations should be able to skim through (fast forward play), skip over content that they are already familiar with (time-based interval hopping), or structure time by stretching or compressing it (such as time lapse video scanning).

The second category of concerns about incorporating VR in CMC environments has to do with bandwidth. Although technology seems to develop at exponential rates, Internet bandwidth (the amount of information that can be transferred) for streaming video over the Internet remains a real limitation for this kind of work. The Internet is limited by physical constraints when it comes to sharing sustainable community ideas developed as video or other large simulations. Either the senders of information must limit the size of the broadcast or the receivers of the information must download compressed versions of the video prior to use.

¹⁹³ I sometimes liken the structure of the Internet to a pile of dropped threads).

The development of flexible VR questionnaires, etc. may be beyond the programming capabilities of most web authors. This has less to do with the integration of the visual information into the online questionnaire format and more to do with the management of real-time responses, especially graphic responses. Answers to questions should ultimately be compiled into a linked database system for purposes of analysis. At the time of development (1998) this was a somewhat cumbersome programming task.

Another concern we had was about developing the VR questionnaires related to the time and expertise required for modelling and simulation. Developing virtual worlds can be an extremely time-consuming process especially when we aspire to photo realistic qualities. It is unlikely that such tools would be developed as part of many local decision-making processes. Alternatively, models may be derived from other sources such as participatory strategies where a design team develops computer models of proposed solutions and is then required to test the acceptability of proposed sustainable-design alternatives with the local community. For example, 'street calming' can be 'virtually' accessed in a simulated 'drive through' setting. Online participatory-design environments should include their own consensus-building and decision-making support systems. These systems may be developed using traditional participatory planning and design methods for many of their communication metaphors.

CRITICAL HERMENEUTICS AND THE DESIGN OF CMC

In the previous chapter I briefly considered two forms of hermeneutic understanding that were based upon strong ontological positions related to dialogue and discourse, and a third form of hermeneutics that is about maintaining a skepticism regarding all conversations that result in claims to truth. In this chapter I have described three CMC projects developed for building and disseminating SCD knowledge.

In each case these projects could not be considered to successfully reflect the types of ontological positions I discussed in Chapter 3. In the hermeneutics developed by Freire and Habermas knowledge is a direct consequence of the nature of our dialogue. Rorty,

though, is suspect of ontological claims and engages in a hermeneutics that serves as a form of resistance to dominant discourses. In the remainder of this chapter I consider how it is possible to apply these hermeneutics to the interpretation of computer-mediated communications. This is an interpretation of how an online setting is an accurate reflection of a theory of knowledge. For the moment, I try to limit the discussion to the ontological considerations that distinguish the three different philosophical positions. I begin by considering the critical hermeneutic ontologies of Freire (dialogic) and Habermas (discursive).

Projects 1 and 3 were experiments in the use of digital media for supporting the direct acquisition of specific knowledge. As digital questionnaires these projects followed a social scientific paradigm based upon quantification and statistical validation of the results (a hypothetico-deductive paradigm). The computer media in these projects were used in ways that allowed the test subjects greater flexibility in the navigation of information. The media also provided the subjects examples of representative design alternatives and dynamic representations of design concepts (through animation or video). These alternative ways of providing access to knowledge were seen to be an improved way for research subjects and the investigators to share meaning with respect to SCD concepts. (For example, a 3D animated model of a local grey water system illustrated its components and how it would be used). We were able to test how the systems led to a more thorough understanding by comparing user knowledge that resulted from these systems to traditional questionnaires (before and after use testing through interview processes) as well as by measuring user satisfaction with the new type of questionnaire.

Project 2 approached the computer-mediated communications in a number of ways. First, the media provided was considered to be in keeping with SCD principles in that we could distribute knowledge to a wide audience with little environmental consequences (compared to other media). Second, the Internet provided a means to gather information over long distances from remote locations. Third, the Internet could act as a vehicle that allowed the researchers to collaborate while situated across the country. Forth, the

structure of the Internet allowed us to evaluate other related web sites and link our site to others where we thought it appropriate. Fifth, we could create mechanisms where users could participate in discussions with the researchers or enter into discussions with one another on relevant topics according to their own schedules.

Projects 1 and 3 have little capacity to respond to Freire's idea of the gnosiological relationship. Knowledge in the three CMC projects is built upon a carefully devised two-way dialogue that is based upon pre-determined structures that limit the possibilities for new forms of shared knowledge to occur. Although better representations seem to result in an increased understanding of design concepts there are limited possibilities for new emergent knowledge to be shared. As constructed, the CMC system in Project 2 provided for person-to-person exchanges through e-mails and digital forums. As media for uncovering what we take for granted, of how we participate in our own oppression and the oppression of others, some observations are noteworthy. First, it is not enough to build dialogic capacity. Researchers that adopt these types of communication strategies must also be committed to participation in the dialogue. This can come with some cost in terms of the time that we commit to others. Second, our oppression of others is not only in what we say but also in how we say it. Computer-mediated communication settings are based upon an etiquette of writing where meanings can easily be misconstrued (as flames) unless properly considered. Third, the over reliance on any form of media can result in a form of technological domination. Fourth, despite all of the hype computer-mediated communications act as a form of technological exclusion limiting participation to the enabled. Fifth, just because you can build something doesn't mean that it is appropriate, desirable, comprehensible, or useful in the ways that you predict. New ways of communicating can seem intimidating for many different reasons. Finally, and more to the point of the gnosociological relationship, as a developer of computer-mediated communication environments it is easy to fool one's self into believing that I am contributing to better ways of communicating. I must also be concerned with my own oppression, my own assumptions about others, my own contributions to the dehumanization of others. In what ways do the new types of communication serve to liberate the human spirit and uncover individual purpose and build shared understanding?

The use of the digital media to deliver a questionnaire can be seen as a benefit with respect to the objectivity of the exercise, limiting contact between subject and researcher. But this same separation limits the possibilities for any shared understanding built upon empathy, love and trust. It isn't clear if the possibilities of this type of shared understanding are dependent upon direct human contact. The media doesn't only mediate the message it also mediates the types of human connections that we can have with one another. These connections are the result of both the virtual nature of online communications as well as the structures of communication that we adopt (i.e., the questionnaire format). In the first instance it is probably fair to say that the best we can get will always be a simulacrum. Alternatively one could speculate about how knowledge-based systems may be developed as ways for us to enable new approaches for people to understand one another (aids for the interpretation of meaning originating from the other). The CMC systems I have presented are a long way from these kinds of visions. A lot more control can be used over the structure of dialogic information and the methods and strategies regarding the implementation of structured information. I will return to issues of method and strategies in the next two chapters when I consider metatheoretical online placemaking concerns in terms of epistemology and methodology.

It is slightly more complicated to interpret online communications regarding the ontology behind Habermas' theory of communicative action. If truth is based upon validity claims and our development of competence in the interpretation of validity claims, then enhanced representational strategies in digital questionnaires may be thought of as better ways for researchers to substantiate their claims. Similarly these systems may be thought of as improved ways for subjects to develop competence in understanding the claims of researchers. This was one of the main premises behind the research (measured in terms of user satisfaction or tested in comparative terms of how well they understood a concept). But when we look a bit deeper and consider the digital questionnaire in terms of how it goes about substantiating claims to truth it may be considered a form of strategic action. This is where it gets tricky. Arguably the questionnaire is designed to elicit unbiased answers to objective questions. But when it comes to providing better information, such as visually enhanced explicative information about sustainable design principles, we may

in fact be engaging in a covert form of strategic action. By painting a *glossy* picture, even a computer simulation of a grey water system, we may in fact be implicitly influencing the outcome. We must therefore be concerned with the ways that representations may support preconceived solutions or intentions. When we develop CMC tools like those in the three projects we must be concerned with how representation influences judgements while facilitating greater shared meaning.

Claims of truthfulness about subjective impressions of place and design speculations regarding imagined space are often associated with the realism of spatial representations or reflected in our personal responses to evocative spatial abstractions. Claims of truthfulness concerning subjective impressions of feelings or moods can be limited to a shared recognition of inherent design potentials. Digital imaging and digital video are effective tools for sharing impressions and analytical interpretations of real world contexts. Image processing applications and digital video applications are also effective for sublime spatial abstractions that may be truthful reflections of subjective desires. Claims to truthfulness may also be part of design analysis as the designer reflects upon the feelings, moods, impressions, and memories that come from experiencing a site or which are conveyed by those people who have derived their own personal meaning from the site. Claims to truthfulness about place often reflect individual understandings based upon interpretation of the meaning of experiences that have been developed over the time. Claims of rightness about what *should be* may just as easily be built based upon perceived realism about visual, tactile, and experiential qualities. Virtual reality applications are often used to support these types of claims of rightness about the realism of design intentions. In this way virtual realities blur the boundaries between claims of truth and claims of truthfulness, the boundaries between objective understanding and subjective interpretation.

Argumentation on formal design solutions often is based upon multiple, simultaneous criteria and how they come together. Because design problems are open-ended in nature there is no *right* solution; consensus may be more of an ideal than a real possibility. In solutions to multi-criteria problems *rightness* may need to be determined through

measures of acceptability based in compromise. This is likely where systems like those developed in projects 1 and 3 might be most useful. Argumentation may be a needed part of the design process if decisions made by the group involves *packaged desires* (solutions that simultaneously include multiple criteria such as transportation, energy use strategies, water use strategies, etc.). Consensus is always tentative since real communication is characterized by individual interest, conflict, and misunderstanding. It is because of this that critical interpretation has an important role to play in the dialogic situation, looking at claims of truth, rightness, and truthfulness together.

Applying communicative action to design contexts means that it is not enough to develop exciting new visions of sustainable community possibilities. We must also ensure that the complex set of a design features (more than the sum of the parts) is understandable to those potentially affected by it. Under the theory of communicative action place-based CMC systems are seen as means of supporting understanding rather than simply facilitating the transfer of information. For place-based communications media other than text (such as cartographic media, maps, models, GIS overlays and databases, etc.) should be considered in terms of how they allow for participant understanding through dialogue (communicative knowledge) instead of how they support the strategic ends associated with the uses of knowledge.

Assuming that the questionnaire format is not a problem we should still be concerned with how it is used. If communicative action is the result of consensus built upon the realization of shared knowledge then we should be concerned with how the survey information becomes part of a consensus-building process. Projects 1 and 3 were designed to measure resident receptivity to sustainable design concepts. The way that they were applied was less about contributing to a decision-making process and more about contributing to the larger SCD discourse. Empirical methods in themselves do not necessarily present problems regarding communicative action but they must be considered in terms of how they contribute to the ways that communities share knowledge. That said, one of the advantages of the CMC approach is that once built the online questionnaire is easily transferable to other contexts, assuming that the questions

are deemed to be appropriate. Otherwise, it becomes a case of technological determinism.

The web site in Project 2 was designed to gather and disseminate SCD knowledge including local approaches to local problems. But the project failed in its attempt to use forums as a dialogic space. As sites for communicative action, online dialogic environments should be considered in terms of how they support local dialogue and facilitate consensus building. This involves not only critical considerations regarding their design but also the careful interpretation of how they are applied.

I end the discussion of Habermas by considering his idea of hermeneutics as *watching language at work, a way of seeing language as it brings about common understanding or a shared view*. In this regard, computer-mediated communications should be considered as more than ways of situating utterances or of sharing knowledge. They should be considered in terms of how they become ways to watch language at work, ways to critically interpret placemaking utterances as right, sincere, comprehensible, truthful, and ways to reflect shared desires about developing mutual understanding.

Projects designed as contributions to knowledge often, through their strategic designs, are more about capturing accurate and comprehensible versions of reality than they are expressions of relationships or truthful depictions of personal meaning. Projects like the ones that measure user receptivity to sustainable design concepts are designed to elicit specific types of (more) informed feedback, giving the researcher some truth about SCD understanding but little insight into personal meanings, ideals, speculations, hopes, or desires. Similarly, Project 2 was developed with no specific users in mind and consequently our insight into how the web site was actually used was limited to anecdotal e-mail correspondence. Although the number of hits the site received is an indicator of general interest in the SCD topic, it remains unclear if the site was effective in building local consensus regarding local community concerns. Projects like these offer little insight into the ways and reasons that groups choose to share meaning and regulate their relationships.

As expressions of meaning and truth these types of projects are more telling than insightful. This is a tale about how personal expression and interpretations can be limited to strategic questioning, where design intentions can be categorized into fixed sets of possibilities, and where interpersonal relationships are regulated by needs to support a form of discursive legitimacy. Ideas of what constitutes knowledge have been embedded in the permitted types of communication. In other words, the ways that people communicate are formalized in the systems that are constructed. All three projects have been about building an alternative type of knowledge, a justifiable SCD body of knowledge. In so doing these projects have been a commitment to strategic action that perhaps took advantage of peoples' shared desire to understand and their shared hope for *better* places to live and work. The ways that researchers focus projects such as these serve as indicators of strategic pursuits. These indicators may be interpreted through the ways we focus research on technology rather than on people: processes which pay greater attention to building media instead of sharing meaning and designing communication systems that are about contributions to discourse instead of sincere commitments to participation in community and processes of building community.

As ways to watch language at work, to interpret the mix of intentions, relationships and expressions of the real world, computer-mediated environments offer interesting potentials. The potential asynchronous nature of the online dialogue allows critical hermeneutic interpretation to take place in more sustained reflective ways. Information can be automatically collected and analyzed through existing algorithms (such as in the automated tabulation of questionnaire results as in Project 3). The textual and visual nature of many online environments also supports careful critical interpretation such as comparisons to other online dialogic situations or controlled access and interpretation by facilitators or moderators. As ways to watch our own projects at work there emerged a number of unpredicted possibilities. Online system tracking allows the researcher to see the patterns and frequencies in how users return to specific information. This was one way for us to uncover either the perceived importance of or the explicative difficulties associated with certain types of information.

There are also implicit dangers in computer-mediated environments that collect and process personal information. Possibilities for covert types of surveillance are numerous (marketing club cards are probably the most prolific examples). Unlike other questionnaires, digital systems may be more easily manipulated to reveal confidential information. Another danger is that increased reliance upon asynchronous communication potential could lead to the stagnation of praxis if everything is subjected to critical interpretation. As critical interpretation becomes a deeply embedded part of the system (deep in the multiple senses of highly critical, pervasive, and/or covert), individual fears of being overly interpreted may affect one's willingness to participate in the dialogic relationships.

Within computer-mediated communication environments two types of expressions of language at work emerge. The first type is characterized by what is said, drawn, and represented in the environment. In this type of expression we should be able to interpret the speaker's intentions, the speaker's commitment to the dialogic relationship, and the relationship of the utterance to the real world. The other type of expression is in how an understanding of knowledge is encoded in the systems that we use and structures the possibilities of meanings that we engage. These expressions of language at work are not only decoded in the texts that are realized but also in the relationships that are permitted to emerge.

RORTY - THE DISRUPTION OF COMMENSURABLE DISCOURSE

In their own simple ways, the three CMC projects on sustainable community design reflect Rorty's call for finding alternatives to commensurable discourse and for scholars and researchers to become engaged in a philosophy of edification. In hindsight this was more of a fortunate coincidence since my reading of Rorty came well after all of the completed projects were developed. Ironically, by reading Rorty I believe that I have a better sense of why these projects are meaningful.

The whole basis of computer-mediated communications is about a search for new ways of engaging in language, new ways of thinking about our relationships with others and potentially our relationships to the world we live in. Projects 1 and 3 are simple in the sense that they use the questionnaire as a metaphor for structuring different relationships to knowledge. As ways of challenging our notions of language, they build upon other metaphors such as hypertext and visual simulation. In using hypertext all three projects, to greater or lesser extent, release the reader into a language that is less predictable, less linear, less determined by fixed paths than the conventional questionnaire. Does this mean that it is less commensurable, that meaning is somehow disrupted? It is hard to say. Some clues come from our observations of the participants. In cases where people were interested in subject matter they took significant amounts of time navigating through the hyperlinks related to a question, developing a better understanding of how SCD uses its principles in a systemic manner. For others, they simply answered the questions and got out as soon as possible. The way the language is constructed and the way the meaning becomes disrupted have to do with the different ways users interpret the meanings associated with questions. Language construction and meaning disruption may also be an outcome of the how users take different paths through linked information and build their own SCD vocabularies differently according to their own personal interests. I like to think of the latter as being akin to someone with a few key references wandering through the stacks of a library.

The ways that these projects embed computer simulations as explicative tools undermine traditional design discourse in at least two ways. First, quite simply, visual simulations provide an alternative to traditional text or graphic representations that are meant to be *visual approximations* to ways that we *read* the real world through our experiences (utterance as understood as a form of individual action). This is particularly useful as a means of representing hidden urban processes, such as infrastructure systems, or as the ways that objects built in the real world can come together, such as building systems. Computer simulations, like those in Project 3, also provide new possibilities for contributing to understanding by manipulating notions of real time (time compression where a growing season is simulated in a few seconds) and real world limitations of

space (exploding walls, transparent yards, etc.). Simulations should be thought of as more than improved representations. Simulations extend and potentially usurp much of our existing graphic vocabularies. In this sense they provide potential *abnormal* paths to new forms of understanding.

As alternatives to commensurable discourse these projects work in overt and covert ways. Overtly these projects illustrate a commitment to a design discourse that was, at least at that time, an alternative to existing urban development discourse centered around the short-term economic gain of the developers and the consumptive life styles of consumers. Projects 2 and 3 deliberately were not designed to engage in a debate that compares one design approach to another using the existing development language. Instead these Projects attempt to replace one language with a better one. It is a *better* language in the sense that it provides a new center, a new means of determining good judgements, based on principles of ecology, community, conservation, and green technologies. These projects are covert in that they present the new language through technologies which make it look good.

But if we ever become reconciled to the idea that most of reality is indifferent to our descriptions of it, and that the human self is created by the use of a vocabulary, then we should at last have assimilated what was true in the Romantic idea that truth is made rather than found. What is true about this claim is just that *languages* are made rather than found, and that truth is a property of linguistic entities, of sentences.¹⁹⁴

Sustainable community design begins as an abnormal discourse, an alternative to dominant practices of generating urban form. But like other discourses it too can become a dominating discourse, a *how to* book on creating new visions of place or a rule-based system for building place and evaluating the places that we build. All too quickly the language of sustainable community design becomes a means for limiting design possibilities with fixed intentions and preconceived notions about the nature of useful knowledge and the *right* course of design action.

¹⁹⁴ Rorty, *Philosophy and the Mirror of Nature*, 7.



Chapter 6 - CMC AND PLACEMAKING METHODS

CONTROLLED CHAOS

In order to pay for my undergraduate studies I worked for two years as an Emergency Medical Technician on a city ambulance. When I think back upon it there are very few faces that remain. Instead, two kinds of memories stand out for me. The first has more to do with the odd, temporary interpersonal relations I would make and then rapidly abandon. For brief moments, either out of a sense of need or a sense of helplessness, I would be received into the most private of personal domains, and usually together with the people who were present we would find a way of working together, sharing control over the chaos. These were often odd assemblages of desire, grief, hope, anger, and sympathy always different and usually volatile and short lived. Together we would form a temporary community stratified by need yet smooth in its unpredictability. These unlikely communities were held together momentarily by immanence, curiosity, and responsibility. These were communities built upon a language of action and words, of assertive commands and sympathetic silence.

The other kinds of memories are residual images. Of course this includes the crushed and mangled bodies. What is odd about these memories is that in most cases, the people, their words, and our relationships are left behind. Now, more than 25 years later, what remains in my memories is mostly snapshots about the places, the blood on the wall, the ripples in the water, the blanket covering the baby, the cramped living space, the odd blend of smells, the remains of what once were people. In almost all of these memories my knowledge about the events transcends my abilities to know them through words. In fact, language seems to only release me from my relationship to these memories by conjuring others.

In this chapter I outline a number of ways that people work together bringing their ideas of place into dialogue and sharing knowledge and ideas about building communities. I look at dialogue and discourse as methods of interpretation and I look at some implications for computer-mediated placemaking communication. I first clarify the discussion of placemaking by reviewing its place in some of the planning literature. I then provide an overview of participatory planning methods that may be linked to placemaking approaches. Next, I consider approaches to methods of interpretation of Freire and Habermas. Following that, I present a project that developed CMC environments for two participatory planning methods and I consider how the methods of interpretation can influence the ways that we think about CMC design.

PLACEMAKING

Placemaking practice (as identified by Shibley and Schneekloth) is based upon four tasks that support and facilitate community involvement. The first is the creation of an *open space* for the discussion of place and placemaking through a free exchange of ideas with the various constituents. This open space or dialogic space is a context where the exchanges of ideas, aspiration, hopes, and anxieties can take place. The dialogic space is where conflicting ideas are shared and agreement/disagreement occurs. For Schneekloth and Shibley the dialogic space is “based on a world-view that assigns legitimacy to every person’s experience of living, to the potential competence and compassion of human

action, and to the fundamental importance of place as an actor in living well.”¹⁹⁵ The dialogic space can be characterized by its inclusive nature both in its use and its construction.

The acts of community design are more than simply putting ideas on paper; they also involve the process of creating effective channels of on-going communication that include broad-based representations. Design in this way is about the creation of dialogic space or a *place* for conversation. The dialogic space is a way of thinking about the nature of (design) discourse and dialogue. It is about the complex interconnections associated with the needs and aspirations of communities. It is rhizomatic in nature, designed to concurrently support multiple, often conflicting viewpoints and encourage multiple paths in the creative production of place.

Generating a dialogic space depends on the willingness of all parties to engage in a sustained conversation about the way they want to live and work.... The dialogic space is the context in which hopes, fears, ideas and frustrations about a place and the people who live there are discussed. Through the process of sharing within this space, new insights and knowledge about what is and what could be are constructed.¹⁹⁶

Schneekloth and Shibley recognize that such dialogue will likely result in conflict. However, they also see conflict within such a context as able to strengthen relations if it is used as a means of transformation and discovery. The dialogic space requires the ongoing commitment of the participants and a willingness of the participants to see the process through. The nature of the dialogic space will vary significantly depending upon the participants affected and the problems identified. Participatory strategies used within a dialogic space usually are linked to the aims and aspirations of the participants.

¹⁹⁵ L.H. Schneekloth and R.G. Shibley, *Placemaking: The Art and Practice of Building Communities* (New York: John Wiley and Sons, 1995), 10.

¹⁹⁶ Schneekloth and Shibley, 7-8.

Community design invokes the dialogic event less as an orderly expression of ideas, such as in the discourse of speech and writing, and more in the form of intensities and emotional exchanges concerning individuals connected with a place. Community design, in this sense, is about finding ways for multiple forms of dialogic exchange to co-exist and concatenate. Discourses do not occur in isolation but are themselves part of a greater dialogue. In this way placemaking is about the relationships between discourses (discourse networks), relationships that may serve to reinforce, contrast, or even oppose one another.

Community design as a form of action is always to some degree exclusive, in that by deciding to do something we exclude something else, by identifying the players we are excluding others.¹⁹⁷ Schneekloth and Shibley point out that acts of exclusion exist when we identify the players, the boundaries of action, and the rules of action.¹⁹⁸ Acts of inclusion and exclusion take many forms. We limit participation for various reasons that are not always deliberate but are instead based upon issues of expediency, budget limitation and design hubris. In community design acts of exclusion begin with how we define community. We include members of the local community and potentially alienate the neighbouring communities. We set workable physical boundaries to our projects and fail to consider edge conditions or broader issues such as the regional landscape ecology. We engage in forms of representation and communication (direct and indirect) that by their very nature (such as technical requirements, computer skills, drawing, public speaking) limit participant involvement.¹⁹⁹ These moves may constrain participation and at the same time provide formal definition, which can affect the emergence of discursive network possibilities. While the formalisms of communication serve to contain and manage dialogue they also create the structure (or at least serve as clues) that support (or limit) broader connectivity.

¹⁹⁷ Mills, 12.

¹⁹⁸ Schneekloth and Shibley, 13.

¹⁹⁹ "Discourses do not exist in isolation, but are the object and site of struggle. Discourses are thus not fixed but are the site of constant contestation of meaning." Mills, 16.

Designers often argue that broad-based participatory practice may in fact impede the design process. The rules and structures that exist within a decision-making context are there for a reason; certain types of utterances are required in given communicative contexts. Place-makers have to work with drawings, models, maps, etc. because these are the means of effective spatial representation even if the rules and structures for generating these utterances are poorly understood by the average citizen. But as Foucault argues rules and structures emerge as part of the social practices through which they are constituted. Essentially placemaking becomes a matter of identifying, facilitating, and expressing ideas and experiences. The representation of experiences through acts of placemaking are similar to what Michel Foucault refers to as the rules and structures which produce particular utterances and texts. Foucault shows how an institution's formal and informal routines as well as its discourses carry social meaning and the power relations of a social order. Alternative social practices must find their own rules and structures. These may come from the specifics of the problem (aims and boundaries), the idiosyncrasies of the group membership, and the methods of discursive engagement that have been adopted.²⁰⁰

To say that in design contexts there are multiple con-current stakes is probably stating the obvious. But whereas traditional planning and design often involve developing an understanding of user needs, design processes themselves (for the most part) cannot be necessarily characterized as inclusionary. Inclusionary decision-making as described by Patsy Healey is about engaging the stake-holders and is therefore as much about problems and processes of communications and community empowerment as it is about solving problems of space and place.²⁰¹ Whereas traditional design is often about the creative elaboration and manipulation of manageable design program demands and synthesizing contextual opportunities and constraints, inclusionary decision-making is also concerned with how design programs and project demands are identified. The selection of community-design strategies (methods) as well as the application of these

²⁰⁰ M. Foucault, *The Archeology of Knowledge* (London: Routledge, 1994).

²⁰¹ P. Healey, *Collaborative Planning: Shaping Places in Fragmented Societies* (Vancouver: UBC Press, 1997).

strategies becomes an ethical concern. More specifically, strategies (for example, using indicators of sustainability), representations (abstractions involving diverse modes of communication), and ethics (considerations of why rather than how) should not be mutually exclusive nor should they be left as the mandate of the singular voice (the planner, designer, the client/property owner). Place-based discourse networks thus become dialogic spaces that can allow the evolution of objective spatial solutions that serve community desires, needs, and intentions. Community-design strategies and representations should be thought of as ways of simultaneously operationalizing meaning and intention through the realization of creative alternatives for the transformation of space into place.

For Schneekloth and Shibley the second and third tasks of participatory placemaking involve the work of confirmation and interrogation.

Confirmation is the activity that looks at the context of work with an appreciative attitude in order to understand what is, and what has been taking place. It involves focusing on the concrete experience of place as it has been made and experienced over time by the various inhabitants. Equally important is the interrogation of that context, which consists of asking questions and problematizing the work through disciplined and critical perspective. The work of interrogation is not the commonsense notion of criticizing, that is denigrating and finding fault; it rather seeks the gaps, disruptions, and incongruities differentiating the material world and the worldview of participants, and brings these into the dialogue.²⁰²

Confirmation is an examination of the context of the work and what is being said. Interrogation (seeking gaps, disruptions, and incongruities) according to Schneekloth and Shibley, following the work of Habermas, involves a critical theory of placemaking concerning aspects of event, place, or design development. Critical theory, viewed as a three-part activity, asks firstly, empirically what is; secondly, why conditions exist; and thirdly, attempts to uncover the underlying structures and implication of such conditions. For Schneekloth and Shibley the real questions relate to the legitimacy of knowledge, the range of values and meanings attached to such knowledge, and the power associated with

²⁰² Schneekloth and Shibley, 6

said knowledge. “The purpose of engaging in critical theory is to deconstruct, and thereby reveal, socially constructed worldviews.”²⁰³ This may be thought of as primarily a political act where the vehicles for engagement extend beyond traditional text-based (voice-based) discursive approaches.

Placemaking may also be thought of as making *good judgements* about the places that we create and the ways that we live our lives. This involves the ontological questions about our understanding of what constitutes good judgement. This can also involve epistemological inquiry about the potential nature of place-based dialogic activity. These can be epistemological questions about how dialogue invests itself as part of the knowable/knower relationship. In particular this is about an understanding of the potential differences in knowable/knower relationships that different dialogic contexts provide. Making good judgements also involves methodological questions regarding placemaking processes, how *we go about finding out* (some would say acquiring) sustainable/community design knowledge. These are questions about the nature and efficacy of different dialogic situations. In the design context there always exists the danger of blindly adopting easily transferable methods (based in accepted epistemologies), and so part of our methodological questioning concerns the ways that we assemble, cobble together, cope in a dialogic space. This is a discussion about how we interpret the world, what we interpret to be useful knowledge, how we interpret our relationships to that knowledge, and how we interpret the methods that we engage in building shared understanding.

Community design must involve questions concerning its own mechanisms and instances of truth in discourse. This is about engaging in the critical interpretation of what we understand to be *meaningful* and how meaning has been determined. Design may be understood as the formal response to contextually constituted meaning. Participants in the design process must challenge themselves to find new ways to collect and assemble the multiplicities of meanings and to creatively make sense of and respond to these meanings by providing alternative notions of place. This includes the on-going investigation of the

²⁰³.Schneekloth and Shibley, 12.

nature and source of *meaning*, ensuring that community design includes critical formal responses to the inequities imposed by the dominant groups.

Placemaking is a multi-centered approach that responds to the complexities of our cultural conditions and the heterogeneous nature of the participants involved. This is a bottom-up approach to decision-making that recognizes there always exist inherent conditions for the emergence of new power relations, understanding power to be something which exists through action rather than through ownership and appropriation.

Henri L  fevre's understanding of our relations to space helps in this kind of interpretation. Critical understanding of community design begins with considerations of *materialized spatial practice*, how we perceive space, and in this case how CMC affects our perception of space. This is uncovering not only how the media *participates* in our perception (media-dominating perception) but also the intentions and domination that influence the formation of dialogic contexts. The *representations of space* involve critical concerns about how we conceive space. Design dialogue is about the development and realization of new ideas about living. This always potentially involves transforming social consciousness through new ways of conceiving place. But embedded within such dialogue is the inherent domination of the utterance, limitations on who can speak due to limitations on media literacy and fluency. Domination of a dialogic situation often results from how knowledge is represented and the dialogic situations that are developed in response to social concerns (e.g., design workshop, role playing, participatory editing, etc.). This problem could be compounded when dialogic situations based in technology are introduced (issues of media literacy are of primary concern).

PARTICIPATORY PLANNING METHODS

Methodologically placemaking processes use a number of (what are called) participatory planning and design methods. These methods developed as a response to hierarchical planning practices and are meant to empower disenfranchised people. Design participation as a form of inclusion is a multi-centered approach that is a response to the

complexities of our cultural conditions and the heterogeneous nature of the groups involved. Public participation initiatives are most significant in the United States, Australia, Great Britain, and Northern Europe. In the U.S public participation processes are often associated with the activities of community-design centers (CDC).²⁰⁴ The case studies that follow consider how CMC might be modelled after traditional participatory planning methods.

There are numerous methods that can be used in participatory placemaking activities. Slocum identifies methods for consciousness-raising, information gathering and resource identification, participatory research, tools that support the project cycle (initiation, planning, implementation), and tools that can be included in long-term project management.²⁰⁵ Consciousness-raising methods/tools are used to bring less advantaged or excluded groups into the decision-making process. These methods are designed to encourage individual and community empowerment, for example, leading to legal rights awareness and to self-confidence in working with authority. The methods can also be used to raise awareness about gender, class, race, and identity. Conscious raising methods include advocacy planning workshops; training groups in communicating with officials and outsiders; developing local conflict resolution strategies; gender analysis profiling; institutional diagramming and analysis; legal rights education; and developing problem solving trees.

Information gathering and resource identification methods are used to facilitate discussion and encourage an awareness of issues of power relations. These methods may also serve to improve access to and control of available resources. "These tools help researchers and community activists, as well as policy makers and planners, to discern the strategic interests and practical needs of a particular group or constellation of groups, and to design policies and programs accordingly."²⁰⁶ Information gathering and resource

²⁰⁴ Related web sites include: <<http://www.sustainable.org/> >
<http://www.communitydesign.org/main/home.jsp>

²⁰⁵ R. Slocum, L. Wichhart, D. Rocheleau, and B. Thomas-Slaytor, *Power, Process and Participation – Tools for Change* (London: Intermediate Technology Publications), 1998.

²⁰⁶ Slocum et al., 7.

identification methods include the identification of the division of labour; resources and benefit analysis; gendered resource mapping; developing group definition, landscape/lifescape mapping, and social network mapping; collecting oral histories, video and photography mapping.

Peter Levin refers to participatory planning in terms of acts of choice that lead to specified courses of action. For Levin a specified course of action requires specificity and commitment. According to his analysis, the more specific the course of action is the greater the tendency for participant commitment. Higher specificity and greater commitment have led to a reduced tendency for participants to want to modify their approach. The framing of action is specific to the problems that emerge in the confirmation and interrogation processes. A clear course of action adopted by participants in the dialogic space is more likely to receive support and commitment over the long run.²⁰⁷

Henry Sanoff discusses a number of contemporary community-planning methods including strategic planning, visioning, charrettes processes, community action planning, participatory action research, games, workshop settings, post-occupancy evaluation studies, SWOT analysis, and visual preference and appraisal research.²⁰⁸ These methods are much more spatially oriented than the methods described by Slocum (which are often about social issues such as unemployment, poverty, health care, child care, rather than physical planning and design concerns),²⁰⁹ and very similar to placemaking techniques used by Schneekloth and Shibley. Sanoff's descriptions of these methods are insightful when thinking about the implementation of CMC. For example, in his discussion of SWOT analysis he begins by describing the information needed in a neighbourhood planning process (including land uses, zoning, circulation, utilities, housing, facilities and services, urban design features, general physical condition, and history, etc.). He then

²⁰⁷ P. Levin, "Participation in Planning Decisions," in *Design Participation*, ed. N. Cross (London: Academy Editions, 1972), 30-37.

²⁰⁸ H. Sanoff, *Community Participation Methods in Design and Planning* (New York: John Wiley and Sons, 2000).

²⁰⁹ Slocum et al.

describes how the SWOT process is used to organize and analyze the planning information using, for example, maps to identify features as strengths, weaknesses, opportunities, or threats (SWOT). Sanoff recommends that another participatory-planning method, the KEEPS game, could be built into the SWOT process. A CMC implementation of the SWOT process could have features that resemble (and extend) those found in other computer-mediated communications environments, such as those discussed in Chapter Three. In particular the organization and use of planning information may be conceptually similar to the notion of Hypermaps but differs in one important aspect. On the one hand, Hypermaps, as discussed by Laurini, are envisioned as ways of accessing (visual and non visual) information; they are not about sharing information in the pro-active sense that the SWOT process requires. On the other hand, digital white boards allow interactive drawing on a map by a number of simultaneous users but they are limited in their ability to organize and re-use (collate, tabulate, etc.) the graphic information. It might be more useful to think about the SWOT problem as a co-authored hypertext. I will return to the idea of the co-authored hypertext in Chapter Eight.

Nick Wates' *The Community Planning Handbook* is possibly the most comprehensive summary of community participation methods available today. Wates provides a concise description of fifty-three participatory planning methods along with basic principles to guide the participation process. Wates describes planning processes through scenarios, ways in which the various methods can be combined to fit the unique circumstances of the design problem.²¹⁰ The idea that the participatory design process can be thought of as one of many possible scenarios implies that the dialogic space of the CMC environment should be much more flexible and potentially integrated than prescribed CSCW environments. Before online technologies become a viable option for community participation users must have the flexibility to assemble the necessary online applications with the ease that a group currently brings together methods in the traditional design scenario. This is one of key concerns in my investigations found in the projects described in Chapter Six

²¹⁰ N. Wates, *The Community Planning Handbook* (London: Earthscan Publications, 1997).

Sam Kaner considers participatory decision making as a facilitated process. He outlines the facilitator's role in the decision-making process by breaking down the dialogic activities into three stages where ideas are brought together, discussed and solution(s) or plans of action are decided upon. The Projects discussed below are based upon some of Kaner's ideas so I end this section by summarizing some terms he uses, for the purpose of clarification.

Kaner considers each stage in terms of the nature of the group participation and the potential role of a facilitator.²¹¹ He describes the first stage as the *Divergent Zone*, where ideas may often reflect a wide diversity of perspectives.

The facilitator's main task in the Divergent Zone is to create opportunities for everyone to express their views on the topic at hand. At this phase of the discussion, the facilitator does not even try to resolve disagreements. S/he honours everything everyone says and refrains from asking anyone to revise or reconsider their opinions.²¹²

Divergent thinking, including activities such as brainstorming, requires that participants suspend judgements concerning the opinions of others. At this stage there are no bad ideas and participants should refrain from passing judgements over the ideas of others. The facilitator participates in the process by encouraging participants to stretch their limits of tolerance in considering what is proposed

The Groan Zone is where the divergent views, opinions, attitudes, needs, and desires come together into a seemingly chaotic whole. The facilitator seeks ways and means for promoting understanding and cooperation. This becomes an instance of hermeneutics in play, interpreting not only what is being said but also the power and effects associated with speech acts. The various discourses that make up the groan zone are not (to borrow from Sara Mills) "simple groupings of utterances or statements, but consist of utterances

²¹¹ S. Kaner, with L. Lind, C. Toldi, S. Fisk, and D. Berger, *Facilitators Guide to Participatory Decision-Making* (Gabriola Island, BC: New Society Publishers, 1996).

²¹² Kaner et al., 152.

which have meaning, force and effect within a social context.”²¹³ The facilitator's role may thus be seen as interpreting meaning and the consequences of utterances (force and effect) within the specific dialogic context.

The facilitator's main objective in the Groan Zone is to help the group develop a shared framework of understanding. This is anything but easy. The greater the divergence of opinions in the room, the greater is the chance for confusion and misinterpretation. The facilitator should concentrate on promoting mutual understanding. This takes a lot of careful, responsive listening; at times, the facilitator may be the only person in the room who is listening at all.²¹⁴

It is perhaps in the groan zone that the manifestation of difference is at its greatest. It is here that the true multiplicity of the community emerges. It is here where individual interpretations concerning the meaning and desires concerning place merge and collide. The framework for understanding may be thought of in terms of providing the means for sharing interpretations, of filtering difference not through totalizing discourses but through the appreciation of difference and *the symbolic construction of community* based upon the heterogeneity of the community. Careful, responsive listening involves continually pre-empting the closure of meaning, the unifying of meaning, and the elimination of difference. It is a celebration of difference that co-exists through mutual understanding. The framework of understanding becomes the shared vision where differences become part of a unified multi-centered whole rather than an assimilated consistent ideal. The technologies that support the *groan zone* may be thought of in terms of their ability to identify, assemble, and sustain difference rather than as tools that reduce and synthesize the complex mix of needs and desires.

The convergent zone is a translation of understanding into intentions and actions. In many ways it becomes the basis for the formulation of another dialogic space (situation) along the path of the planning process. If the framework for understanding offers the blueprint for shared goals and objectives, the convergent zone becomes the articulation of goals and objectives and the framing of action.

²¹³ S. Mills, *Discourse* (London: Routledge, 1997), 13.

This is often easier than it sounds. Once a group has managed to build a shared framework of understanding, the discussion can move pretty quickly, and quite comfortably, with little intervention.²¹⁵

The facilitator's role in the process increases with each of the three stages, from soliciting and eliciting individual positions to deliberation and interpretation of the heterogeneous landscape of understanding (editing, and merging ideas) to guiding (building consensus) and engaging forms of action. Kaner presents numerous techniques and practices that serve to elicit the desired response from participants. 'Desired response' refers not to the content of the responses but to their contribution to each stage in the decision-making process. Kaner's interpretation of the facilitation has been considered in terms of the development of a CMC environment described below.

CRITICAL HERMENEUTICS AND PLACEMAKING METHODS

Critical hermeneutics may be thought of as interpretation, as ways of looking in, as ways of uncovering what is not being said. This applies to dialogue as well as to other forms of research inquiry. In this way hermeneutics is not about rejecting methods of inquiry such as empirical methods. The hermeneutic method should be characterized as reflective pluralism, reflection associated with multiple approaches to inquiry. It is important to make a distinction between reflective pluralism and relativism. Critical hermeneutics is based in pragmatic (situated) action, recognizing the complexities and plurality of voices. Critical hermeneutic method regarding placemaking involves research that facilitates transformations of understanding and consciousness regarding how we engage in changing our environments through the consideration of the many voices.

Sustainable community design as a form of critical hermeneutics can be seen as a consciousness changing process that is manifested through alternative ways of seeing, conceiving, and acting. For Freire this is found through participatory knowledge and an

²¹⁴ Kaner et al., 170.

²¹⁵ Kaner et al., 184.

approach to science that is tied to humanistic concerns. For Habermas consciousness is based in understanding that comes from a deliberately critical approach to social science.

Freire's critical theory as method

Freire's approach to method begins with a rejection of systematic learning models that are about "banking" information. Banking is an approach to knowledge that is repetitive in nature, that is, knowledge is passed down from one group to another. For Freire education based in banking information is ripe for domination of either the political status quo or of systems of knowledge that have something to gain by their own perpetuation. Freire advocates a user-centered approach to learning where the knowledge that is relevant to a group emerges through a process of participation through dialogue. In this way, Freire neither rejects nor blindly accepts empirical knowledge (for example) but understands such approaches as part of a dialogue towards liberation (from domination or fixed ways of thinking and seeing). Empirical knowledge is thus adopted as a result of the critical interpretation that a group determines to be an important part in their own emancipation. Empirical knowledge would not simply be considered to produce information or answers to specific problems but would also serve as ways of uncovering hidden agendas and attitudes. Freire, in a sense, dismantles dominant epistemologies (as the primary basis claims of transcendental truth and understanding) while participating in their rescue in methods that allow people to construct their own epistemology based on local needs and concerns. In such an approach method is never value neutral but always part of individual growth and awareness, the struggle towards conscientization.

In the Introduction to Freire's "Pedagogy of the Heart" Martin Chorney indicates how, for Freire, the "information age" was considered as a source of optimism, as a participative system, part of an intimate form of democracy deepening meaning in our everyday lives.

For Freire, the flexible and efficient state in the information age is very different. It helps its constituents become critical activists shaping the economy and society into a humane, participative system that accumulates capital but not in an exploitative, highly unequal fashion. The efficient

state is also one that protects its citizens against the risks and excesses of the free market. This contrasts with the “incomplete” democratic politics of neo-liberalism – a politics reduced to enhancing isolated individuals’ solitary competitiveness in a Darwinian struggle. Freire’s state is *constitutive*, one where citizens are reintegrated through forming new political and social networks based both on information *and* critical analysis of their own situation in the global environment. Freire’s state is also one of *solidarity*, including the marginalized, even when the global market has no room for them and exclusionary local ideologies segregate them.²¹⁶

For Freire hermeneutics was not only about interpretation or exposing domination but it also must be understood as part of productive (constitutive and deconstitutive hermeneutic) processes. In this way, CMC is considered in terms of how it supports hermeneutic work that involves participation in the uses and production of widely-distributed systems of information and facilitates unique approaches to local dialogue as well as individual processes of conscientization. For Freire:

... education has the potential to be liberating, and liberating education is the path to knowledge and critical thinking. Knowledge is the foundation of the new global information economy. Globalization has enhanced the importance of knowledge, of innovativeness, of critical thinking, and the capacity to solve problems. Economic progress in any country increasingly requires a broad base of highly conscious, self-confident, critical-thinking, participative, literate, and numerate individuals to compete in the new world economy.²¹⁷

This type of learning is not bound to academic institutions but results from our deliberate participation in creating communities. The challenge for the academic institutions is in finding ways to relinquish our dependence upon banking information and to become part of the processes that support the emergence of alternative relevant, active communities.

²¹⁶ M. Carnoy, Foreword to *Pedagogy of the Heart* by P. Freire, translated by D. Macedo and A. Oliveira (New York: Continuum, 1997), 11.

²¹⁷ Carnoy, 16.

Habermas: a critical social science

Habermas also had concerns with the role of technology in capitalist cultures. Habermas' early writings involved criticism levelled at the domination of the technocratic consciousness. This was part of a Marxist analysis that viewed technology as principally serving capitalism with the result that technical imperatives were best served when considered to be outside of the realm of public concerns. In other words, technology itself is considered value neutral; it is only the application of technology that requires careful scrutiny. But for Habermas the problem is more deeply rooted. We not only use technologies but we also develop a technological consciousness. The "new technocratic ideology draws on the mystique of science by making exaggerated claims for scientific expertise, a problem that has more recently been brought to light by the counter-science of environmental movements."²¹⁸ In short, we come to trust or depend upon our own technological consciousness. Critical hermeneutics is not about rejecting technology; it involves exposing our blind acceptance of the technological imperatives. This means knowledge is also about the critical investigation of prevailing consciousness. This is a view of understanding that results from social science methods that are concurrently hermeneutic and analytic.

As noted in Chapter Four for Habermas linguistic interactions depends on validity claims and social relationships built upon mutual recognition. These social relationships are cooperative exchanges where participants are committed and responsible to the process and to one another. Participatory planning and design methods are ways of constructing dialogic situations that encourage cooperative exchanges. This way of thinking about the design process is the result of the pragmatic realization that the meanings of utterances are linked to social practices. Participatory planning methods are ways of framing social practices to support desired types of argumentation (such as action planning events, conducting participatory photo surveys, diagramming workshops, etc.). Using these methods participants are encouraged to state and justify their validity claims. Habermas

²¹⁸ Morrow and Torres, 58.

makes the distinction between validity claims that are casual and not the result of argumentation, which he calls *naive communicative action*, as opposed to validity claims based upon forms of argumentation, which he calls *discourse*.²¹⁹ Participatory planning and design methods may be interpreted in terms of how they support naïve communicative action versus how they contribute to building discourse. The participatory design process often evolves as a type of scenario where naïve communicative action develops into discourse by using a series of participatory methods. Participatory planning and design methods do a number of things, most notably they encourage inclusion and they resist the suppression of relevant arguments. They also create situations where specific kinds of spatial knowledge and understanding can be constructed. In this way, all of the participants share in a commitments to contribute to the arguments and to reach reasonable agreement by considering the validity claims.

Habermas is not only interested in the how an utterance is understood in terms of its assertive or descriptive properties. He is also interested in the illocutionary force of an assertion, that is, that is, in saying something we are also doing something. Habermas develops his own interpretation speech-act theory building upon the theories of linguists J. L. Austin and J. R. Searle and views the meaning of an utterance and its force as being inseparable.²²⁰ He breaks down utterances into imperatives, constative, regulative, expressive, communicative, and operative *speech acts*.

Habermas views the meaning of an utterance and the validity and justification of arguments as pragmatic notions that are associated with the acceptability of speech acts. “We know what makes a speech act acceptable when we know the kinds of reasons that a speaker can offer, if challenged, in order to reach understanding with the hearer concerning the validity of the disputed claim.”²²¹ The *kinds of reasons that a speaker can offer* are bound to context, that is meaning depends upon the situation in which the utterance is being made. It is also possible to think about participatory planning methods

²¹⁹ Cooke, 1998, p. 4.

²²⁰ Habermas, *Pragmatics of Communication*.

²²¹ Cooke, 1998, p. 11.

as the dialogic spaces in which speech acts occur, spaces that facilitate and even allow or prevent different types of speech acts from taking place. Similarly, CMC may be thought of as the media where speech acts take place. I will close this section by considering the first case, speech acts and participatory planning methods. I will return to a discussion about speech acts and CMC at the end of the chapter.²²²

Imperatives, for Habermas, are speech acts where a speaker desires a certain state in the world (say a greener community) in such a way that the statement acts as a directive that can bring about this state. (If we plant more green corridors we will get greener communities.) Imperatives can only be logically criticized on the basis of whether their actions can be carried out, pragmatic considerations of the required conditions for success. (We can only really achieve green corridors if we eliminate existing transportation structures.) Imperatives may also be rejected as a rejection of a claim to power, thus the rejection is not an expression of a logical form of criticism but rather may be seen as an expression of will. Participatory planning is often based upon the rejection of imperatives, rejection of the power of others, and creating environments where imperatives are replaced by logical argumentation rather than coming from some external force or knowledge system.

In the constative speech act the speaker offers a representation of the conditions of the objective world. (Our cities are polluted because of our reliance upon the automobile.) The negation of this kind of utterance involves contesting the claim to truth asserted by the proposition. (Our cities aren't polluted, or, automobile pollution doesn't affect our cities.) A participatory planning method that supports the constative speech act is the video soapbox. The video soapbox allows members of the public to voice their opinions in a manner that will be projected in public places. Video soapboxes are vehicles that generate public debate concerning local issues.

Regulative speech acts refers to utterances that have an illocutionary force on the listener, binding the speaker and the listener into an interpersonal relationship that is recognized

²²² Habermas, *Pragmatics of Communication*, 161-163.

as legitimate. Regulative speech acts are used to bring people together by the regulative force of the utterance binding the participants into common social action (If you believe in sustainable communities you must ...). In some participatory planning processes regulative speech acts are associated with the role of a facilitator or moderator who are brought into the process to bind participants into a common social relationship built upon *shared* goals and objectives. Ideally participatory planning methods are critical of regulative speech acts, especially those speech acts that bind participants in vague (idealized) yet forceful ways (objective actions). Participants in these methods should also be critical with respect to the ways that these speech acts embed themselves within their own dialogues. In our search for community, of shared understanding, it is often easier to make compromises to regulative speech acts than to take the necessary time to work things through. Participatory planning can become the systemic realization of the regulative speech act, the binding of participants in an inter-personal social relationship based upon its own fixation with legitimate action and little consideration about why people are coming together in the first place. The negation of a regulative speech act is to contest the rightness (appropriateness) of the implied social relationship.

Participatory methods that foster expressive speech acts allow participants to share personal interpretations, memories, impressions, etc., about their life worlds. These methods may involve story telling, psycho-geographic mapping, video soapboxes, co-design workshops, etc. These types of methods produce *naïve* communication (and argument) yet they are the types of communications that often strengthen interpersonal relationships and cause the design process to take different paths and to respond to different needs and desires. Expressive speech acts allow people opportunities to *open up* to others and can become the foundations of empathy and trust (illocutionary force). The negation of this type of speech act involves an expression of doubt concerning the truthfulness of the self-representation.

With communicatives reason takes over from sentimentality. Communicatives serve to organize speech, for example, into topics or into rules controlling behaviour (taking turns). Communicatives can be about how the group goes about seeking consensus, how

the group organizes the content in meaningful categories or rules that the group establishes to control dialogic conduct. Although communicatives will be part of most dialogic situations they may be more clearly articulated in some dialogic processes than in others, such as action planning events, participatory editing, prioritizing, review sessions, etc. Although communicatives may be thought of in terms of how conversations are organized (questions and answers, offering objections), often beforehand, it is also useful to think about communicatives as the *reflexive relation to the process of communication*. For Habermas this includes speech acts that refer directly to validity claims (affirming, denying, assuring, confirming, etc.) as well as validity claims that are dealt with argumentatively (grounding, justifying, refuting, supporting, proving, etc.).²²³ Communicatives may thus emerge as a means of coping with utterances as they emerge.

Operative speech acts in participatory planning are about gathering required planning knowledge (argument). Implicit in these activities are beliefs in what constitutes useful knowledge (directing illocutionary force).

Operative speech acts have a performative sense but no genuine communicative sense; they simultaneously serve to describe what one does in constructing symbolic expressions in conformity with rules.²²⁴

The negation of operative speech acts would be to negate the rules upon which they are based or the appropriateness of their application. Methods designed for operational speech acts include site modelling, photo surveys, simulations, community profiling, etc.

I am not trying to leave the impression that certain kinds of speech acts are exclusively the domain of specific participatory planning methods with the exclusion of others. On the contrary, it is likely that most, if not all, of the speech acts will occur as part of a participatory planning process. Instead, I am trying to point out how participatory planning serves to direct communication towards specific types of speech acts. As one

²²³ Habermas, *Pragmatics of Communication*, 162.

²²⁴ Habermas, *Pragmatics of Communication*, 162.

thinks about CMC he/she should also be concerned with how CMC becomes a regulating agent in the use of speech acts.

CMC SIMULATING FACILITATED PLANNING METHODS

CMC environments that support design participation are digital dialogic spaces (conditions that allow dialogue to take place) that encourage the open exchange of ideas about people and place. The project described below experiments with creating participatory design environments based upon existing participatory planning methods.

Building a system to simulate the facilitated planning process

This work begins by approaching place-based CMC by considering the nature of the dialogue as seen through the eyes (or roles) of those involved. One such role is that of the facilitator. Therefore the construction of an online environment for dialogic activities might be thought of as a public participation facilitator's toolkit. In much the same way a facilitator might choose to implement dialogic strategies as required in a planning or design process; they may also be able to take advantage of online dialogic aids to support various decision-making situations.

In order to examine these ideas Dr. Sheri Blake and I conducted a special topics seminar course in the Department of City Planning at the University of Manitoba. Two students, Jason Granger and Randolph Wang, took part in the seminar course that involved research into existing community-design and planning methods, an examination of current examples of online planning and design environments, and the development of online prototypes (tools specific to prescribed participatory methods). Working in conjunction with Dr. Sylvanus Ehikioya of the Department of Computer Science at the University of Manitoba, and his 3rd year systems design course, they developed and evaluated systems for experimenting with online communication. Central to much of this

research were considerations regarding the role and needs of facilitators in planning and design activities.

The students began by looking at the traditional participatory design literature review. They also reviewed a number of prominent web sites that involve community participation including:

Design Participation

<http://www.forumhabitat.polito.it/participation/>

Remaking Singapore

<http://www.remakingsingapore.gov.sg/>

E-Government

http://www.senate.gov/~gov_affairs/egov/

<http://www.democracy.net/>

Internet Shopping

<http://www.internetshopping.com/default.asp#>

<http://www.mini.ca/>

http://www.ae.com/AE_Gender.process?RestartFlow=t&Gender=Mens&Merchant_Id=1&pcount=0&CatalogFlag=FloorSet

Internet site construction for surveys and questionnaires

<http://www.keysurvey.com/?source=overture>

<http://www.supersurvey.com/?sezgt>

San Carlos (case study)

http://www.ci.san-carlos.ca.us/is/display/0,1124,deptid-20_isid-594,00.html

http://www.ci.san-carlos.ca.us/is/display/0,1124,deptid-20_isid-600,00.html

University of Cambridge (case study)

<http://www-building.arct.cam.ac.uk/about.html>

Following the literature review three CMC prototypes were developed, listed here as Project 4. In Project 4 we were concerned with developing CMC *tools* to support the

facilitator. The project involved the development and testing of prototypical software that could be used by a facilitator in group decision-making situations.²²⁵

The planning process through which participation could be used was distilled into five discrete *stages* (which I have termed stages of communication):

- Raising Issues, Identifying Problems, and Site Analysis
- Community Visioning
- Developing Policies, Planning and Design Solutions
- Proposals and Implementation
- Evaluation

Although the planning process can involve the stages in a linear sequence (1,2,3,4,5) this is not always the case. Although the *stages* of communication seem to be temporally derived and sequenced the order of sequencing of the stages may vary (inter-lapping, omitting, or changing the order of stages) depending on the problem (similar to Wates design strategies). Planning problems themselves also prove to be flexible enough to repeat, skip, or re-approach the stages altogether. The sequence of the stages of communication will vary from problem to problem, and within the different *stages of communication* themselves one might prefer to adopt particular participatory methods.

Each stage within the overall communication process may also be understood in terms of the generation, synthesis, or dissemination of information. Participatory methods may be considered in terms of the types of information or knowledge that result. Similarly CMC tools may also be considered in terms of their potential to support the generation, synthesis, or dissemination of knowledge. This means looking at CMC tools in different ways, such as video as a method for data gathering (e.g., part of the site analysis), or as a method of synthesizing information and assisting in the interpretation of place (e.g., time-lapse photography), or as a way of disseminating knowledge and meaning (e.g., through personal stories). In each case the video media is used in a specific efficacious manner where media and meaning are mutually inter-dependent aspects of the same process. The media not only determines the result but also is itself determined by the anticipated result.

²²⁵ The (unpublished) results of the studio were compiled in a report by Jason Granger and Randolph Wang for Dr. Sheri Blake and myself.

The media influences the possibilities of the dialogic situation, working, releasing and delimiting potential ideas, opinions, concepts, ways of thinking and behaving.

The five stages of communication were also considered in terms of the time frames in which planning activities take place. Community planning activities were considered according to three time frames (from short-term to long-term approaches). Planning activities include:

1. Site Specific Planning and Design – buildings, greenspace, streetscape.
2. Systematic Planning and Design – transportation, green corridors, economic.
3. Long-Term Strategic Planning and Design – neighbourhood, municipal development plans, zoning by-laws.

The development of these two lists, stages of communication and time frames, provided the axes for a matrix of participatory techniques (Table #1). Participatory tools and techniques were evaluated for their inherent qualities and documented uses and then placed in the appropriate locations within the matrix. It is here that the methods emerge as parts of greater design and planning processes.

By summarizing the use of different participatory planning methods described in the literature (cited above) the students mapped out how each stage may be conceived as part of short- to long-term approaches to the planning process. In each case different methods are considered to be applicable. Methods and approaches (and ultimately media) are thus not only understood in terms of what they offer the design and planning processes but are also understood with respect to the time frames that have been determined to be appropriate for the decision-making context.

Although the matrix is not meant to be an exhaustive guide (covering all planning and design processes), it is a way for thinking about the organization of the dialogic space. The matrix can be used throughout the planning process to guide a participatory path for an entire process in a number of different scenarios. The matrix indicates that methods

are not specific to planning stages nor to problem time frames, and that only a subset of all potential participation methods (such as those identified by Wates) are considered.

	Long-term Strategic Planning and Design	Systematic Planning and Design	Site Specific Planning and Design
Issue Raising/ Problem Identification/ Site Analysis	Questionnaire Survey, Information Documentation	Questionnaire Survey, Information Documentation, Focus Group, Role Play	Questionnaire Survey, Information Documentation Focus Group, Walking Tour, Role Play, Scenario Writing
Community Vision	Questionnaire Survey, Idea Competition, Focus Group, Delphi	Questionnaire Survey, Charrette, Focus Group, Delphi	Questionnaire Survey, Charrette, Idea Competition, Scenario Writing, Focus Group, Delphi, Focus Group Gaming Simulation
Policies/ Planning and Design Solutions	Referenda	Referenda, Focus Group, Visual Reality, Vision Dome	Referenda, Visual Reality, Vision Dome, Focus Group, Gaming Simulation
Planning and Design Implementation	Public Meeting/Hearing	Public Meeting/Hearing	Public Meeting/Hearing Exhibition
Evaluation	Questionnaire Survey, Focus Group	Questionnaire Survey, Focus Group	Questionnaire Survey, Focus Group, Post Occupancy, Site Tour/Evaluation

Table #1 – Participation Matrix (source: Wang & Granger)²²⁶

²²⁶ Wang and Granger, Unpublished research paper for Blake, Sylvanus and Perron, 2003).

Methods in each of the scales of investigation should also be considered as part of a planning or design process that may involve a series of participatory investigation techniques. For example, a long-term strategic design and planning process may involve new suburban development with planning processes geared at neighbouring land users and prospective clients or, in another case, may be about realizing urban in-fill strategies for neighbourhoods suffering from aging and decay. Each approach may be seen as part of a long-term initiative incorporating a different series of participation methods.

Community planning and design may also be viewed as a sequence of events that take place, events where participatory techniques may be applied. This does not mean that the planning process is predetermined by a prescribed set of participatory techniques. Instead, participatory techniques are often adopted as a response to the preceding set of activities. After each participatory technique has been applied, an evaluation is needed to determine the technique's successes, limitations, and next steps required. This evaluation will aid in deciding which direction to move on the matrix. For the purposes of the studio investigation, we considered a number of problem types such as proposed commercial development, signage studies, and urban residential problems, in terms of the types of participation scenarios that commonly take place. In the different problem settings, the order of the investigation may change and methods are adopted for different reasons at different times in the process (Table 2). Participation is not limited to a prescribed linear process. Participatory techniques are applicable to various stages of the planning and design process. The students summarized a number of observations from the study:

- Participation is not always a linear process.
- Participatory techniques are applicable to various stages of the planning and design process.
- Participatory techniques are applicable to various scales of planning and design issues.
- Some participatory techniques are more suitable than others to the various scales and stages in planning process.
- Each planning situation or scenario can have a unique and individualized participatory process.

	Long-term Strategic Planning and Design	Systematic Planning and Design	Site Specific Planning and Design
Issue Raising/ Problem Identification/ Site Analysis	1		
Community Vision	2 3 4		3 4
Policies/ Planning and Design Solutions	5		
Planning and Design Implementation	6		1 5
Evaluation	7		2 6

Table #2 – Examples of Different Processes from Different Scenarios Colors represent different planning problems, commercial development (red), signage studies (grey), and urban residential problems (yellow). Source: Wang and Granger 2003 (unpublished internal research team report).

Project 4: From traditional to electronic planning

In order to develop CMC tools that facilitators could take advantage of three questions were addressed.

How could the principles of facilitation (as identified by Kaner) be used to inform electronic-based dialogue?

How could they be translated into electronic form?

What would the computer-user interface look like?

Participatory methods were considered for their applicability to electronic dialogue situations (that include the three zones described by Kaner) as well as for technical considerations on how they could be implemented in a web-based format. For each technique the considerations included:

- establishing the role of the facilitator and participant,
- how would the questions be presented,
- how would participants converse,
- how could participants and facilitator see the responses,
- how could participants and facilitator converse,
- how many pages would be needed,
- what do the pages look like in structure and composition.²²⁷

These considerations would be used later when working with the computer programmers.

Three traditional planning methods, brainstorming, role-playing, and participatory editing were examined with respect to how they are applied using traditional participatory planning methods, then the graduate students from the Department of City Planning worked with undergraduate students in Computer Science (supervised by Dr. Sylvanus Ehikioya) to build CMC prototypes.

²²⁷ Kaner et al.

Process

A total of twelve computer science students (three groups of 4) were involved in the beginning of the process. Professor Ehikioya assigned these students to their projects prior to an oral presentation given to the entire computer science class regarding the theory and intent behind the investigation of traditional and electronic participatory techniques.

Through weekly meetings, the students were given the required information needed to develop an electronic-based participatory program. The first meetings were intended to ease the students into the process by introducing them to the topic of community participation and facilitation. Once a level of comfort was established, the groups were assigned a participatory technique to develop. Weekly meetings continued with the student groups to ensure they gained a thorough understanding of the intent and process behind each method and devise how to develop the technique electronically.

Two methods were used to evaluate the similarities and differences between the traditional and electronic forms of participation. Evaluation included qualitative analysis of users impressions (focus group) and quantitative analysis of system use (questionnaire).

Discussion

This project demonstrates the development of a number of specialized community participation methods designed from the point of view of the facilitator. In these scenarios the tools have been developed to allow the facilitator some control over the process, such as in how long a session could run, who will be allowed to participate, etc. The tools were designed, developed, and tested for use on the Internet. A number of conclusions were drawn from the comparison of the online and face-to-face facilitated planning techniques including:

- It is easier to understand the facilitator and other participants through the traditional technique because not as much information is transferred at one time. It is also easier to find out other participant's opinions in the traditional technique.
- It is easier to debate issues and express one's opinion with the electronic technique. Without the social norms associated with the face-to-face contact of the traditional technique, the electronic technique allows a participant the freedom to fully express, or not express, ideas and debate with other participants.
- The electronic technique is not as loaded with the social norms that are associated with the traditional technique such as having to give an opinion to everything, answering right away, interrupting etiquette, and worrying about being perceived as rude.
- Generally, there is little perceived difference between the use of traditional and electronic techniques. However, one technique may be more suitable in some situations than in others.
- The traditional technique allows for better communication overall, but the electronic technique provides an environment in which participants feel freer to express themselves.²²⁸

CRITICAL HERMENEUTIC METHODOLOGIES CONSIDERED

Design participation becomes a form of critical hermeneutics when viewed as a multi-centered approach that responds to the complexities of our physical and cultural conditions through the transformation of our conscious relationship towards space and place. For participatory methods to be part of a critical placemaking dialogue they must be more than strategies for bringing about change. They should be conditions from which new, situated understanding emerges such that it could result in changing the nature of place. This involves the uncovering of privilege and domination wherever it occurs and an opening up of a pluralism of method not simply as a way of broadening understanding but as a way of building from the potentials that come from other voices.

²²⁸ Adapted from unpublished research team report by Granger and Wang, 2003.

Banking knowledge and conscientization

Most traditional participation methods are designed to build and share knowledge rather than share existing, banked knowledge. Exceptions might include Road Shows, Street Stalls, Choice Catalogues, Interactive Displays, Environment Shops. Ironically all of these methods lend themselves to hypermedia environments similar to Project 2 and are probably the easiest to develop from a computer programming point of view. The methods that are designed to build or share knowledge can be distinguished with respect to the extent that they are designed to support pre-determined planning activities (analysis, conceptualization, exploration, synthesis). These kinds of activities could include different combinations of banked and other knowledge as well as programs that support design heuristics for gathering and analyzing banked information. Of the CMCs discussed in Chapter Two, Hypermaps stand out as ways to access and manipulate banked knowledge.

The CMC role-playing prototype begins as a way of simulating real world scenarios and in this way represents a form of banked knowledge. However, the purpose of the role-playing exercise is often about creating new knowledge by finding creative solutions to recognizable problems. Role-playing situations allow participants to engage in a form of conscientization by assuming the role of the *other*. Writing, speaking, and drawing all could be forms of personal expressions that allow people to look within themselves and capture a glimpse of the *person* inside the *other*. When people commit themselves to situations of shared understanding they also become committed to their own personal explorations. In order to express meaning about our world one commits one's self to a search for meaning through personal interpretation. As parts of traditional participatory planning methods, these expressions create vehicles for interactions between people that normally wouldn't occur. They are personal interpretations of the lived world embedded within unique knowledge sharing situations.

But the question isn't only about how CMC methods provide different ways of exchanging personal insights, it is also about how CMC provides the individual new potentials for realizing personal insights. Since environments like the Role-Playing CMC

are simulations of existing methods such potentials may be limited. In the next chapter I look at how CMC may provides alternatives to simulations of existing participatory planning approaches. Comments received from the participants shed some light on the question of potentials.

Participant observations about the role-playing CMC prototype were primarily concerned with user satisfaction. Although satisfaction may be an indicator of conscientization it is difficult to make a strong correlation between the two. The other way that CMC environments are usually measured is in terms of performance (i.e., how well it performs a task). Listed below are some of the comments from users who compared the CMC to the face-to-face participation methods (I am paraphrasing).

Comments like *CMC is a more relaxed atmosphere* may indicate that the CMC environment allows the individuals a greater comfort level to express themselves openly. Conversely, it may imply that there is a lesser tendency to take the process seriously. Comments like *Participants have greater equality in the CMC* and *Breakout possibilities in the CMC contribute to better flow* indicate that there are real perceived differences between the two approaches, in this case favouring CMC. In other comments the CMC appears to be a barrier to communication, for instance *Face to face is easier*, and *Body language in face to face makes it more telling*, seem to allude to the possibility that the CMC limits our abilities to develop empathy and trust compared to the face to face setting. If performance of the CMC measured by the quantity of content then the comment *More material is produced in the CMC* is telling. However there is nothing in this study that indicates that the CMC produces better, more useful, or personally insightful content. The comments *CMC allows more time to think and respond* and *CMC allows the user to control the speed of the response* point to a form of distanciation. This is not about being on the outside of the dialogic process looking in but it is about the momentary ability to step in and out of the process to engage in personal reflections and construct thoughtful responses.

Speech acts and CMC

Habermas provides a much different way of thinking about CMC. As noted by Shibley and Schneekloth, conceptually placemaking theory and participatory planning methods derive from Habermas and his theory of communicative action. The role-playing CMC, as a simulation of existing practice, is at least intended to support validity claims and allow participants to construct meaningful productive arguments. In considering the dialogue that takes place within the CMC one should be able to discern whether naïve communication or discourse is taking place. This would become evident if at the end of the process agreement between the participants has been reached (a form of consensus). Agreement would imply that validity claims were made and understanding of validity claims was possible. (Hindsight is 20/20, all is well, go on to the next chapter). But in practice it is difficult to know whether or not validity claims are being adequately supported. Similarly, if we are going to go to the trouble of developing CMC it is only reasonable to expect users to be able make acceptable and even better validity claims (truth, rightness, and truthfulness). As I have pointed out, validity claims are based upon utterances, and utterances may be understood as speech acts. I end this chapter by considering how speech acts (imperatives, constative, regulative, expressive, operative and communicatives) can be applied to our understanding of CMC.

Unlike face-to-face participation methods CMC requires a process of interpretation and codification of the dialogic conditions. This means that embedded in the CMC is an interpretation of *appropriate* dialogue that imposes structure upon how utterances are allowed to be exchanged. The question is to what extent if any does the CMC also affect the illocutionary force of the utterance. In other words, if Habermas is correct saying something also does something then the CMC should be considered not only in terms of its potential for supporting what is said in an utterance but also in terms of what the utterance does.

The hypermedia questionnaires of Projects 1 and 3 were designed with a number of types of speech acts in mind. Most notable are the operative speech acts designed to gather knowledge about SCD. As Habermas notes, these types of speech acts have little

communicative value but instead are designed to fulfill strategic initiatives. In this case these speech acts are meant to fill a void in local SCD knowledge. Interestingly these digital questionnaires also encode within themselves regulative speech acts that bind the research subject to the sample group and direct the subjects actions with varying degrees of specificity. (If your answer is yes proceed to the next question. Please press the PLAY button to watch a simulation before you answer the following question. You may learn more about this topic by following these LINKS before answering the following question.) Unlike a face-to face interview, with the CMC questionnaire the user is rarely given the opportunity to comment on the appropriateness of the regulative speech act, the binding affect that the system imposes, and the acceptability of the limited forms of directed behaviour. Expressive speech acts are introduced into the CMC questionnaire when the author generalizes a real world condition using a representation, simulation, edited video example, or other form of abstraction. As noted, expressive speech acts are subject to the questions regarding the truthfulness of the self-representation. The questionnaire format is usually not designed to encourage participants to question or comment upon truthfulness of representations.

In Project 4 both of the participation methods, brainstorming and role playing, that were simulated for facilitators using CMC are well-structured communication approaches designed to produce a wide range of perspectives in a subject domain. These types of approaches break down the speech acts in ways that limit the illocutionary force of the utterances. For example, in brainstorming common ground rules include: every condition is worthwhile, participants suspend judgement, process may be modified before or after a process but not during the process.²²⁹ In this way illocutionary forces of regulative speech acts and communicatives are often built into the process rather than allowed to emerge as the process is underway. In brainstorming constative, expressive, and sometimes imperative speech acts take place as utterances but their illocutionary force is also affected by the communication structure. The facilitators role in these types of situations is about allowing these speech acts to be uttered freely and openly and then to manage the potential chaos and domination of conflicting utterances using dialogic

²²⁹ Kaner et al., 100.

strategies such as stacking, balancing, looking for support on issues, establishing working time frames, drawing people out, etc.

Role-playing is a form of experiential learning that structures the planning problem as a game designed to provide the participants with insights about the points of view of the *other*. Although utterances are made freely the role-play structure requires the participant to assume the *voice* of the *other* and to give a fair representation of the others opinions. As in the brainstorming example, a number of speech acts are likely to take place but in the role-play these acts are tapered by the different commitments to the points of view, by the kinds of knowledge and assumptions that go along with ones interpretation of a point of view, and by the rules of the game (types of allowable contact, time frames, etc.). Unlike the brainstorming scenario where judgement is suspended until a later time period, judgement often takes place *on the fly*, often ironically using another point of view as the basis for ones interpretation. The role-play allows the participant to begin to understand what is being said by the other and why it is being said. It also provides the participant with insight into the types of utterances that adversarial parties might take and how their use of speech acts serve to manipulate and dominate the conversation (their illocutionary force). The role-play is usually followed by a debriefing exercise where participants reflect on the discussion.

Based upon the survey responses the CMC role-play provides a relaxed productive atmosphere where thoughtful responses to issues are allowed to emerge. This may in fact be about any of the types of speech acts that have been discussed. The fact that the system moderator had to be quite forceful in stopping types of role-play indicates how participants would get caught up in their roles and exhibit imperative behaviours. The CMC may also be looked at from a slightly different point of view, that is, a potential knowledge-based environment that supports speech act interpretation. In other words the ways that Habermas breaks down the utterance, what is said and the illocutionary force of saying, into the speech acts means tools could be built to support our own interpretation of utterances. This might include ways to support the role-playing participant in speech act interpretation (the kind of speech act constituted by the utterance), anticipate the

affect of the utterance (providing examples of how a speech act exhibits illocutionary force), and provide strategies for coping with the utterance (illustrating the ways that a speech act can be negated). These kinds of systems might fall into the realm of either expert systems or eventually artificial intelligence systems.

In this way the CMC may be thought of as a way transforming the role-playing method into a dynamic strategy for engaging in the critical interpretation of dialogue based upon speech act theory. In its simplest form this might be thought of as a set of rules that one would follow to categorize an utterance as a speech act type and a list of ways of coping with the speech act. Since the role play CMC is built to record all transactions between participants, such an approach would prove to be a useful means of analyzing the role-play after the fact as either part of a debriefing exercise or as part of a research inquiry.



CHAPTER 7 – DIALOGIC AND DISCURSIVE EPISTEMOLOGIES

CLEAN WINDOWS

For a short time one summer I worked as a window cleaner. I found it curious work because I was not simply cleaning windows. I was also making a strange kind of connection with the people on the other side of the glass. I was being let into their cubicles. I was face to face with workers at their desks, a witness to their personal clutter, and momentarily exposed to their *view of the world*. One of the buildings that I worked on was a six-storey office building connected to a meat packing plant. I was disgusted by the filth and stench of the building that, compared to the people inside dressed in their office attire, seemed to be an odd kind of paradox.

Standing on scaffolding I could see the animals in their pens, and once in a while a number of animals would be herded using a front-end loader down a runway towards the killing room. I thought to myself that the use of the tractor as a way of herding livestock was a bit out of the ordinary, but it soon made sense to me. When one of the sows decided to get away, the front-end loader was used to first crush her to death and then to scoop her up and bring her inside. When I looked back at the building I realized that I was cleaning death off of the window. The people inside went about their business, oblivious to the killing below.

Sometimes our encounters with others provide us with unexpected ways of seeing into ourselves. In this chapter I begin by looking at epistemologies, conceived as theories of knowledge that results from ones relationships to others. Again this involves looking at the theories of Paulo Freire and Jürgen Habermas. I then consider the epistemological implications that these critical hermeneutics may have on computer-mediated communication (CMC) environments in their support of placemaking.

As already noted epistemological questions are concerned with the nature of the relationship between the knower (the inquirer) and the known (or knowable). There are two ways of considering questions of epistemology. The first is about the nature of knowing from within the social context, for example what does it mean to know something when working from within the perspective of a rationalist, positivist, or pragmatist paradigms. The second way of considering questions of epistemology concerns ways of looking in or looking at what goes on in our acquisition of knowledge.

In the previous chapters I briefly discussed what is meant by critical hermeneutics and I began to refer to the epistemological aspects of critical hermeneutic knowledge, with statements like our relationship to knowledge is the direct result of *watching language at work*. Unlike positivist epistemologies that are largely about explaining the nature of things, explaining what exists or what is going on, critical hermeneutics is primarily concerned with what is left out (concealed, forgotten, or strategy in play).

FREIRE: DISTANCIATION AND CONSCIENTIZATION

Freire's epistemology is founded in a concern about education that involves a revolutionary understanding, that considers education as a form of personal/social research, described as the *pedagogy of the oppressed*²³⁰ This is a view of understanding that is based with the learner. It takes participatory *action research* (direct involvement with subjects under investigation) and transforms it by replacing the objective outsider who comes in to study a situation, with the *conscientization*²³¹ (*conscientizacao*) of those already oppressed by the situation.

Reflection upon situationality is reflection about the very condition of existence: critical thinking by means of which people discover each other to be "in a situation". Only as this situation ceases to present itself as a dense, enveloping reality or a tormenting blind alley, and they can come to perceive it as an objective-problematic situation – only then can commitment exist. Humankind *emerge* from their *submersion* and acquire the ability to *intervene* in reality as it is unveiled. *Intervention* in reality – historical awareness itself – thus represents a step forward from *emergence*, and results from the *conscientizacao* of the situation. *Conscientizacao* is the deepening of the attitude of awareness characteristic of all emergence.²³²

Conscientizacao or *concientization* can be seen as an epistemology that merges understanding from within, with a hermeneutics that is part self examination and reflection, and part interpretation of the situation. *Conscientization*, liberation of the oppressed by the oppressed from fixed ways of seeing, allows them to *emerge* from the bondage and constraints that they are complicit in supporting. From an educators (participant) perspective this involves supporting the critical analysis and interpretation of social processes of domination (often in the form of empirical knowledge). It also involves discovering new ways of learning, finding new forms of historical awareness, and responding from within the hermeneutic circle.

²³⁰ Freire, *Pedagogy of the Oppressed*, 2003.

²³¹ This is the term used by Morrow and Torres.

²³² Freire, *Pedagogy of the Oppressed*, 109.

The hermeneutic circle is a way of looking at how awareness is always historically constituted.

Fundamentally, understanding is always a movement in this kind of circle, which is why the repeated return from the whole to the parts, and vice versa, is essential. Moreover, this cycle is constantly expanding, in that the concept of the whole is relative, and when it is placed in ever larger contexts the understanding of the individual element is always affected.²³³

The hermeneutic circle means people are always potentially in one form of conscientization or another. As we remain open to learning we bring new consciousness to the challenges of understanding, new meanings that cycle endlessly in an ongoing interpretation of the world we experience.

For Freire conscientization is in part the result of distanciation, a stepping away from fixed ways of thinking, using dialogic civility in the (re)creation of our understandings and as the foundations of our relationships that define us as community. Distanciation is considered to be a productive force in realizing new dialogic situations that support emancipatory reflection. Conscientization of the sustainable community is an uncovering of the utterances of the everyday. This is about changing our relationships with the environment by reaching for a new understanding of the reasons why our towns and cities are built the way they are.

Conscientization is about a new awakening, liberating us from our own oppressions. CMC may then be thought of as a way of providing conscientization expression, a media for articulating content and expression about both, the prevailing situation and the alternative path to understanding. As a vehicle of conscientization, CMC may be thought of as a means for generating new design visions.

²³³ Gadamer, 167.

HABERMAS: DISCOURSE AND EPISTEMOLOGY

Habermas' epistemology is directed at explaining social factors through which truth is determined. Truth in his view is something that is constructed by a given community and is the result of consensus built upon current discourse. Under such an epistemology dialogue is not seen as the basis of awakening to new forms of consciousness, but instead knowledge involves conjectures (in the form of discourses) that are subject to interpretation and potentially refutation. All knowledge claims can potentially be refuted, all knowledge is potentially fallibilistic.²³⁴ Knowledge in Habermas' view is the result of argumentation, where for example arguments for a certain course of group action are presented (discourse/conjectures) and reasons denying such action (refutations) are made apparent. The better argument is believed to result in situations that approach consensus.

Argumentation as an intersubjective procedure is necessary only because in establishing a collective mode of action, we have to coordinate our individual intentions and come to a joint decision.²³⁵

This implies that arguments are fair and equally open to all, and decisions are made impartially and autonomously.

In a way Habermas' epistemology can be viewed to be similar to postmodern approaches to knowledge, since truth is subject to types of discourse rather than to the relationship between theories and facts. But, as Morrow and Torres point out, the significant difference between Habermas and most postmodern approaches is that for Habermas knowledge is not something that is arbitrary or unreliable.

Rather, its constructed and historical character is taken as an expression of the fallibilistic character of all knowledge claims, which are subject to continuous revision in the light not only of new evidence, but also of metatheoretical debates. Knowledge, in short, is grounded in processes of intersubjectively tested communicative action.²³⁶

²³⁴ Potentially shown to be mistaken or deceived.

²³⁵ Habermas, *Moral Consciousness*, 71.

²³⁶ Morrow and Torres, 48.

Although Habermas is concerned with different types of discursive situations, community oriented design situations all too often fall within what we call *practical discourse*. Practical discourse is driven by concerns directed towards a definite end or ultimate purpose. In Habermas' view this kind of purposeful discourse involves a shift in the basis of arguments from the moral question (What ought I do?) to questions of individual needs and desires (What do I want to do? and What can I do?).²³⁷ Questions concerning a group, such as those related to a course of sustainable action in the creation of sustainable places, (Do we want to be a pedestrian only neighbourhood?) are questions concerning the common interests and intentions of the group. More generally stated these are questions like (What common course of action do we want to establish for ourselves? or To what course of action do we want to commit ourselves?).²³⁸ As a form of practical discourse the process of argumentation is based in forms of logical persuasion that includes giving reasons why certain points of view should be adopted. If the decisions made through such a dialogic process result in ways of behaving that are typical of the group, then we could say that consensus regarding sustainable practices have been determined. Desires regarding alternative action, desires about alternative behavioural practice, may translate into design potential. For example in design analysis, if we can identify a desire for pedestrian based neighbourhoods this can translate into alternative strategies that affect neighbourhood form.

Habermas used the term *ideal speech situation* when referring to dialogic conditions where consensus was desired. The ideal speech situation was seen as circumstances where all participants in a dialogue are given an equal voice, where not only opportunity to participate is equal and possible but also where relations of power between the participants are also equal. Although, realistically this may never be possible, the *ideal speech situation* may be thought of in terms of as a means of approaching, or facilitating possibilities of equality in dialogue, rather than concrete situations of dialogue themselves. Two characteristics of the Internet may be seen as instrumental in supporting

²³⁷ Habermas, *Moral Consciousness*, p. 70.

²³⁸ Habermas, *Moral Consciousness*, p. 71.

the ideal speech situations, namely the potential for asynchronous dialogue and anonymity of participation.

For Habermas empirical and traditional interpretive (hermeneutic) understandings are also important parts of the dialogic context, but these forms of understanding cannot dominate or become deterministic. Critical understanding of the nature of the dialogue, and of the arguments themselves must always accompany any decision being made.

EPISTEMOLOGICAL OBSERVATIONS - THE SCD CASE STUDIES

In the previous chapters, I outlined four projects that used hypermedia for disseminating, and studying the acceptance of, sustainable community design (SCD) principles, and for engaging in simulated participatory planning methods. These studies may be characterized as epistemological pursuits of gathering and sharing examples of principles, practices and attitudes regarding SCD, that begin to reflect a growing, commensurable body of knowledge. The first four CMC projects pointed to a number of potentials and problems that CMC brings to sustainable community-design understanding.

First, new media is often seductive. When we develop CMC based approaches, we have to consider how and why specific technologies are chosen. Our decisions to work with the new media will have implications not only on who participates but also on the nature of the participation itself. Every situation that provides new opportunity for participation also implies limitations. We must be aware that by adopting a CMC (or any form of dialogue) participants are complicit in their own domination.

Second, new media is always changing. During the time that we developed the three projects a number of technologies emerged while others became obsolete. Even issues of user interface and web site image became subject to change, appearing dated or visually obsolete. User expectations concerning technological performance changed over relatively short periods (where media based delivery systems rapidly shift from the novel to the passé) whereas content resists such rapid fluctuations. The changing nature of the

emerging new media might also imply that the development of user tools for SCD (such as user interface development) should be flexible, and readily adaptable. CMC users must be aware that the desire for the new, for the sake of the new, is in itself a source of domination over one's self.

Third, applying new media is not always easy. It requires constantly embracing the new or developing applications and programming environments. It also means working in interdisciplinary teams that may include programmers, content developers, users, designers, etc. each with quite different needs and expectations and different concepts of what the *ideal speech situation* might become. In choosing to adopt a CMC approach we also run the risk of becoming dominated by the development process, being forced to work in ways that are being dictated by the technology or by the skill sets that the participants bring to the table.

Four, there may be a significant time lag between conceiving a new media based environment and implementing it. When we are not using commercial GroupWare applications it often means either starting (programming) from scratch or cobbling together tools to support different functions. In either case it can be a time consuming, often unpredictable, process. As tools emerge and become more readily accepted their potential to support effective community dialogue also increases but a community's dependence upon prescribed methods of action may also increase.

Five, the gradual evolution and maturation in our understanding and approach to both sustainable community design concepts and the use of computer supportive work settings should be on-going and iterative, but reality means that one always takes priority over another. CMC technologies offer new dialogic possibilities, while real world situations require that we deal with real world problems. Tools are there to facilitate praxis, not to predetermine it.

PARTICIPATORY DESIGN METHODS REVISITED

To a large extent the knowledge that is contained in the previous SCD web sites is based upon CMC supported dialogues concerning what sustainable communities could and should be. Through the course of the discussion that follows I attempt to extend the vision of online sustainable community design. This is rooted in the view that sustainable communities are socially realized and not simply constructed in the physical world. This is a view of sustainable community design as a hermeneutic process that involves active reflection about local values and hopes and careful, inclusive, creative expressions of personal visions. Places themselves are as much the products of images and situated actions, of ideas and memories, as they are about physical conditions and structures. Sustainable communities as such represent a knowledge that emerges through continual local revision of content and expression. This is knowledge that is derived from communication and is expressed in design ideas and exploratory concepts about the creation of place and ultimately in how we live our lives.

Before describing the projects that follow it is important for me to situate my own thinking. As an educator I became very influenced by Freire's pedagogical reflections, but when I started these project I was a very different kind of teacher. Much of my teaching could be considered to be largely about banking information, and in particular banking technological information. This involved teaching a number of what I would now call *how to* courses. These were courses developed in order to teach planning and design students how to use digital technologies (CAD, image processing, GIS, hypermedia, etc.). Through this research I (as a design educator) became more and more concerned with ways of finding shared meaning and building understanding about the technologies that we apply. For Freire, the teacher, the meaning gained through honest purposeful dialogue is more important than other forms of meaning. The context for these projects has been about understanding and participating in increasingly dialogic situations.

Projects: CMC as placemaking assemblages - Goals and objectives

The primary purpose of this study was to consider how online communication technologies could be assembled to support the communication requirements of professional design scenarios. The secondary purpose of this study was to design and build a prototypical application to support online design collaboration. The system should provide participants the means to engage in common design activities including design-related dialogue and the sharing of information pertaining to design development.

The primary objective of the research projects was to design and develop models for online design practice, with a specific focus on sustainable community design. The idea of a dialogic assemblage is presented as a way of thinking about the structuring of online design dialogue.

Preliminary investigation of related technologies

A number of online technologies available at the time were considered in terms of how they could be integrated to support existing, well-structured design processes. Design processes were considered in terms of potential communication requirements. Prototype online design communication applications were developed for different communication problem types. The study was conducted through graduate seminars in the Faculty of Architecture at the University of Manitoba.

Online communications technologies

After examining a number of approaches to online communications we selected two technologies that seemed the most promising for supporting design communication needs. These were Computer Supported Cooperative Work (CSCW) tools and Group Decision Support Systems (GDSS) tools. A number of commercial and research applications that reflected CSCW and GDSS approaches were examined including Web Ex, Team Wave, NCSC's Habanero, and Microsoft's NetMeeting.²³⁹ At the time that we

²³⁹ See the web sites listed below to compare available online systems that offer some of these features. Web Ex <http://www.webex.com>; Habanero <http://havefun.ncsa.uiuc.edu/habanero/>;

conducted the project (1998-1999) these products varied considerably in terms of their functionality, ease of assembly, user interface and flexibility for individual customization. These technologies have been discussed in greater detail in Chapter 2.

The following discussions of three projects illustrates on –line design communication concepts that were influenced by the integrated nature of the CSCW environments and in the ways that collaborative work models were being considered as responding to specific user needs. We envisioned collaborative design settings that would incorporate aspects from each of these types of CMC environments. The projects took three directions. First, none of the commercial or research environments that we investigated were thought to be useful as collaborative design environments. In order to design a collaborative design setting we began by examining the design process in terms of the types of communications that take place. We chose a highly structured model of the design process, developed by Cutler and Cutler²⁴⁰ for this examination. I use the term *dialogic assemblage* as the bringing together of different communication solutions to facilitate the structured design problem. Secondly, the models illustrate how specific collaborative design settings develop in response to specific needs. There already exists a substantial body of knowledge regarding participatory planning methods (as discussed in the previous chapter). Instead of starting from scratch it was considered to be more appropriate to adapt these proven methods for computer environments. I call this approach the *method assemblage*. Thirdly, the CSCW examples illustrate how a number of tools may be brought together to support business meeting settings. Although these settings were not appropriate to the design context, the concept is transferable to design communication tasks. I call this type of assemblage a *tool assemblage*. Tool assemblages have become a real possibility because of the *open architecture* of many of the current CMC applications. Below I summarize three projects that were developed as investigations into these three directions.

NetMeeting <<http://www.microsoft.com/windows/NetMeeting/>>; TeamWave
<http://www.teamwave.com>.

²⁴⁰ Cutler and Cutler.

About Assemblages

Community-design scenarios are meant to be non-authoritative collaborative environments. They are the result of multiple voices, not dependent upon prescribed methods for reaching solutions, but result from constructing unique dialogic spaces determined to be *appropriate* to the given contexts. In past discussions that I have had with participatory planning practitioners and educators,²⁴¹ it was always unclear what online collaborative design environments might look like, how they might work, and how they might be different from traditional collaboration environments. This has led me to the following two observations. First, participatory methods themselves often operate sequentially (one after another grouped as a planning scenario) but are not specific to a problem domain. In other words within a given problem domain (urban in-fill, new suburban community development, local commercial development, etc.) different dialogic methods are formulated at different stages in the planning and design process. For example, in a given design scenario it may be useful to begin with a visioning exercise (operating with a certain tool assemblage) followed by a role playing exercise (operating with a different tool assemblage). Wates provides a number of community-design scenarios, particular to the British context, that adopt a range of participatory methods along the way:

Example 1. The Village Revival (developing scenarios for a village to preserve and build on its local character) stages participatory activities in a more extensive process that occur in the order of *community profiling*, *community planning forum*, *local design statement* (from community mapping and photo surveys), *review session*.²⁴²

²⁴¹ Through the course of my investigations I met with Stanley King, Robert Shibley, Linda Sneekloth, David Witty and Sheri Blake. Each of these individuals has been involved in teaching and practicing in areas of collaborative planning. Together Dr. Blake and I ran a special topics studio course in the Master of City Planning at the University of Manitoba that involved research and development of prototypical participatory planning software.

²⁴² Wates, 161.

Example 2. Inner City Regeneration stages include the establishment of a *neighbourhood planning office* (for tenant committees and consultants), *planning for real* and *choice catalogues*, *planning days*, *design games*, *arts workshops*, *action planning events*, *review sessions*, establishment of *local development trusts*.²⁴³

Example 3. Local neighbourhood initiatives stages include *process planning sessions* or *open space workshop*, *stakeholder meetings*, *planning weekend*, establishing a *neighbourhood planning office*, *review sessions*, and establishment of a *development trust*.²⁴⁴

Wates presents sixteen scenarios representing common development situations that illustrate how participatory methods could be combined in different ways. But, when we consider how new media tools (digital video, digital white boards, forums, chat rooms, Blogs, etc.) may be brought together to simulate specific design or planning methods, the notion of a tool assemblage may prove to be overtly prescriptive. The tools shouldn't determine the dialogic possibilities, in other words the possible ways to assemble the communication tools should not pre-determine the nature of the dialogue. Rather the nature of the dialogue should determine the assemblage. In this way information technologies are grouped around a type of dialogic formulation (group the technologies specific to the types of dialogue that we choose to use, if they are in fact available and appropriate to the dialogic method). This is what may be referred to as a dialogic assemblage. It is a way of thinking about how planning scenarios like those proposed by Wates may be understood in terms of combining dialogic methods as a response to the problem at hand. The dialogic assemblage may be seen as a way thinking that precedes or anticipates the way technologies might be evoked in support of community planning problems. This form of anticipation may be used to clarify technical considerations for the software development team such as interface issues or issues of structural data coherence between the various methodological planning stages that make up a scenario.

²⁴³ Wates, 144-145.

²⁴⁴ Wates, 146-147.

The scenarios proposed by Wates are not meant to be a recipe book for planning situations. Local groups should be able to adopt dialogic strategies as required, responding to needs as they arise, rather than predefining the overall planning process before hand. The dialogic assemblages themselves (participatory planning strategies) should only act as the maps of other group experiences, but should be thought of as structural possibilities for assisting in the organization of dialogic situations. The emerging technologies discussed in the following projects point to new flexibility in assembling dialogic applications (tool assemblages) with levels of ease that were never available before. We are also already able to build or bring together a host of tools that specifically simulate or assist users in a wide range of recognized participatory methods (either as method assemblages or as method programs). The Internet can also be thought of as a media where people and groups can share their own successes and failures regarding participatory processes. The dialogic assemblage concept is a means of structuring part of that dialogue.

Project 5 – Communication and the design process (the Cutlers assemblage)

A dialogic assemblage (in its simplest form) is an approach to thinking about urban design as a series of dialogic events. The Cutlers assemblage is based upon a model of a process for urban design that the Cutlers call *designing with environmental assessment*. Along with a flowchart that maps the design process, the Cutlers provide an outline of the tasks that are associated with the components that make up the design process. By considering the *Outline of Component Tasks* provided by the Cutlers²⁴⁵ a number of kinds of dialogue that would likely occur for each of the components in each of the tasks were considered. The kinds of dialogue were thought of as either *exchange relationships*, regarding the needs of the various participants at different stages in the process or considered in terms how information might be used as a part of a design dialogue. For example, for the task of examining the *Urban Fabric* components includes *building land use prototypes*. On the user needs side this might involve developing an understanding of design precedents, which might on the information side include building a database of

²⁴⁵ Cutler and Cutler, 107-125.

relevant housing precedents or developing a internet link directory of existing projects (Hypermaps). Another example was *unit and building types, plot & plot use* which for the user would mean analyzing existing land use including, perhaps undertaking a site analysis. From an information side this could include the means of incorporating, manipulating, analyzing and representing various types of digital information including land use maps, photographs, GIS data, etc.

As we think about the design process in dialogic terms the exchanges on the side of the user are exchanges of knowledge and understanding. This is not simply about the transfer of data it is also about finding ways of ensuring that we are sharing meaning. When exchanging knowledge, for example of building types, it is not enough to exchange graphic representations of typological alternatives. We should also be facilitating ways of explaining why specific decisions are being made.

The design of information should be a reflection of how meaning is constructed and shared. So, for example, the communication of photographs that have been taken as part of the site analysis may be communicated through a relational database like structure that allows threaded dialogue²⁴⁶ to take place. The structure of the information like the threaded photographic records, should be considered beyond the specific needs of the users at a particular stage in the process. Instead they should be considered in term of how user needs become integrated within the larger design process, in ways that build shared understanding. So, for example, the consensus building process concerning the interpretation of site information captured in relational database records may be used in other discussion settings. These could include knowledge feedback mechanisms such as posting boards, questionnaires, or image libraries that may be linked to broad based digital forums (maybe looking issues of diversity at the scale of the neighbourhood).

The Cutlers Assemblage points to a number of real concerns associated with mapping and programming for all of the dialogue that takes place in urban design process. The

²⁴⁶ This is a Digital Forum term referring to dialogic content that is built up linked to an initial content element, usually text.

first major concern has to do with the scale of the problem. Even if we were could map all of dialogic processes (by this I mean that the components that can be clearly articulated as specific kinds of dialogue between identifiable participants,) the task of developing such a system would be enormous. The Cutlers have identified close to 300 components in the urban design tasks, each of which would have to be analyzed separately in terms of how knowledge is transferred across the process (this might be uncovered by using the Delphi Technique in urban design office settings). In fact this probably is already being done in less formal ways in office environments that muddle through and find ways of working together as an office. This is what often distinguishes one office from another. But as these ways of working together become better established, more refined, they may become limiting at the same time. Members of the same office are subjected to the limitations and potentials that their dialogic situations allow. They are, in a sense, forced to work in certain ways because the structures of the dialogue have been established often by the media that they have adopted.

Another concern is that a model for a design process is not the same thing as a design strategy. As the Cutlers point out:

As each urban area and each set of problems is different, a methodology should not be a dogmatic imposition of a monolithic and inflexible thought process. The best planning theory is, in fact, the hybrid – a responsive adaptation of the best characteristics of many proven planning methods.²⁴⁷

In other words, all design situations are different. This means that, in each case, the ways that we exchange knowledge and meaning may be different. Designing a singular dialogic model for placemaking is like adopting a dogmatic, monolithic, and inflexible thought process. The ways that we bring together the needs and resources to support shared understanding and consensus building should emerge from the context and the people involved rather than from a prescriptive design process model.

Instead of thinking of the online design system as a prescribed, often linear, result of mapping identifiable exchange relationships, it may be thought of as the result of

²⁴⁷ Cutler and Cutler, 110.

bringing together dialogic methods (communication environments) when they are deemed appropriate by the users. In this way the dialogic assemblage is not about mapping intentions ahead of time, instead it is a way of responding to emerging desires for hybrid forms of participation. In order to understand how the dialogic assemblage would come together two other types of assemblages are considered.

Method Assemblages and Tool Assemblages

One way of thinking about online design communication is about engaging participatory planning methods when they are seen to be appropriate. The Cutlers refer to engaging in methods of citizen participation including public hearings and meetings, questionnaires, interviews, workshops, etc. A *method assemblage* may be thought of as ways of engaging in these types of methods on the Web as required in a given context. I use the term assemblages because they may involve bringing together a specified set of dialogic applications to support certain participatory methods (as in the previous chapter). The applications should be flexible enough to also be used in a number of participatory contexts, where for example several methods are used in succession as a means for a group to work towards consensus. In this way participatory approaches to design could emerge as hybrid dialogic formations, new combinations of tools that respond to unique communication needs. This hybridizing of new dialogic formations is another way of thinking about dialogic assemblages. I will return to this version of dialogic assemblages in the next chapter.

Project 6 - The Method Assemblage - an Interactive Display prototype

Public consultation on matters concerning the design of our cities takes many forms including many of participatory methods described by Wates.²⁴⁸ The method assemblage has been conceived as a way of creating an online application that simulates, using the Internet, the conditions that exist when applying traditional planning methods.

²⁴⁸ Wates.

The first method assemblage prototype that was developed is on based the participatory planning method described by Wates called an *Interactive Display*²⁴⁹. Interactive displays are designed to encourage people to engage and debate issues and designs. Participants are encouraged to make additions and alterations to pre-prepared work, as part of forums, workshops, exhibitions, etc. Information is often built according to a sequence of comments that are recorded in ways that they can be used afterwards. Interactive displays may be part of a variety of planning scenarios, one of which is the public review process.

The public review process enables the community to engage in sharing ideas and opinions concerning proposed design solutions (the public review of proposals for a new arena on the Eaton's building site in Winnipeg was the concurrent example).

Traditionally this has been done through a series of public meetings and forums that encourage participants to speak to the issues at hand. Although public forums do allow for broad representation and public participation they also can act as barriers to equal access because of limited schedules, time constraints, and the ability of certain parties to influence and/or dominate proceedings. The on-line system, tailored after the interactive display allows for participants, to engage in recorded written and graphic dialogue. The prototype has the potential of enhancing dialogue, allowing it to occur for extended time periods, providing for participant determined discussion areas and alternative forms of accessibility.

The online design review is a special type of decision-making environment that requires group collaboration using spatial information. This *online Interactive Display* was devised in response to the types of activities that occur using traditional interactive displays. In particular two activities were identified. The first was in providing a virtual *Post-it board* where participants place post-it™ notes on drawings to be considered at another time. The second activity was the use of *comment sheets* where a number of suggestions or answers to questions could be assembled. The system was assembled by bringing together existing technologies in an HTML programming environment.

²⁴⁹ Wates, 72. (Other similar methods described by Wates include community planning forum, elevation montage, open house event, street stall, table scheme display.)

User considerations

Interactive displays are used in different planning contexts including forums, workshops, conferences etc. They may be used to determine user preferences regarding ideas, visual preferences, as ways of gathering comments about design and planning proposals or simply as ways of collecting new ideas relating to specific topics. Interactive displays may include strategies that focus user input on specific topics and/or allow users to add ideas to existing representations.

Information considerations

The post-it board metaphor was recognized as being similar to the functions available in digital white board technologies. This was feasible as long as the digital white board application allowed users to save their comments at given intervals in order to prevent visual clutter. Open source applications at the time had very limited possibilities and commercial applications were cost prohibitive. This made the project a greater challenge than we had anticipated (we ended up becoming an alpha software test site for white board technology being developed at the time, 1997).

The comment sheet metaphor could either work using the digital white board similar to the digital post-it board above, as long as the system was designed to save all current comments when images were being saved. Most of the digital white-boards that we examined at the time had major limitations in their abilities to save information. There were also limits to the number of participants that each comment sheet could handle (seven at most with the systems that we tested). The alternative approach to developing the comment sheet metaphor that we adopted was to incorporate online forums with image information. This allowed for broader commentary but limited the ability to mark up the drawings.

In 1998 a prototype system that simulated the activities that take place in the Interactive Display was cobbled together from different software that was acquired online. Although

not very robust (based upon time limited test versions of the communication tools) this would serve as a proof of concept for the design of other applications that simulate established design and planning methods.

Discussion – method assemblage prototype

The method assemblage concept is a way of engaging in different participatory methods as required by the user group. Applications are developed that allow for users to take part in simulations of participatory planning and design methods. Method assemblages may be conceived as either complete environments where specific types of structured dialogue take place (such as the prototype that has been described) or as web sites where resources that may support analogue planning methods may be found. Method assemblages in their simplest form exist as a group of computer communication resources bundled together (see tool assemblage below) to facilitate an existing planning method. A more sophisticated way of thinking about programming participatory methods involves bundling the method assemblage for specific planning and design scenarios. In other words, many methods might be used as part of the consensus building dialogue. The idea of bundling methods into planning and design scenarios is another way of thinking about the dialogic assemblage.

Project 7 - Tool assemblage: prototype development and assessment

During the spring of 1999 we²⁵⁰ developed a prototype of a CMC alternative to the design review system, for use within an urban design studio setting that could facilitate discussion and review of on-going architectural student work on sustainable housing alternatives. Instead of adhering to the strict metaphors that simulated the face-to face design review process we envisioned a communication space where a number of types of dialogue could occur simultaneously. The application developed was meant to allow for

²⁵⁰ Our research team at the University of Manitoba included Professor Eduard Epp of the Department of Architecture and Sean Pearson, a Master of Architecture student with extensive computer programming experience, and a senior masters class in architecture.

a number of simultaneous dialogic possibilities. Students built models in digital and analog formats and incorporated models and their own relevant discourses concerning the design solutions into the online design review space. The tool assemblage concept was applied to the prototype by first developing and acquiring a number of CMC tools that reflect common design review activities, then assembling these tools into a single working environment.

Our ultimate vision of the tool assemblage was an environment that the users could put together in different ways based upon their own specific communication requirements. This remains a challenge that we were unable to realize, that is some assembly (programming) is still required. An illustration of the tool assemblage prototype is provided below.



The online design review prototype included:

- model animations usually taken directly from computer generated 3D models of student designs,
- video sequences of site investigations and conclusions drawn from sight analysis,
- quicktime virtual reality models that allowed viewers to zoom in and out or pan around in the virtual design spaces,
- hypertext links between drawings and discussions pointing to other relevant sites or linking drawing to specific discussion areas,
- an automated white board setting for marking up of drawings would allow participants to draw on the student drawing like a mark up space. The cost of acquiring desired software limited this application to moderated entries, restricting the users ability to save revisions,
- project chat rooms, where live discussions about the work could take place,
- a system specific digital forum, where logged discussion could take place,
- bibliographic and abstract databases linked to individual chat rooms,
- and e-mail messaging to individual students or researcher for confidential discussions.

Discussion

Observations concerning the online design review prototype (built in 1999/2000) are summarized as follows:

- It should have been possible for participants, particularly those developing design solutions to insert and replace model animations and QTVR's dynamically. This depends upon the purpose of the design review, but as an interactive environment between designers and clients or other critics this system should be able to support iterative design development. In its prototypical form users would have to go through the system administrator to post new design concepts.
- The communication space that we envisioned as the ideal dialogic working environment resulted in too much information being made available at any one time, resulting in confusion being expressed in the forum. Although as the developers of the software we could envision the benefits of simultaneous on screen activities i.e., white boards, chat rooms, models/animations, texts, and forums, link lists etc. some student users found that too much information was being provided. It was felt that dialogue should be deliberately structured for it to be useful (like the questions in the *virtual comment sheets*). Forums associated with work were not good enough because of the potentially rambling nature of the different discourses. Ideally the students felt that they should be able to have some control, assemble the dialogic environment according to their own active needs (give me the white board with the chat room now, switch over to a forum and links list, etc.).
- The work space, or user interface was developed with a specific type of interaction in mind, student/teacher discussion about the work. The students thought that different types of discussion (for example between themselves) should be designed based upon other identifiable needs, rather than being pre-determined by the instructors. Student desires to customize their own environments were often a reflection of how they envisioned using the dialogic space. Their ideas of the dialogic environments were often personalized and varied. The public nature (everything all at once) of our *smooth dialogic space* made some students uncomfortable and others confused. Unwittingly in our attempts to make the information more broadly available and a design process more democratic we imposed a system of domination over the students through the user interface and the choice of tools available.

- Although the asynchronous nature of the digital forums were useful, the limited space provided on screen for the forum was frustrating and limiting. Again interface flexibility would be desirable. Similarly the shared white board space did not provide adequate features for saving drawing revisions on the fly. This meant that drawings either quickly became illegible (too many people drawing at the same time) or dominated by a single user.

- The ways that we organize information, text files, image libraries, etc. implies intentions and desires that may not be shared equally by all participants. User may wish to establish their own link lists (text, images, discussions, videos) in order to personalize their own discourse. In this way the dialogic work site that supports online design reviews may become more like a constructed hypertext environment (see Chapter 8).

Project Conclusions

The web sites discussed allowed for different types of dialogue, but in some ways suffered in the first instance by taking a very limited view of dialogue and in the second instance by trying to do too much, trying to be too inclusive, too multi-vocal without recognizing the need for the shared purpose of the dialogic situations. The second site was built without a deep (or shared) understanding of what the nature of the dialogue itself (what it should be). Greater collaboration between system designers and users may begin to address these problems.

Significant theoretical research must still go into the identification of appropriate types of tacit knowledge required to support decision-making processes, as well as how such tacit knowledge may be combined with other forms of decision making within particular design contexts. Customized tools may be developed for specific types of recurring participatory methods (method assemblages) instead of being assembled from kits of parts (tool assemblages). Sustainable community design principles may be considered to be a kind of tacit knowledge (where methods that evaluate for example building performance) are available to assist in the interpretation of acceptable community-design

solutions. Optimistically I envision much of this tacit knowledge being made available over the Internet with groups of like mind supporting one another globally.

The tools available to us in 1999/2000 were limited us in terms of our ability to rapidly change the system in response to emerging user needs or problems (such as the interface concerns that came up in the user forum). Current technologies, such as Blogs,²⁵¹ offer exiting new possibilities for rapid reconfiguration of dialogic working environments.

EPISTEMOLOGY AND ONLINE DESIGN PARTICIPATION

The epistemology rooted in dialogue proposed by Freire may seem to be somewhat abstract to be of much use for interpreting CMC and its use. Concepts like distanciation or conscientization may seem to be subjective ideas that will always be hard to substantiate. I believe that they may be more about an attitude towards understanding, an attitude of introspection rather than a way of seeing. In other words, when thinking about CMC one should be assuming an attitude about distancing ones self from fixed ways of working. Distanciation is an attitude through which computer-mediated communications designers are liberated form preconceived notions about the possibilities dialogue, liberated metaphoric possibilities that come from face-to-face dialogue. Distanciation is an attitude of liberation from set visions about what is constituted to be appropriate dialogue. Instead, CMC provides the opportunity for communities to build new metaphors about dialogue, assemblages of new potentials, and in their contagium connecting like-minded people and communities to one another. Distanciation is an attitude about building new dialogic possibilities through a commitment to dialogue. Projects 5-7 have been attempts to think about CMC in ways that were increasingly more and more a reflection of an attitude about distanciation. These projects began as an attempt to codify the design process, but then became attempts to create more open and integrated dialogue.

²⁵¹ See: www.Blog.com

But in each case the design of the system was conceived and built, rather than produced as a reflection of participant needs and desires. We were building a CMC environment, when we should have been growing one. The idea of growing CMC means that conscientization is also about uncovering new ways to work and learn together. This type of conscientization is about working with one another to uncover what a system should be doing, rather than being drawn in by design paradigms, of system structures determined by existing models of dialogue or software possibilities.

The epistemology rooted in practical discourse developed by Habermas is based upon the unrealizable *ideal speech situation*. But this is perhaps its strength rather than its weakness. In the ideal CMC the ideal speech situation means that participants are given as equal a voice and opportunity, in the creation of the dialogic space, as well as in the use of the dialogic space.

The *ideal speech situation* may be thought of as a goal when constructing dialogic space, with the objectives of recognizing and removing the impediments of fair and open dialogue, of suspending aggression, animosity, and hostility in the dialogic situation.²⁵² It is a way of situating dialogic action so that people can act as if real equal dialogue can occur. The building (growing) of the dialogic space is thus a form of communicative action where actors use reason to motivate one another and rely upon the illocutionary force of the speech acts. Working together to build community based dialogic space means more than asking the users what they would like to have or what they would like to be able to do. It means that participants are committed, conscious and critical of the speech acts that determine the ways that communication systems are constructed as well as what is being said within the dialogic event.

Constitutive and deconstitutive hermeneutics

Critical hermeneutics is often about uncovering underlying tradition, prejudice, and even conscious evasion. In this way it can be understood as a project of understanding and

²⁵² Morrow and Torres, 52.

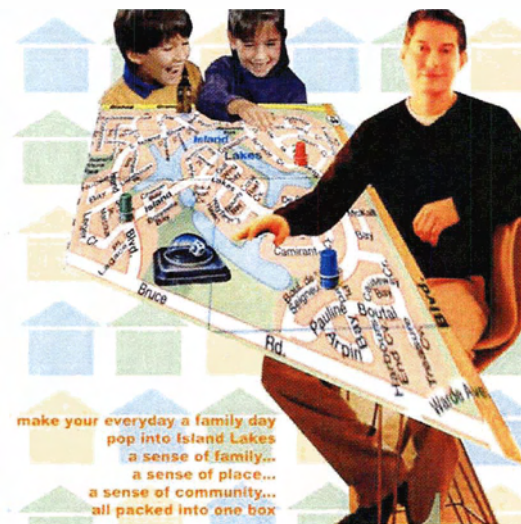
emancipation from tradition, prejudice and evasion. Participatory planning methods often serve as vehicles for exposing the limits of current urban design practices. These methods are most often constitutive activities, that is about building a shared vision of the future. But these methods may also be seen as deconstitutive activities, activities that engage in the deconstruction of the systems of practice that are often strategic and manipulative.

As a form of deconstitutive inquiry hermeneutics is about deconstructing current design strategies that tend to limit discourse and fracture debate. As a form of constitutive inquiry hermeneutics is about seeking alternative venues for conducting spatial discourse. This is however more than a technological issue but also an issue of when and how community participation in design settings can take place.

We must construct our ways of validating claims, identifying priorities, and developing strategies for collective action through interaction, through debate. These debates too are social constructions.... planning becomes a process of interactive collective reasoning, carried out in the medium of language, in discourse.²⁵³

As we consider online tools that support environmental design activities we must be engaged in questions concerning the associated domination in participatory design (domination of people, domination through speech acts). Underlying such an engagement is the premise that design should be discursive acts between those who re-invent places and those who reside in them.

²⁵³ Healey, 53.



CHAPTER 8 - RORTY: ABNORMAL DISCOURSE AND CMC

MUDDY SOCKS

When I was about five years old I remember being told by my mother not to go near the river. A bridge was being constructed and heavy earth moving equipment was being used. Of course it was all too tempting and I was soon tromping through the mud in my rubber boots. When I had just the right vantage point I stopped and watched the men and machinery at work. To my surprise and horror I soon realized that I was in the path of one of the large graders. When I tried to move I discovered that I had sunken into the mud to the point where I could no longer move my feet. As the machine got closer I scrambled out of my boots and made my way home in my socks. My mother was not impressed.

Memories are more than stories they can also serve as metaphors about our relationships to knowledge and our relationships to place. They can also be about how we discover our world through our relationships with others, and sometimes how we choose to *step out of our boots* to cope with the situations that arise.

I will consider what it means to step out of ones boots, to be more pragmatic and less epistemological, as I attempt to make sense of how Rorty's approach to hermeneutics can influence CMC environments. For Rorty, hermeneutics is more about a critical attitude than a way of knowing. For Rorty hermeneutics is about different non-commensurable vocabularies and languages.

RORTY'S PROBLEM WITH EPISTEMOLOGY

Jürgen Habermas' epistemology may be considered to be a form of pragmatism²⁵⁴ where knowledge is based in a discourse of conjectures and refutations. It is a very different type of pragmatism than the one proposed by Richard Rorty. Rorty's humanistic pragmatism may be described as deliberately engaging in praxis of self-realization. This should not be confused with Freire's idea of conscientization, while Freire's interests are about uncovering truths about ones self, Rorty's brand of self-realization comes from understanding and accepting that knowledge is always contingent on language.

Rorty resists the whole epistemological enterprise because for him all epistemologies are contingent and limited by their current languages. Following from Kuhn, Rorty believes that it is a waste of time trying understand our relationships to knowledge, since as language changes so too do the possibilities of new knowledge (meaning refinement or redefinition of the current epistemology is needed). Instead, Rorty believes that the real challenge faced by philosophers is in the disruption of our current languages and the creation of new language alternatives.

Rorty argues that part of the philosophical legacy that we inherited from the Enlightenment was to divide the pursuit of knowledge into epistemological concerns (usually characterized as objective knowledge) and hermeneutic concerns (characterized

²⁵⁴ Pragmatism is the philosophical approach, started by C. S. Pierce and William James, "which determines the meaning and truth of all concepts and tests their validity by their practical results." D.B. Guralnik, *Webster's new world dictionary of the American language* (New York: Simon and Schuster, 1974), 1118).

as subjective knowledge). Rorty goes on to challenge this divide and offers an alternative understanding of what it means to be hermeneutic. For Rorty “epistemology proceeds on the assumption that all contributions to a given discourse are commensurable.”²⁵⁵ This means that reason will always be the ultimate determinant of issues that arise.

By “commensurable” I mean able to be brought together under a set of rules which tell us how rational agreement can be reached on what would settle the issue on every point where statements seem in conflict. These rules tell us how to construct the ideal situation, in which all residual disagreements will have to be “noncognitive” or merely verbal, or else temporary – capable of being resolved by doing something further. What matters is that there should be agreement about what would have to be done if a resolution were to be achieved. In the meantime, the interlocutors can agree to differ – being satisfied of each other’s rationality the while. The dominating notion of epistemology is that to be rational, to be fully human, to do what we ought, we need to be able to find agreement with other human beings. To construct an epistemology is to find the maximum amount of ground with others. The assumption that an epistemology can be constructed is the assumption that such common ground exists.²⁵⁶

Rorty believes that one of the principle roles of hermeneutics is to challenge the assumptions that all contributions to a given discourse must be commensurable, and therefore not bound to a *disciplinary matrix which unites all speakers*. In fact to be rational, in Rorty’s pragmatic sense (committed to reasonable actions), means to question, challenge and resist dominant epistemologies. For urban design this may be translated into questioning and challenging current development discourse and practices and looking for alternative discourses like sustainable community design. For placemaking I believe that this also means challenging not only the discourse itself, the language itself. It is also about questioning and challenging the mechanisms that sustain and perpetuate discourse, in other words the media through which types of discourse are supported and maintained. Hermeneutics for Rorty is something other than interpreting text or even watching language at work. It is not about adopting a relationship to knowledge, adopting an epistemology. Instead it is about putting epistemology in doubt.

For hermeneutics, to be rational is to be willing to refrain from epistemology – from thinking that there is a special set of terms in which

²⁵⁵ Rorty, *Philosophy and the Mirror of Nature*, 316.

²⁵⁶ Rorty, *Philosophy and the Mirror of Nature*, 316.

all contributions to the conversation should be put – and to be willing to pick up the jargon of the interlocutor rather than translating it into one's own.²⁵⁷

In the theories of Freire there is a view that knowledge and truth were somewhere buried within the individual, and that through an epistemology based in dialogue that truth and domination could be uncovered through critical introspection. Participatory planning is considered to be useful as a practice that allows for new forms of dialogue, hence distancing, that could lead to conscientization. Hermeneutics for Rorty would be to challenge the dominant discourses that are being engaged, in Freire's case a discourse about uncovering domination. In fact being locked into a discourse about uncovering domination could even be seen as a form of domination, following from Rorty's idea of *picking up the jargon of the interlocutor*.

Alexander M. Sidorkin, like Freire, is also concerned with education and the emancipation of the individual to dialogue. But Sidorkin is much more of an edifying philosopher concerned with the process of Becoming, rather than uncovering what is hidden in the layers of domination.

Dialogue is not simply a conversation, a way of communication, and a means towards some other goals. Dialogue becomes the goal in itself, the central purpose of human life.... But dialogue is not an activity in a sense that it is not directed toward anything. Dialogue is an end in itself, the very essence of human existence.... Dialogue that is being *used* for something ceases to be dialogue. This is only the shell of dialogue, a conversation entirely within the *I-It* realm. No rules can guarantee that dialogue really happens, and dialogue may occur despite gravely monological forms of communication. Once dialogue begins, no one can channel it, or manage it, or transform it, even for the noble aims of education. I want to contrast ontological vision of dialogue with the non-ontological one, which sees dialogue as a form of communication, as a means towards some other goal.²⁵⁸

²⁵⁷ Rorty, *Philosophy and the Mirror of Nature*, 318.

²⁵⁸ A.M. Sidorkin, *Beyond Discourse: Education, the Self and Dialogue* (New York: State University of New York Press, 1999), 11-15.

Sidorkin's ontological notion of dialogue, as an end in itself, marks a shift in educational inquiry²⁵⁹ from the acquisition of knowledge, to the act of participatory inquiring. A similar approach within a geographic perspective would consider space and place less as objects of study and more as milieus of everyday engagement. This is a shift in focus from talking about place and space to actively seeking ways of engaging in collective community processes of reaching understanding. From a pedagogical point of view this implies is a shift from objective academic inquiry to forms of social participation and community engagement based in radical hermeneutic inquiry.

Does it mean that people who enter the dialogical do not experience time and space as we do in every day life? Yes, it means this, and also that dialogue is not defined and determined by spatial and temporal location. Dialogue is what Virginia Woolf calls moving from the entanglement in the 'cotton wool of daily life' to 'moments of being'.²⁶⁰

A living geography (a geography of living in flux) and a *geography of edification* (a geography of continual becoming) emerge through dialogic activity. Living geographical praxis is composed of dialogic forms of becoming, living geographical praxis involves engaging in emerging forms of dialogic uncovering. This is in part about resisting and replacing monologic discourses and seeking the gaps and fissures that allow true dialogue, *dialogue of space and place* rather than *dialogue about space and place*, to occur. This is a continual praxis of *catch and release*. Concepts such as sustainability and even community are released from fixed meaning and captured as symbolic resources of dialogic activity (dialogue of), only to be released again before being fixed into the easily transferable (dialogue about).

In the theories of Habermas there is a view that knowledge and truth were somewhere buried within the utterances, and through an epistemology based in discourse that truth and knowledge could be uncovered through critical interpretation of the discourse, including an analysis of the speech acts. Participatory planning is considered (at least in my interpretation) as a way that speech acts and intentions are brought together. Following from Habermas participatory planning could be thought of as an active,

²⁵⁹ This is also reflected in the work of Paulo Freire.

²⁶⁰ Sidorkin, 17.

conscious, concurrent critical interpretation of community dialogue. Rorty has challenged Habermas' for being too preoccupied with the *problem-solving function* of language and the argumentative practices of *expert cultures*.²⁶¹ Rorty offers a hermeneutics that is often about releasing metaphors as creative alternatives to prevailing discourses and uncovering the ironies and contingencies of language. In this way participatory planning may be thought of as ways the people come together to explore the creative potentials of abnormal discourse.

For epistemology, to be rational is to find the proper set of terms into which all contributions to the conversation should be translated if agreement is to become possible. For epistemology, conversation is implicit inquiry. I believe that the discourse and the way that the discourse takes place are also reflections of the dominant epistemology that should be put into question. This is a view that language, in the way we use it today is more than a semiotic system based in words, a vocabulary, a grammar etc. Language is a reflection of a current digitally mediated epistemology, and knowledge about space and place is built upon a semiotic system that is visual, textual and even experiential, where the operators (like grammar) include new types of mediating agents (animation, time lapse photography, hypertext, image/text associations). In other words, knowledge and understanding is not limited by a language of words, but is also based upon a language of mediated images and experiences.²⁶²

According to Kolenda, for Rorty, pragmatism should be bound to humanistic concerns and that the determination of meaning and truth must be based in a combination of knowledge/action/hope. "Pragmatism stresses the holistic character of experience, thus assuming that neither knowledge, nor action, nor hope can be fully explicated when taken by themselves. It sees human life as a concatenation of cognition, behaviour, and expectation".²⁶³ Part of Rorty's position is that traditional philosophical pursuits of

²⁶¹ Rorty, *Contingency, irony, and solidarity*, 66.

²⁶² Habermas, *Pragmatics of Communication*, 343-382.

²⁶³ K. Kolenda, *Rorty's Hermeneutic Pragmatism* (Tampa: University of South Florida Press, 1990), xiv.

knowledge (epistemology) have been privileged over action and hope and that we should be shifting our attention and approaches concerning our philosophical reflections.

In this work the humanistic pragmatism of Richard Rorty is interpreted as a means of developing a notion of SCD that is less about a shared epistemology about the production of place, and more about coping with change in a multi-centered world. If dialogue is to become the basis for bringing about changes in our physical environments then we must seek alternative forms of rational engagements that reflect the subtleties and complexities of the issues that come from people sharing their own understandings of place. Whereas Freire and Habermas might be thought of as pursuing and developing hermeneutic epistemologies Rorty goes out of his way to make a distinction between hermeneutics and epistemology.

For hermeneutics, inquiry is routine conversation. Epistemology views participants as united in what Oakeshott calls *universitas* – a group united by mutual interests in achieving a common end. Hermeneutics views them united in what he calls *societas* – persons whose paths through life have fallen together, united by civility rather than by a common goal, much less a common ground.²⁶⁴

Following from Rorty sustainable community design may be thought of as the coming together of the *societas* because of circumstances. The *societas* is not based upon common goals and agendas but instead comes from the willingness of people to be united in civility. It is unlikely that the *societas* will ever truly be held together by some form of common ground (*a disciplinary matrix* which *unites all speakers*). Instead the *societas* is characterized by difference, what may be best described as the coincidence of overlapping desires, actions and meanings. It is because of its nature, because of its inherent differences, that the *societas* can only be held together by its on-going conversations. Emerging from this difference are new forces of creative and critical potential. These forces are realized through the multiplicity of (often idiosyncratic) actions that become part of the conversations towards alternative approaches to being part of a lived world. Sustainable community design is thus thought of as a critique of prescriptive planning methods, and an enterprise in the demystification of local potentials

²⁶⁴ Rorty, *Philosophy and the Mirror of Nature*, 318.

and desires. Civility, in the sense of placemaking, may be thought of as the hope for affecting *better* physical environments. By *better* physical environments I am referring to physical settings that are designed, built, and lived in ways that reflect and affirm difference (of people and place) through the critical interpretation, disruption and invention of our placemaking languages.

In a sense the SCD web site work (Project 2) was about cobbling together a language (visual and verbal) of sustainable community design. The reason why such a language is important is reflected in Kolenda's description of how Rorty brings together knowledge, language and reality.

The language gives us a most reliable access to reality, because reliability and reality are logically connected. When we say that reality is that which can be relied upon, we are acknowledging the secure functioning of language. What the real world *is* is revealed to us in the successful use of language. Seeing is believing, and beliefs are expressed in language.²⁶⁵

By extension what the *real* world *is* is revealed to us in dialogue and communicative practice. The challenge of moving sustainable community design language along is thus about recognizing it as a living language subject to local considerations. "The world as a concatenation of phenomena brought to expression in the use of language is not found but made."²⁶⁶ Optimistically, our new media technologies may be used to support local living languages.

NORMAL AND ABNORMAL DISCOURSES

Rorty presents the notion that epistemology is about taking care of all of the important commensurable (usually objective knowledge) leaving the rest to hermeneutics. He thus provides a pragmatic means for us to rethink our notions of placemaking. He does so by making the distinction between *normal discourse* (commensurable discourse where

²⁶⁵ Kolenda, 5.

²⁶⁶ Kolenda, 11.

everybody agrees on the conventions of how to evaluate what is being said) and abnormal discourse (what happens when someone is either ignorant of the agreed upon conventions or chooses to ignore them). If placemaking is thought to be a means of reaching a common end based upon common ground, then it is reasonable to assume that normal discourse will take place.

But it is possible that placemaking will be the *site* of several abnormal (radical, revolutionary) discourses. Placemaking praxis may thus be thought of as the conscious simultaneous participation of a community in normal and abnormal discourses, of epistemological and hermeneutic investigations.

... the line between the respective domains of epistemology and hermeneutics is not a matter of the differences between the “sciences of nature” and the “sciences of man,” nor between fact and value, nor the theoretical and the practical, nor “objective knowledge” and something squishier and more dubious. The difference is simply one of familiarity. We will be epistemological when we understand perfectly well what is happening but want to codify it in order to extend, or strengthen, or teach, or “ground” it. We must be hermeneutic where we do not understand what is happening, but are honest enough to admit it, rather than being blatantly “Whiggish” about it.²⁶⁷

Following Rorty, placemaking is not simply about analyzing our environments and prescribing solutions for them, but rather it involves our creative participation in acts of listening and speaking, acting, making, and living our everyday lives through normal and abnormal discourses. Abnormal discourses are often allowed to occur through participatory planning methods that challenge developer driven approaches to design by making the development process more inclusive.

Abnormal Discourse of Deleuze and Guattari

Using abnormal discourses, non-commensurable terminology always presents a potential dilemma of obscuration of meaning and intention, of playing with the

²⁶⁷ Rorty, *Philosophy and the Mirror of Nature*, 321.

words. This is not my intention. Instead I am trying to consider how abnormal discourses can be used to support new ways of thinking about CMC and its role in dialogic design inquiry. Although I believe that decisions concerning how we change the spaces and places are primarily ethical concerns, these ethics do not come from the outside (from a predetermined ideological orientation), but are constructed from within the dialogic space (constructed by community for community in its complexity). Although this may be considered to be a postmodern approach to the making of place, it is not based in relativism or cynicism. Postmodern pursuits don't have to be seen as meaningless play, but instead are considered in this case as deliberate dialogic methodologies for coping with meaning in flux.

Since I started this work the voices that have been haunting my thinking have been those of French Philosopher Gilles Deleuze and Psychiatrist Félix Guattari. Deleuze and Guattari are, from my point of view, what Rorty refers to as an *edifying philosopher*.

The problem with an edifying philosopher is that qua philosopher he is in the business of offering arguments, whereas he would simply like to offer another set of terms, without saying that these terms are new-found accurate representations of essences (e.g. of the essence of philosophy itself). He is so to speak, violating not just the rules of normal philosophy (the philosophy of the schools of his day) but a sort of meta-rule: the rule that one may suggest changing the rules only because he has noticed that the old ones do not fit the subject matter, that they are not adequate to reality, that they impede the solutions of the eternal problems. Edifying philosophers, unlike revolutionary systematic philosophers, are those who are abnormal at this meta-level. They refuse to present themselves as having found out any objective truth (about say, what philosophy is). They present themselves as doing something different from, and more important than, offering accurate representations of how things are. It is more important because, they say, the notion of accurate representation itself is not the proper way of thinking about what philosophy does.²⁶⁸

It is difficult to say whether or not Deleuze and Guattari would be willing to characterize their work as ontological. Like Rorty, Deleuze and Guattari would have been critical of commensurable discourse. Deleuze and Guattari considered any attempts at normalizing

²⁶⁸ Rorty, *Philosophy and the Mirror of Nature*, 370-371.

(make representative or commensurable) discourses as the source of social and personal domination. Instead of focussing on what is knowable, Deleuze and Guattari focus their attention on the somewhat intangible notions of difference, immanence and the productive and creative potentials of desire.

More to the point, in the Deleuzian philosophy there is a shift away from traditional philosophical pursuits and ontological concerns with the nature of Being (similar to what Rorty is referring to as the *mirror of nature*) to concerns about Becoming. So for example when Deleuze considers the emergence of the New he resists the idea that a new event or circumstance arises directly out of a cause and effect relationship. Nor would he agree with Habermas that new insights and understandings come directly from the interpretation of utterances. Instead the New emerges specifically because there is something missing between cause and effect. Deleuze and Guattari construct an abnormal discourse that contrasts the philosophies of Being from philosophies of Becoming by using terms such as Nomadic as opposed to State, molecular as opposed to molar, or schizo as opposed to paranoiac.²⁶⁹ A philosophy of Becoming is about resisting explanation (fixing meaning) built upon attempts at reification. Being is no longer thought of as the result of the cause and effect relationship, instead being is understood always in terms of its actualization (nomadic or a process of becoming) instead of being understood in terms of it ever being actualized or accurately represented.

Deleuze and Guattari and Lyotard argue on behalf of the dynamic and intermediate aspects of reality which representationalist schemes try to fix and stabilize through foundations of knowledge. Their philosophy of desire also attacks representation in the broader sense of totalizing discourses, humanist frameworks, and cognitive schemes in general. They see these as derivative from primordial states of affective existence and as repressive totalizations of difference and bodily “intensities”, or punctuated bursts of desiring energies.... Deleuze attempts to deconstruct the opposition between essence and appearance and to recuperate the phenomena that Plato tries to repress – difference, impermanence, contradiction, non-identity, and simulacra.²⁷⁰

²⁶⁹ S. Zizek, *Organs Without Bodies: Deleuze and Consequences*. (New York: Routledge, 2004), 27-28.

²⁷⁰ S. Best and D. Kellner, *Postmodern Theory: Critical Investigations* (London: The Guilford Press, 1991), 83.

Deleuze and Guattari were interested in releasing and realizing new forms of thought that offered alternatives to normalizing, dominating discourses that they believed are engaged in the repression of desires. These new forms of thought are seen as ways of releasing desires from domination, and for realizing the potentials that emerge in conditions of impermanence and difference. Deleuze and Guattari have constructed their own form of abnormal discourse as a language for resisting the domination of fixed ways of thinking.

Deleuze and Guattari with their concentration on a new language for philosophy (a voice of machinic assemblages and bodies without organs of strata and rhizomes), have presented an *abnormal discourse* concerning the nature of self, understanding and community. The challenge that I try to entertain in the final chapters of my work is about how to mobilize these metaphors into new understandings about place, community and computer-mediated communication.

Strata

In order to get away from a philosophy of Being Deleuze and Guattari develop a complex language that resists the objectification and reification of phenomena. They realize that understanding is played out in a content/expression association, that content is always about something dynamic and in flux while expression is an attempt to fix or freeze content into an object of understanding, articulations. An articulation is a way of managing the complexity of change, objectifying phenomena into *forms and substance, codes and milieus*.²⁷¹ However expressions themselves are also dynamic and objectified and ironically articulated by the content. Take for example the suburb which is expressed as ideas and reduces the complexities of people and place to design concepts opportunities and constraints, an articulation of content into expression. Meanwhile the expression of ideals, images, visions and desires of place are concretized into possibilities

²⁷¹ G. Deleuze and F. Guattari, *A Thousand Plateaus* (Minneapolis: Univ. of Minnesota Press, 1987), 502.

of form (based on physical, social and economic factors), an articulation of expression into content.

A stratum presents phenomena through multiplicities of forms and substance and different codes and milieus. Strata are used to deliberately destabilize (de-territorialize) meaning that is built upon principles of reduction, by the superimposition of new expression of understanding over the form and content articulations of the past. In the example of thinking about the suburb, strata would be seen as ways of extending the considerations beyond the opportunities and constraints duality, recognizing the inherent paradoxes that exist in such a duality due to the multiplicity of often conflicting desires. Instead of trying to stabilize meaning about the possibilities of place and placemaking, the strata is a way of releasing desires, in this case into a broader community dialogue where the limits of either/or thinking is replaced by and/with thinking. Strata are not meant to be fixed, but instead are mobile assemblages that are appropriated as required. Thus strata are thought of as being de-territorialized, open and smooth in terms of their potentials. Machinic assemblages work within the strata organizing and functioning upon the potentials of the strata.

Abstract machines

Deleuze and Guattari use the term *abstract machines* when referring to the bundle of ideas and concepts that come together to invoke meaning. *Machinic* means “functioning immanently and pragmatically, by contagion rather than by comparison, unsubordinated by either the laws of resemblance or utility”.²⁷² The elements come together to invoke meaning that is greater than the sum of the parts. A *machinic assemblage* refers to the elements that when brought together realize a new *machinic* potential. Deleuze and Guattari refer to *production* as a process of *becoming* so that *machinic production* refers to the process of becoming that results from a given machinic assemblage. It is useful to understand *sustainable community design* as a machinic assemblage with identifiable

²⁷² B. Massumi, *A Users's Guide to Capitalism and Schizophrenia* (Cambridge: MIT Press, 1993), 192.

processes of becoming. I will return to this idea when I consider Deleuze and Guattari in the next chapter.

At this point I would like to consider how the concept of a machinic assemblage can be used to think about computer-mediated communication. First, CMC environments can themselves be viewed as machinic assemblages. When viewed as an assemblage of tools, an assemblage of communication methods, or as an assemblage of design intentions and desires CMC environments become more than the sum of their parts. Together these types of machinic assemblages contribute to a process of becoming realized through individual edification and the becoming of a community through the potentials that are realized through interpersonal relationships. In the previous chapters I introduced three ways of thinking about CMC design that have germinated from the idea of the machinic assemblage (tool assemblages, method assemblages, dialogic assemblages). I will try to develop the assemblage concept in the three projects that follow.

Rhizomes

Dialogue takes many forms, most of which can be limiting, objectified, and linear. Assemblages are *complexes of lines*, not subordinate to single ideas but are about multiplicities, or rhizomes. Sustainable communities in this way may be understood not as singular visions, but about realizing the multiplicity of different human potentials. The dialogic space of community design is about the mutual recognition and exchange of transformational multiplicities. These dialogic spaces are *smooth spaces* more like fields than locations, more encouraging than limiting, spaces that allow for the easy exchange of ideas, functioning like event horizons rather than immanent dominating or *striated space* for solving problems in pre-conceived ways:

... the trees of language are shaken by budding and rhizomes. So that rhizome lines oscillate between tree lines that segment and even stratify them, and lines of flight or rupture that carry them away.²⁷³

We are therefore made of three lines, but each kind of line has its dangers. Not only the segmented lines that cleave us, and impose upon us the

²⁷³ Deleuze and Guattari, *A Thousand Plateaus*, 506.

striations of homogeneous space, but also the molecular lines, already ferrying their molecular black holes, and finally the lines of flight themselves, which always risk abandoning their creative potential and turning into a line of death, being turned into a line of destruction pure and simple (fascism).²⁷⁴

The lines of our dialogues are constituted in the same ways as the lines of our selves. There are the segmented lines that act as boundaries of mutual recognition, like fences ensuring that we engage in fixed coherent practices, or penning us in with our attitudes and intentions. There are molecular lines, that fix our creativity to the *knowable* and the *known*, that act as black holes for creativity, not circling in the event horizon but pulled back into its own banked knowledge. And there are lines of flight, rhizomatic in nature, anarchic in character, open multiplicities of expression, but potentially the source of confusion, a tower of Babel of uncoordinated concerns. It is in the lines of flight that new potentials emerge, that alternative/radical dialogue breathes, and occasionally new visions of self, of community and of place emerge. But these lines of flight too soon become the lines of segmentation and molarities, ideals that become deterministic, visions that become prescriptive. What I refer to as a *geography of edification* is about perpetuating the lines of flight (or at least a constant game of catch and release), and understanding when, why and how lines of segmentation and molecular lines occur. Hermeneutics in this way of thinking is an interpretation of the lines that constitute our selves, our relationships to others, and our relationships to space and place.

Mapping rhizomes and machinic assemblages

In order to consider how the abnormal discourse of Deleuze and Guattari can influence a shift in the ways that we think about place I will begin by looking at some of the theoretical work of Landscape Architect and educator James Corner. I will then turn the attention back to computer-mediated communications for design. Corner's applied work redefines architecture and urbanism as object related discourses into what resembles Deleuzian ideas of strata (what he calls fields), rhizomes and assemblages. In professional practice, his firm Field Operations has been awarded international acclaim

²⁷⁴ Deleuze and Guattari, *A Thousand Plateaus*, 506-507.

including being short listed on Downsview, the first Parks Canada Urban Park competition, and being selected as the winning entry for the international New York waterfront redevelopment competition, Fresh Kills. Wiel Arets of the Berlage Institute in Amsterdam gives an interesting description of fields.

Ours is a global age in which the world has become an image. We see everything through a car window, from a train or plain; video and television bring us images which transform our understanding. Living today involves acceleration – or deceleration – in order to pass from one code to another, to translate one impulse into another and to tackle different situations from different vantage points. The overexposure of the glut of information we experience constantly and everywhere influences the way we communicate with and interpret our environment. It is important to develop a strategy through which we can distance ourselves. Only then will we be able to use all available technological innovations without being terrorized by them... *Field* has been the strategy in trying to create this necessary distance. It is important to acknowledge that we can not control, understand and see everything. That the uncontrollable, the imperfect has to be central to our thinking. Deployment of the concept *Field* facilitated this.²⁷⁵

Corner's work, like the ideas of Deleuze and Guattari, conceptualizes space and place not by what is distinguishable but by the uncontrollable, the ephemeral, the processes of people and place rather than through the objectification of place. His design work is often about creating potentials for human and natural processes to occur rather than concretizing intentions into form. Corner focuses a great deal of his scholarly work on shifting the language of design from representations to operations.

For example Corner considers the rhizome in terms of operational drawing.²⁷⁶ Rhizomic representations become the communication of multiple simultaneous ideas that complement and engage one another through their assemblage. Rhizomic representation challenges the idea of a single dominant statement (or singular methods of representation), and opens possibilities through simultaneous statement juxtaposition and interplay. In this way the rhizome is more than a way of tracing the networks of

²⁷⁵ W. Arets, ed, *Fields: Studio '95'96* (Rotterdam: 010 Publishers, 1997).

²⁷⁶ J. Corner, "The Agency of Mapping: Speculation, Critique and Innovation," in *Mappings*, ed. D. Cosgrove (London: Reaktion Books, 1999), 213-252.

connections between speakers. It is a means of mapping potentials and possibilities both in the communication setting (configurations) and the operational manner in which ideas are being communicated (drawing, speaking, writing, etc.) Places thus become more than the objects and artifacts of design intentions, they become the realization of active cultural production based on interconnected dialogue about mapped potentials, the results of social exchange.

As a graphic correspondence between two spaces, whose explicit outcome is a space of representation, mapping is a deceptively simple activity. To map is in one way or another to take the measure of a world, and more than merely take it, to figure the measure so taken in such a way that it may be communicated between people, places or times. The measure of mapping is not restricted to the mathematical; it may equally be spiritual, political or moral. By the same token, the mappings' record is not confined to the archival; it includes the remembered, the imagined, the contemplated. The world figured through mapping may thus be material or immaterial, actual or desired, whole or part, in various ways experienced, remembered or projected.²⁷⁷

Denis Cosgrove's description of the measure of mapping liberates cartography, transcends the physical, and opens possibilities for mapping as part of a dialogic field that includes memory and imagination. Through such an attitude mapping may be released from the binds of paper descriptions, geographic information system layers and databases, and pictorial representation. Maps become more than drawings and paintings, more than static representations or dynamic simulations. Mappings become active agents, productive potentials, and operative factors in communication.

Place makers often work within a milieu that privileges visual representation. Representations (of image/of people) can be considered to be about enacting language of focussed power, but may also be the language of broad based change, the emancipation of community, empowering others to participate. This becomes less about the objectification of place and more about releasing personal identities (and desires) that are

²⁷⁷ D. Cosgrove, ed. *Mappings* (London: Reaktion Books, 1999), 1-2.

attached to place, that are culturally constructed through our place based experiences. In this way personal identities also become part of the shared experiences that constitute placemaking dialogic spaces. This is what I mean when I refer to transitive dialogic space.

Somehow the systems of communication, as *transitive* dialogic spaces, have to be able to provide for the needs of interpersonal relationships, sustain and support knowledge and consensus building regarding coexisting desires, and manage the complexities of knowledge (while providing media for sharing knowledge) concerning spatial processes. This is in part about how we actively construct place and our identities simultaneously through divergent ways of “seeing” and “speaking”. The systems of communication (as constructed dialogic spaces, what might be referred to as dialogic strategies) have to be able to support the sharing of personal experiences and desires concerning the nature of the place.

Corner understands the design process as taking place through eidetic operations (eidetic meaning either having unusual vividness and detail or referring to how a person is able to derive greater understanding through the use of eidetic images.)²⁷⁸ Eidetic operations may be thought of as ways of translating and operationalizing our personal understandings of place into systems of meaning, through maps, drawings, models, etc., that guide design intentions.

Not only is a collective recognition of land and landscape made possible through exposure to prior images (a phenomenon central to both spectacle and tourist landscapes) but also the ability to intentionally construe and construct designed landscapes is enabled through various forms and activities of imaging... Far from the assumed inertia of passive and objective representation, the paper surfaces and computer screens of design imaging are highly efficacious operational fields on which the theories and practices of landscape are produced. Any recovery of

²⁷⁸ There is of course a danger in citing operational eidetics as a potential discursive strategy for participatory design because it favours those who are capable of creating eidetic images and the eidetic, the person who can read such images. However eidetics may be thought of in the same light as humour, we might not all share in the joke but attempts at humour are usually well received.

landscape in contemporary culture is ultimately dependent on the development of new images and techniques of conceptualization.²⁷⁹

Rather than dismissing imaging strategies as simply ways of clarifying our understanding of our world (representations), operational eidetics are attempts to use imaging as a means of intensifying our relationships to place. Operational eidetics are seen as means of providing creative insight into places and events. Although it is important to be able to observe and report faithfully what we experience when we look *at* places (clarification) operational eidetics is about looking *into* places. It is about scrutinizing place as closely as possible, looking behind the appearances, probing into structures and reasons, and if possible uncovering our relationships to one another and to place. For Corner operational eidetics are akin to mapping strategies that connect us not only to places but also their events as well as their transitive temporal and sensory qualities. In this way mapping moves from the object (representing) for clarification, to the subject of intensification (acting/eliciting); from the instrument of empirical inquiry to the process of hermeneutic investigation. Corner argues for the need for different imaging techniques, eidetic imaging, that are used as active agents or fields for inquiry in creative work. Corner suggests that there are a number of imaging techniques that are “efficacious rather than representational”. Corner’s work scratches the surface of what the eidetic map might begin to look like. The new approaches to operational eidetics may not exist in traditional mapping strategies (ex, drawing and drafting) and the new ways of eidetic mapping seem to be emerging through inquiry based in alternative, non-traditional design media (such as digital video). One of the challenges that we are faced with today is to consider how eidetic mapping becomes part of dialogic design inquiry, and how media and message become entangled in the service of dialogue.

Eidetic operations are meant to serve as means of revealing the complex relationships between the disparate parts that make up design problems. Corner identifies imaging techniques that may replace or enhance commonplace tools of design. These operations include composite imaging, ideograms, image texts, scorings, pictographs, indexes,

²⁷⁹ J. Corner, “The Agency of Mapping: Speculation, Critique and Innovation,” in *Mappings*, ed. D. Cosgrove (London: Reaktion Books, 1999), 153.

samples, game, cognitive tracings, scalings.²⁸⁰ In the CMC developed below I look at games – what I call Place games. But to emphasize the idea behind eidetic operations it is useful to consider Corner’s own most efficacious work, that of composite imaging.

“composite [imaging] techniques focus on the instrumental function of drawing with regard to production; they are efficacious rather than representational. In other words, by using a variety of analytic and analogous imaging techniques, otherwise disparate parts are brought into efficacious relationship, less as parts of a visual composition and more as means, agents, and active affiliates.” (Corner, 1998, p. 26)

Corner’s work itself is engaging, critical and capable of synthesizing composite meaning as probably best illustrated in his work with Alex S. McLean that associate composite images to aerial photography in the reading of the American landscape²⁸¹. The composite imaging used by Corner act as forms of conceptual mapping that merge cartography with art, and simultaneously invoke issues of landscape form, process, and change. Corner’s composite images are perhaps more qualitative than quantitative, and are less about a spatial simulation of the landscape, and more about understanding landscape in terms of landscape dynamics.

In Corner’s more recent work, he has moved imaging beyond composite drawing to include approaches that are characterized as mapping strategies, although they continue to challenge our notions of what we mean by mapping. These mapping strategies are attempts to associate concepts of space and place with the complexities, qualities and experiences through which they become understood. Mapping in this way is concerned with strategies to describe concerns such as mobility, and landscape/human interrelationships and engagements. Eidetic operations may in fact stem from a number of sources including art, cartography, exploratory data analysis, spatial analysis and visualization.²⁸² Many of these tools have been well documented in the work of Southworth and Southworth, Tufte, and Laseau.²⁸³

²⁸⁰ Corner, “The Agency of Mapping.”

²⁸¹ J. Corner and A. MacLean, *Taking Measure Across the American Landscape* (New Haven: Yale University Press, 1996).

²⁸² This is evident in the design work of architects and landscape architects such as Lebeus Wood, James Corner, Brian Tchumi, E. H. Gombrich, Nelson Goodman, Rudolf Arnheim, Jean Piaget,

The challenge that remains is how to develop and integrate such techniques in a dialogic space and dynamic participatory decision-making processes. It is possible that through such techniques understanding and engagement in design practice would be enhanced and encouraged. It is also possible that if the dialogic space was “equipped” with greater interactivity and flexibility, including the support of eidetic operations, increased collective creativity could result.

Together we share a common language and potentially a common bias. When we are touched by a place we are engaging in our personal and collective identities, sharing a collective code. Design praxis can be characterized by a certain “dispersion” from other disciplines, hybrids of planning, ecology, architecture, sculpture etc.; a dispersion that creates a new system of identity and community; a dispersion that may become bounded by its own discursive formation.

Whenever one can describe, between a number of statements such as a system of dispersion, whenever, between objects, types of statement, concepts, or thematic choices, one can define a regularity (an order, correlations, positions and functionings, transformations), we will say, for the sake of convenience, that we are dealing with a discursive formation... The rules of formation are conditions of existence (but also of coexistence, maintenance, modification, and disappearance) in a given discursive division.²⁸⁴

Those acting in design professions should begin by interpreting the conditions of their existence (of their own authority), and then should be continually challenging and deconstructing that authority. Design as such becomes an act of redefining ourselves within the contextual assemblages of the people and places involved. Professionals such as architects, engineers and landscape architects are involved in their own social construction. This is often about determining how and what things are communicated, the nature of discourses and the type of statements that are deemed appropriate. Community

Ernst Cassirer, Lawrence Halprin, Norman Bryon, W.J.T. Mitchell, A. Scarpa, Rem Koolhaas, Stan Allen.

²⁸³ M. Southworth and S. Southworth, *Maps: a visual survey and design guide* (Boston: Little, Brown, 1982); Tufte, *Envisioning Information*; Tufte, *Visual Display of Quantitative Information*; P. Leseau, *Graphic Thinking for Architects and Designers* (New York: John Wiley and Sons, 2001).

²⁸⁴ M. Foucault, *The Archeology of Knowledge* (London: Routledge, 1972), 38.

design is about seeking greater levels of participation in these design activities, a locally determined ways of influencing social construction.

Planners, engineers, designers, geographers are all engaged in the understanding and making of place, yet they all use a wide assortment of approaches, techniques, and jargon to develop their perspectives. Community design as discourse within design professions, relies on modes of communication other than spoken and written conversation, such as technical drawings, models, maps, illustrations, etc. These modes of communication are often primarily representational and objective (concerned with codifying and objectifying reality) and usually favour one party (the speaker/designer) over the other (the referent/client). Designers are often able to control discourse with the use of expert knowledge and expert language (the utterances of the professional), such as through agility in drawing and the use of the computer.

These professionals often work within milieus that privileges visual representation. Visual representation(s) (of image/of people) is a language of power, but may also be conceived as a language of change, for the emancipation of community, empowering others to participate. Corner's work itself is engaging, critical and capable of synthesizing composite meaning. But, the interrogative techniques of Corner may prove to be beyond the scope (visual literacy) of many, privileging one group over another. With respect to understanding dialogic space we may be able to borrow from Corner an attitude towards design while remaining critical of the potentials for domination that specific media and methods may have on participatory processes. In the same way that eidetic images are thought to contain variety of analytic and analogous imaging techniques, that are brought into efficacious relationships, a dialogic space may be thought of as consisting of analytic and analogous techniques for the sharing of ideas and experiences concerning place. Online representation should be something for the disenfranchised to engage in creative acts, in acts of deliberate personal response, instead of the passive acts as receivers of information. The rest of this chapter is an attempt to outline a method for thinking about computer-mediated placemaking discourse.

PLACEGAMES: MAPPING ACTION

In the rest of this chapter I consider an example of what might be considered as an abnormal placemaking discourse, a discourse that occurs through the translation of action into information that I call *placegames*. Games are used as vehicles for bringing about new forms of spatial understanding using computer-mediated communication, and to influence participation in sustainable activities. In order to *make sense* of sustainability, it is necessary to engage in a continual navigation of coincidental desires, and that we should somehow liberate ourselves from notion that desires are limited by the contingencies of spoken or written language.

The *reality* of the game is something that Gadamer calls a *self representation*. A game has to be played to be a game. It doesn't exist in the rules and procedures alone. Within the game the players are its actors and its creators, and no two games are ever the same. The reality of the game may also be applicable as we consider our actions in everyday life, how we travel to work, where we shop or take out the garbage. Within these self-representations we are compelled to behave according to pre-determined rules and constraints but, within the game itself, we behave with a dual sense of engaging in acts of individual freedom as while being a part of a shared behaviour. Warnke summarizes Gadamer's idea of games as follows:

In entering this space the players put aside their own concerns and desires and submit to the purpose of the game itself... Its goals and requirements take over and dictate actions and strategies to the players. The subject of action in a game is therefore not really the person playing it; the person's actions and aspirations are rather reactions to tasks the game itself imposes and hence it is the action of the game, or what Gadamer refers to as the to-and-fro movement internal to it, that is the decisive factor in any game-playing.²⁸⁵

What I find interesting about this description is that it begins to pull into focus similarities between Rorty's concept of "normal" conversation and how we think about everyday life. Normal conversations, those determined by for example rigid boundaries, are subjected by normal (commensurable) discourses. "Abnormal" discourse usually

²⁸⁵ Warnke, 48.

mean that you are playing a completely different game altogether, that you will likely not be understood by the other participants. In our everyday life we are subjected to “normal” discourses of living. We have to act and speak in specific ways, in commensurable ways, in order to be understood by others. But as the subjects of everyday life we may also permit ourselves to disengage with the normal discourses of living through our own “self representations” as we seek alternative courses from what is expected. The point that I would like to make is that although self-representations restrict us to work within the rules and constraints of the game, we are free to play out the game in unique and different ways.

CMC may be thought of as ways of providing new possibilities for how we think about place and about our own *selves* of everyday life. These possibilities are now becoming possible due to the current development of *embedded technologies* (such as embedding microchips in our environments such as in the foundations of building to measure movement).

“The space of the future would be both of real and of virtual nature. Architecture will “take place”, in the literal sense of the word, in both domains: in real space (the materiality of architecture) and virtual space (the transmission of electromagnetic signs).”²⁸⁶

Through embedded technologies it becomes possible to engage in new types of “self representations” that I refer to as *transactional assemblages*. These are conversations that result from the transformation of deliberate constrained or measured actions into, what could become meaningful information. The simplest example of an transactional assemblage occurs when I use my customer card to buy groceries. This is a strategic conversation that may be thought of as an exchange relationship, where in exchange for money or discounts on products I sell a part of my privacy embedded in a record of my actions and habits.

For better or for worse transactional assemblages are proliferating as we embed digital technologies in our physical environments. Our movements, our actions, and potentially

²⁸⁶ P. Virilio, *The Lost Dimension* (New York: Semiotexte, 1991), 182.

our conversations are increasingly becoming codified, and manipulated (not necessarily by others but often by the heuristics that are part of the media themselves). These types of environments (including the one in the case study that I am proposing) should be subject to critical scrutiny that is beyond the scope of this document. I believe that the current proliferation of embedded computing in our environments is inevitable and that our critical hermeneutics must also be about understanding the implications of emerging technologies. Instead, in keeping with the spirit of the rest of this work, I would like to consider how CMC technologies could be used to realize sustainable community ideals.

Game Metaphors

Metaphor in design is often used as a referential analogical device for structuring a design problem from the onset. Literal analogies provide a framework in which designers can create form by matching and addressing key features of the analog that when “applied, a physical representation of an intention provides additional structure to a problem.”²⁸⁷ Within this construct, two distinct types of analogies exist: iconic analogies and canonic analogies. Iconic analogies are most often representative of symbolic and iconographic qualities, such as many of the works of Frank Gehry or Martha Schwartz. The source of inspiration is expressed within the design problem as a representational product. On the other hand, canonic analogies are based on general rules and principles, such as proportional systems and formal geometric properties. Abstraction of shapes and patterns are articulated similarly to iconic analogies, but are based within a structuring framework rather than a visual representation. Much design is based upon forms of iconic analogy that bring meaning to landscape or canonic analogies that offer order to form. Placegames may be thought of as dialogic analogies that help in the interpretation of the processes that take place in our environments. In other words placegames are dynamic metaphors for interpreting dynamic conditions.

²⁸⁷ P. Rowe, *Design Thinking*, (Cambridge: The MIT Press, 1987), 82.

The game analogy provides a dynamic model that may prove to be an effective way of supporting our interpretations of urban conditions. Whereas canonic analogies apply general formal rules, games involve engagements in rules and procedures for action. Games may be useful in the interpretation of system processes such as for simulating urban growth, predicting fracture patterns within landscape ecological matrices, and for mapping and influencing human activity patterns in urban areas. The game as a metaphor manifests itself as a social commentary about every day landscapes. As a series of related statements, each game and information system becomes a narrative about the urban condition.

Potentials for “abnormal” discourse using embedded media

I present the concept of “placegames” as a way of thinking about “abnormal” discourse. Placegames as a concept is meant as a way of thinking about how technologies can support meaningful dialogue based in actions rather than words. I present the place game ideas in part as a way of thinking about CMC differently, as well as a means for predicting the kinds of social dialogic potentials and implications that may lie ahead. I put forward this concept with some reservations, concerning issues of privacy and surveillance in particular.

Games, unlike many forms of design analysis, are characterized by the passage of time and the random (within constrained rules and procedures) determination of events. The game metaphor is a way of considering the urban environment by sampling the simultaneity of events as momentary actions in the game. The city is considered in terms of the instances that together provide forms of random inscriptions (moves) that make up the game. The actions and desires of the participants within an urban context, for example a neighbourhood, formulate a strata of multiple rhizomes (considered in this case in terms of movements). The placegame acts as a machinic assemblage, the desires of the participants brought together through the CMC game metaphor to realize a new *machinic* potential. The *machinic production* that results from the placegame described below

involves the individual realizing how their everyday actions (transportation choices) contribute to a community's pattern of consumption.

Games may be considered as something more than simple analogies about place, but instead games can be edifying, allowing participants to better understand themselves and their communities through the use of wired/interactive spaces. Placegames involves the integration of transactional online programs that register actions in space as part of a meaningful self-representation. The placegames concept challenges designers to engage in the wiring of place in ways that encourage discourse through deliberate response in the form of actions rather than words. Placegames encourage situation formulations that are event driven, i.e., driven by physical responses to real world needs. The placegame approach represents a form of commentary about the rhetorical bias of an asynchronous cyberspace (a cyberspace that is largely "about" things), by encouraging community participation in digitally supported dialogue that is directly linked to human activities in the real world (transactional space). Placegames are developed to influence situated sustainable community action.

The placegame being proposed originated as a response to an urban design problem that was part of a graduate landscape architecture studio that I ran in 1999. The studio involved developing sustainable community oriented design proposals to respond to the everyday activities of individuals in an urban context. The placegame that I will describe was devised by a graduate student in Landscape Architecture, Chantal Allary, as a response to our increasing reliance on the automobile. The placegame design is a theoretical urban design proposal that has not been implemented (primarily for reasons of cost).

Situated Action

Placegames are proposed as integrating rules and procedures of play into the landscape itself, in a way making of physical reality the board game. This should not be confused with projects such as Disneyland, Estelng, Story Garden, etc., which are good examples

of didactic places of play. A placegame differs in that it is constituted by the place and its events rather than the events and landscapes being contrived to define the place. In other words, placegames may be relevant parts of the everyday world. They become a means of capturing and communicating action as it occurs, capturing and communicating through situated action.

Project 8 - A placegame example

The following example illustrates how the Internet may be an extension to this kind of activity. The creation of the wired *real word'* game or placegame is a response to the automobile. It is a hypergame in the sense that it integrates human actions in place. It consists of multiple situated actions in the landscape simultaneously interpreted as virtual information. The process brings about an awareness of the environment, of the transitional landscape, but more specifically, the recording engages in a form of web directed commentary on community action. The web "game" relates for example, rates of automobile use of one community versus another. Based upon existing photo-detection technologies developed to regulate travel car pool lanes, vehicles and the number of passengers per vehicle are counted entering and leaving residential communities throughout the day and commuting figures are generated online and projected on billboards. Communities may choose to participate in the game by encouraging residents to increase their use of car pools and public transit.

'Wheel Fun'

where the driving experience is interactive at a regional scale

- stn 1 **the request billboard**: used for advertisements
the **message**: you and your car are being filmed
- stn 2 **a digital screen**: displays the number of cars that pass by
the **message**: you and your car are being numerically recorded
- stn 3 **a camera screen**: displays the spatial relationship of cars at the intersection
the **message**: you and your car are part of a larger mass, temporary vehicular pods
- stn 4 **a video screen**: displays the previous scene recorded at station 1
the **message**: you and your car perpetually exist, and that the destination is not the only experience
- stn 5 **a street sign**: displays the tabulation of the 'Wheel Fun' game
the **message**: you and your car are participating in a regional game - contact the website for results to see whether your major 'commuting' path accumulated more points than other major Winnipeg roadways

1



The series of messages along the driving strip allows drivers to experience and participate within the larger context of the city via Internet scoring. The principle of the game is to encourage an awareness of one's actions, such as energy consumption, and to translate individual action into information into action. More importantly it is an initiative to encourage discourse via the Internet on how we use our cities. The discursive events of the placegames are designed to respond to community concerns. Presence in the landscape is the role of the player. Placegames like the one described may however be viewed as interfering with personal freedoms by engaging in a new form of collective surveillance, Big Brother is Watching, and Big Brother is us.

2



3



In the placegame being proposed individual actions are monitored and translated into information that becomes a source of community dialogue that is structured as a game. In order for the individual to actively participate in the game he/she is encouraged to adopt environmentally sensitive actions as part of his/her daily activities. Games are won or lost by communities rather than individuals. The use of the Internet for means of digital video monitoring (surveillance), registering (photo detection of the number of people in a vehicle), tabulation and the displaying results allows an unlimited group of players to participate in the game. The web is conceived as a moderating vehicle for combining game and recording place based actions into one, built upon the idea of the 'real' landscape within a virtual space (or conversely a real landscape with its own virtual space). The virtual is not a substitute for the authentic; it is the translation of meaning of actions in space into information, knowledge and ultimately action that is informed by collective priorities.

The virtual is not simply a static representation of a state of Being, it is an on-going representation of a state of Becoming. CMC is not simply a way of recording the events in the world. It is also a way of reading our everyday actions as part of a collective, community based conversation. CMC also serves as a vehicle for developing daily responses to the Placegame such as through an online car-pool scheduling system.

RORTY METHOD AND METAPHORS

I would like to conclude this chapter by relating the proposed Placegame to Rorty's idea of method. In this way I would like to try to shift our thinking about computer-mediated communications from technological pursuits to philosophical pursuits. Most of this thesis has been about trying to engage in this kind of shift in thinking, of looking at CMC through competing discourses.

Philosophy is rarely an examination of the pros and cons of a thesis. Usually it is, implicitly or explicitly, a contest between an entrenched vocabulary which has become a nuisance, and a half-formed new vocabulary which vaguely promises great things.

[This] "method" of philosophy is the same as the "method" of utopian politics or revolutionary science (as opposed to parliamentary politics, or normal science). The method is to redescribe lots and lots of things in new ways, until you have created a pattern of linguistic behavior which will tempt the rising generation to adopt it, thereby causing them to look for new forms of non-linguistic behavior, for example the adoption of new scientific equipment or new social institutions. This sort of philosophy does not work piece by piece, analyzing concept after concept, or testing thesis after thesis. Rather it works holistically and pragmatically. It says things like "try thinking about it this way" – or more specifically, "try to ignore the apparently futile traditional questions by substituting the following new and possibly interesting questions."²⁸⁸

Design discourse is ripe with experiments in form and the formulation of vocabularies (new literal meanings), slow space, blob architecture, snooze urbanism, etc. These are more than conceptual jargon (cynically thought of as marketing jargon). They are new

²⁸⁸ Rorty, *Philosophy and the Mirror of Nature*, 9.

eidetic metaphors that allow us to think about the city in different ways. In the placegame example I have offered another kind of metaphor, *implicit conversations*, actions translated into words and other forms of representation through the CMC to support an alternative form of dialogue. Placegames is seen as an approach that uses the Internet as a vehicle for understanding how individual actions contribute to community problems and how we might become emancipated from consumptive practices in everyday life. Placegames illustrate how CMC itself is usually the non-linguistic result of a type of linguistic behaviour or understanding. CMC generally patterns itself after existing metaphors of communication or ways of dealing with information. The sort of pragmatism that Rorty proposes leads one to consider CMC as ways of trying out new forms of communication. Rorty refers to his version of pragmatism as a search for truth where he thinks of “truth” as “a mobile army of metaphors”.²⁸⁹ CMC may also be thought of in terms of *a mobile army of metaphors*, metaphors about new forms of communication, metaphors about the mediated potential for the suspension of language, ideas and the interpretation of action.

²⁸⁹ Rorty, *Philosophy and the Mirror of Nature*, 17. (In reference to a quote by Nietzsche.)



CHAPTER 9 - COMMUNITY DESIGN AND DISCOURSE NETWORKS

BERNARD AND THE GRASS

My older brother had a connection to the outdoors that I often envied but rarely understood. Once on a walk with him through the tall prairie grasses behind our house, he led me to a fort that he had built by weaving the grass together. As a small boy this place was a wonder. Later that day I returned to the field to find the fort. But somehow it had disappeared back into the prairie. Although I returned to the field a number of times I never could find it. It seemed to me that the only way to get there again was with the help of my brother.

In this chapter I present the idea of sustainable community design as the on-going realization of community desires and potentials. I use Deleuzian concepts as a means of thinking about CMC as transitive participation technologies. If CMC is to hold promise for design then it must be a media where the discourse may become interactive, asynchronous, and manipulable, empowering participation through acts of association,

contemplation and response. At the end of this chapter I discuss a current participatory design project that reflects this kind of thinking.

“It’s like the French, they have a different word for everything.”

Comedian, Steve Martin

Deleuze and Guattari precede the writings of Rorty, yet offer similar insights into the potentials of abnormal discourse. Although their discourse is for many somewhat impenetrable, it is possibly one of the best examples of the “abnormal” discourses that Rorty speculates about. In this chapter I continue to examine this discourse and consider how it can be brought into design speculations about knowledge, place, and computer-mediated communications.

For years now I have been trying to *make sense* of what the Deleuzian vocabulary suggests. Perhaps I will never escape my own historicity. Hopefully, with the help of Rorty I permit my notions of *sense* to be put aside and drift, a bit, with the potentials of an abnormal discourse. Hopefully, as I tack within this drift I find temporary shelter, momentarily acceptable meaning, with respect to ways of coping with change in a physical social world.

Ironically as I play through with these Deleuzian metaphors I am struck by the ironies of the contingencies that I have set for myself in this so-called project. There is an inherent contradiction when I speak in terms of drift and flux, while I am concerned with *building* frameworks in which it can take place. As long as I am thinking in terms of CMC frameworks I am imposing *limits* and *potentials* of what drift and flux can be.

... their [Deleuze and Guattari] central concern is with modernity as an unparalleled historical stage of domination based upon the proliferation of normalizing discourses and institutions that pervade all aspects of social existence and everyday life.²⁹⁰

²⁹⁰ Best and Kellner, 77.

I know that I'm getting ahead of myself, but before I reign this discussion in (if that is possible) I want to make a proposition about sustainable community design. It is that SCD is not about rules and formulae. Instead it is more closely associated with languages and desires. For Rorty (edification) begins to open the door for considering all knowledge as the result of different forms of conversation. This releases all individuals to the possibilities of becoming the adjudicators of what constitutes appropriate and relevant knowledge. This does not mean that it releases us from the pursuit of knowledge, but rather it releases us from our tendencies to settle for fixed versions of what is right or wrong, or more accurately fixed versions of how to get at right and wrong.

The vision of sustainable placemaking that I propose may be thought of as the materialized result of our continually changing understanding, the result of individual and community commitments to their own edification. It is a spatial testimonial about the shared processes of self-formation written in the stones that we place and walks that we take. Part of this edification process is rooted in criticism and the belief that *sustainable* is never obtainable, but rather it is a call for on-going creative pursuits. I believe that this is also what American philosopher John Caputo refers to as engaging in radical hermeneutics²⁹¹, an acceptance and sustained commitment to living within the flux of understanding, in this case by committing to the conversations of placemaking contexts. To use Rorty's term, sustainable community design represents ways of *coping*, in a materialized fashion, with the shifting meanings of civility and ethical responsibilities that we derive through our interactions in a complex world. *Coping* means looking for ways of identifying our differences in understanding, rather than simply our differences. It is the living realization and on-going interpretation of what it means to build our environments in socially responsible ways. It is about the fusion of environmental ethics with the complex needs and desires of the inhabitants. It is a concatenated version of individual understandings about the environment derived through science with the possibilities made available technology, and the potentials that result from the intersection of people and place.

²⁹¹ By this I mean that there will always be differences in meaning and that meaning even for the individual is subject to shifting horizons.

COMMUNITIES AS MACHINIC ASSEMBLAGES

Our *living* physical communities may be considered in terms of networks of simultaneous discourses potentially built around a machinic assemblage. The relative nature and use of the term sustainability leads to some confusion as we attempt to concretize its meaning. Sustainability, when considered to be a part of spatial praxis needs to be released into the context and complexity of the everyday. Ideas like sustainability and community, become active agents for localized agreement and change. Sustainability, community and design together form a *machinic assemblage*, not describing a certain condition or set of conditions (not synthetic), but together become transitive, an assemblage of intersecting desires and potentials.

Consider how each term sustainability... community... design... defies simple definition and acts as something that resists stable meaning. Together these terms, in part through their instability of meaning, become useful instruments for the interpretation of urban and suburban development. As an assemblage these terms act with and upon each other to form the basis of what may be understood as a *means towards* good judgement. Place and identity are both lived and conceived. They are the result of the utterances of everyday life, and the deliberate acts of spatial transformation. Utterances and acts are dependent upon media (from everyday conversations to CMC) for their suspension, for their portability from speaker to interpreter. In participatory settings the organization and structuring of dialogue, pre-supposes the nature of the media that support multiple coexisting discourses. Media in this sense should be thought of as either a type of dialogic intervention or (as I prefer to think about them) configurations of dialogic potentials.

Assembling the concepts of sustainability, community and design is a way of releasing the terms from the constraints of specific description. *Sustainable community design* is a transitive strategy, a creative *machine*, a way of thinking through conceptual contagion, a process of liberating the possibilities of the parts in their coming together (for example

releasing the multiple meanings of community). The machinic assemblage is thought of as a way to “amplifying the power to perceive”. *Sustainable community design* is a local strategy for releasing creative understanding. The machinic assemblage provides a way to increase one’s capacity to enter into dialogue with the *other* through our words and images and possibly with the *world* through our actions.

“Philosophy is no longer synthetic judgement; it is like a thought synthesizer functioning to make thought travel, make it mobile, make it a force of the Cosmos (in the same way one makes sound travel)”.²⁹²

This does not mean that *sustainable community design* results in a jumbled cacophony of mixed meaning, instead it is *productive* way of discerning and coping with reality through assembled potentials for constituting place.

Dialogue is considered to be a critical design activity that is part of the process of *becoming* in a sustainable community. Dialogue mobilizes meaning from within the machinic assemblage, supporting the multiple potential connections between interpretations of meaning and context, an assemblage of potentially divergent views that come together into the symbols that constitute *community* and the contextual meaning of *sustainability*. Dialogue serves as an active process of engaging in the making of place. Dialogue also serves as an active process of becoming for a sustainable community itself.

Sustainable community design as a dialogic activity is a coming together of knowledge, action and hope , that is subject to on-going interpretation and critical revision. It is a means for the production of place, based in notions of environment, creativity and dialogue. Each of these concepts resides in a realm of complexity and change.

Determining how to make good judgements is part of a community’s own process of critical evaluation. When good judgement is based on what a community believes is right or wrong, we can say that we are making moral judgement derived from the community. Decisions about right and wrong (morals) in the making of place become part of a living text, an ethics of local conduct of conscious decision making and the expression of

²⁹² Deleuze and Guattari, *A Thousand Plateaus*, 343.

desires based in local dialogue. Ethics is concerned with the standards of conduct and moral judgement. Establishing standards of ethical conduct in the making of place may be seen as a critical *action* (that depends on local knowledge and aspirations) obtained through the placemaking process. The standards of local conduct (ethics) become part of a larger placemaking praxis that integrates learning (such as looking at design precedent) as a part of construction of meaningful and useful symbols.

Placemaking is a strategy for coping with complexity and change through the enunciation of intention. *Sustainable community design* is a language for conducting critical interpretation of local meaning and of developing *actions* to realize alternative visions of place. The machinic assemblage of sustainable/community/design should not simply be thought of as a way of doing, a method of designing better places. Instead it should be seen as a way of mobilizing meaning through placemaking dialogue (in an active context, what Freire might call within the historical moment), clarifying and substantiating ethical human concerns while developing a reasonable course of action. This is more than a single interpretation occurring from the *outside*, but a contextually based radical hermeneutic interpretation occurring as a dynamic part of critical dialogic life. This mobilization of meaning occurs as a direct result of different (often deliberate) dialogic formations.

Information is bound in a machinic complex, a blend of the speed of media and the mobility of everyday life, all in continual transformation, simulation, and recombination, energizing the dispersal of local meaning. Sustainability and community co-exist in continual flux. Sustainability in particular is a function of community needs, desires and realizations of power. Community is realized through its own fragile sense of permanence, continually needing to re-create itself, continually bound to its immediate past, always temporarily fixed in its own desires. Flux, in part, results from the boundaries of internal difference, the shifting sense of community reflected in aspirations and actions. It is also the manifestation of external pressures, a multivalent cultural assemblage of global/technological/information pressures that engage in the construction of desire.

Content and expression

When asked the question - *What is a design?* - most people would answer in terms either of objects or processes. Design in the first instance is the physical realization of form in response to an identified need or desire. The definition of design as process can involve interpretations of design in terms of creative pursuits or techniques and strategies for reaching design results. Stiny²⁹³ offers a third way of thinking about design, design as ways of producing descriptions. These would include descriptions through analytical strategies of issues of perceived need, desires, context, opportunities, constraints, etc. These also include synthetic descriptions of priorities and intentions as well as conceptual description of how alternative solutions could work (including temporal implications). I argue that design is also a form of dialogic investigation (of significantly varying degrees). This dialogic investigation involves the ongoing interpretation and evaluation of context and intentions, of conjectures and their implications. It is simultaneously a dialogue about object and flux, about process and praxis, about description and communication. It is fundamentally a dynamic hermeneutic activity of interpreting (analysis/synthesis/response) and evaluating those interpretations.

Sustainable community design dialogue is thus seen as the medium in which hermeneutics informs the development of place (with specific implications concerning the use of technology, and that the evaluation and development of technology must be a hermeneutic concern). Dialogue based on hermeneutics is not a replacement for scientific inquiry (for example as a way of evaluating technology), but an addition to it. It is viewed as a potential means to limit the relative importance of scientific findings through evaluations based upon socially constructed ethics (that influence needs and desires) of those persons who are potentially concerned and/or affected (local participants). It thus becomes a form of living critical theory. This is an approach to praxis that doesn't discount normative or scientific claims outright but treats all claims as being subject to

²⁹³ G. Stiny, "What is a Design," In *Environment and Planning B: Planning and Design* 17 (1990): 97.

critical interpretation. Rather than a form of interpretation that occurs after design realization, or the critical evaluation of the consequences of actions, dialogue founded in hermeneutics should be thought of as reflective situated action.

The design of place becomes an act of identifying personal needs and desires and of redefining selves through action, within the assemblages of the people, situations and contexts of community engagements. Although anyone is capable of engaging in design (everyone affects physical change on the world), conscious acts of design are usually deliberate discursive activities. Objects created in the physical world form part of the vocabulary that contributes to a physical local discourse. Often this is a discourse that occurs at a very personal level, where the discourse is deliberate, operational, and transitive.

Discourse is more than spoken and written word. It is also about emergent forms of communication and conversation. Emergent forms of communication are the result of multiple perspectives and determinants of identity that include race, class, ethnicity, gender and sexual preference. Alternative discourse is about the resistance of dominance, the support of inclusiveness, and the active construction/deconstruction of identity. Emergent forms of communications are the result of deliberate attempts to determine how dialogic participation and decision-making processes will take place. Discourse as such depends upon our speech acts, modes of interaction, and the complexities inherent in our social configurations. A sustainable community design praxis built upon dialogue may be thought about in terms of what holds the dialogue together (even for a short time). It is here that the two Deleuzian concepts of strata and articulation prove to be useful:

Each stratum or articulation, consists of coded milieus and formed substances. Forms and substances, codes and milieus are not really distinct. They are the abstract component of any articulation.... Stratification is like the creation of the world from chaos, a continual, renewed creation.... Articulation, which is constitutive of stratum, is always a double articulation (double pincer). What is articulated is *a content and an expression*. Whereas form and substance are not really

distinct, content and expression are... Between them, between content and expression, there is neither a correspondence nor a cause-effect relation nor a signified-signifier relation: there is real distinction, reciprocal presupposition, and only isomorphy.²⁹⁴

The stratum may be thought of as a holding together (for example holding together of a concept of self), such as when symbolic sustainable communities are held together by ideas, perceptions and attitudes rather than by specific physical realities or transcendental ideals. Design is thus thought of as a means of articulation, an active process of realizing a *similarity of appearance*, actively constituting with the one (the ideal, the expression) acting on the other (the content or the realization of the expression) and the other acting on the one in a constant iteration of becoming. This becomes the active constituting of emergent symbolic boundaries of sustainable community through an iterative content expression interaction. We *become* through the process of learning who we are (edification), not by thinking about what we could or should be or thinking about what we could or should know.

For dialogue to be a useful part of the content expression articulation the strata must become *territorialized*. In other words the strata must be decoded in such a way that we are capable of mutual understanding. This takes place through shared expression of meaning and ideas, through a semiotic system, and in the realization of meaningful content through action.

Assemblages are already different from strata. They are produced in the strata, but operate in zones where milieus become decoded: they begin by extracting a territory from the milieus. Every assemblage is basically territorial. The first concrete rule for assemblage is to discover what territoriality they envelop, for there always is one... The reason that the assemblage is not confined to the strata is that expression in it becomes a *semiotic system*, a regime of signs, and content becomes a *pragmatic system*, actions and passions. This is the double articulation face-hand, gesture-world, and the reciprocal presupposition between the two.²⁹⁵

²⁹⁴ Deleuze and Guattari, *A Thousand Plateaus*, 502.

²⁹⁵ Deleuze and Guattari, *A Thousand Plateaus*, 503-504

One of the most significant challenges of the dialogic community becomes its own deliberate territorialization. This involves discovering the limitations of our own use of *language*,²⁹⁶ including their implicit limitations. This also means looking at the nature of the discourse, how things are said, how the dialogic space contains discourse, and how alternative dialogic spaces and alternative approaches to language affect the ways we go about *learning* (learning as the means of becoming) who we are. This, in part, is about our capacity to produce and understand signs, semiotics. A problem with much of today's empirical discourse is that it resides within closed semiotic systems, i.e., systems that are difficult to penetrate for those outside of a specific scientific community (perhaps not unlike the language of Deleuze). Members outside of a symbolic sustainable community are often unable to engage in dialogue because of established rhetoric. (These include the dialogic spaces of current practices, such as being limited to the voice of mass media, or being subjugated to persistent and dominant messages, ex. economics over ecology; or the language of the everyday that favours subject/object relationships over systemic ecological concerns). One of the challenges for the existence of the symbolic sustainable community is in affecting its own assemblages, *territorializing* an adequate and appropriate semiotic system that reflects local environmental concerns.²⁹⁷

The challenges of *territorializations* involve the realization of new potentials, engaging in alternative actions and passions that reflect environmental consciousness and ones membership through participation within the symbolic community. *Territorialization* results in the realization of lived content, in seeking responsible forms of behaviour that may range from experiments in alternative life styles to the active commentary about the massification of desires. But the *sustainable community design* assemblage is a means of deterritorialization (a hermeneutics concerned with decoding normative codes). This means deliberately situating the design discourse(s) and dialogues in questions concerning the constitution of community and the environment and how people participate in a dialogue of change (when presented as a form of placemaking).

²⁹⁶ See for example: T.A. Sebeok, *Signs: An Introduction to Semiotics* (Toronto: Univ. of Toronto Press, 2001).

²⁹⁷ The SCD web site could thus be considered a tool to support this form of territorialization.

Discourse networks

I use the term *discourse networks* to describe the inherent complexities of working within fragmented community settings, that a discourse can only be understood in terms of the network of participants, ideas, and influences that are in play. The concept of a discourse network is a way of understanding the potential connections that exist (within a machinic assemblage). Fragmented communities are in this way considered in terms of the multiple discourses that are simultaneously engaged. Fragmentation thus becomes about possibilities rather than limitations, the potential diversity and heterogeneity of community and the possibilities for multiple discourse networks to exist simultaneously. It is also about seeking connections between the seemingly isolated points of view. Fragmentation is not considered to have a negative connotation, something that is broken and must be fixed. Instead fragmentation is viewed as a *productive mechanism* for understanding the inherent potential and the multiple paths (rhizomes) for creativity and dialogue (many communities make up *one*, many ideas of what sustainability simultaneously coexist, many design paths that interconnect).

Thinking in terms of rhizome is about thinking in terms of multiplicities and many possible connections. This moves away from linear/limited and structured forms of discourse (the root structures metaphor also refers to assumptions about singular truths) and shifts to open-ended non-linear approaches to communication (rhizomes, the seeking of connection of many paths from several simultaneous discourses). In this way understanding group work is about understanding the network of possibilities, the bundle (assemblage) of ideas and processes that lead to multiple potential solution sets.

Placemaking (the process of shaping places through active dialogic engagement) is an act that designs and builds new places while engaging in processes of constructing networks that support local identity. Placemaking, based either as a client/designer exchange or a more broadly based inclusive activity may be considered as a broad based discursive design process. Placemaking can be understood in terms of the production of space, about what is being said, the methods being engaged or about the discourse networks that

evolve and inform the decision-making processes. These discourse networks should reflect the rhizomatic character and the dynamics of complex groups, as well as the rhizomatic strategies for integrated and productive representation/simulation.

Discourse networks emerge by superimposing active participation strategies, while mutually uncovering the processes of situated action. These acts of layering and uncovering serve to expose conflicting positions and possible limitations in approach, but they may also be seen as a means of broadening the scope of inquiry and engagement. The uncovering is both about the uncovering of power being enacted as well as an uncovering of the processes that lead to decision making.

The collaborative hyper-text

Moulthrop argues that all CMC environments are mediated and controlled by either their creators or their moderators. This has been evident, to varying degrees, in most of the CMC projects that I have already outlined. But, Moulthrop also points to new type of creative writing technology, what he calls 'constructive hypertext'.

In an important early contribution to hypertext theory, Michael Joyce proposed two different modes of interactive writing: "exploratory" and "constructive" hypertext. Generally speaking, exploratory texts allow readers to navigate through fixed bodies of material, while constructive texts represent "structures for what does not yet exist," open-ended and contingent forms...²⁹⁸

In constructive hypertext multiple users/authors work simultaneously in the construction of the 'text'. This results in the breakdown of the nature of the author (as individual subject) and the nature of the text, many threads/many stories in one. This is reminiscent of Julio Cortazar's novel Hopscotch,²⁹⁹ which offers alternative paths and subsequently a different stories through the same written material. Similarly, Deleuze and Guattari, encourage readers of *A Thousand Plateaus* to take alternative non-linear paths through

²⁹⁸ S. Moulthrop, "Traveling in the Breakdown Lane: A Principle of Resistance for Hypertext," *Mosaic* 28, no. 4 (1995): 64.

²⁹⁹ J. Cortazar, *Hopscotch* (Toronto: Avon Books, 1975).

their work. That is of course the point, that there is no single fixed meaning, and that we should be looking for strategies that liberate us from attempts at taking fixed paths.

As a hypertext theorist Moulthrop also explores the terms derived from Gilles Deleuze and Félix Guattari, "smooth space" and "striated space".

Striated space is overordered, segmentary and deeply progressive, like a map, it can give us our exact bearings and orientation. Smooth space holds continual non-segmentary and directionless variation... The boundaries between the two are unclear, they shift continuously and even merge with one another in certain places as the smooth is striated and the striated is smoothed. What is crucial to each space are the ways in which it generates its own intensive qualities of liminality and borderlessness.³⁰⁰

Hypertext is thought to be a smoothly structured, nomadic alternative to the structured (striated) space of modern discourse, liberating participants to deal in the vastness of dialogic possibilities. But Moulthrop is also concerned with the limitations of hypertext, that vastness and randomness are not always effective means in themselves, and they may liberate thought and meaning to the point that the dialogue is completely ineffective.

Although hypertext begins as an artifact of print culture, it is also an indication of our cultures interface with technology. Hypertext may be considered as simultaneously a discursive strategy and a symptom of postmodernism. Our behaviour is a symptom of our times. Hypertext is seen as a way of dealing with a multiplicity of possible arrangements, perhaps a coping strategy for dealing with current cultural complexities and contradictions. Hypertext, in its smoothest potential form, is a cultural critique that privileges processes of cross-referentiality and randomness.

Although the smooth nature of the hypertext may prove to be a source of incredible potential, the lack of conventions in hypertext may also act as the greatest source of its limits. As a form of dialogic space a hypertext based in random movements of multiple asynchronous users creates the potential for complex arguments that are virtually

³⁰⁰ Shurmer-Smith and Hannan, (*Worlds of Desire realms of Power* London: Edward Arnold, 1994) 93.

impossible to follow. The vastness of the possible information space may provide incredible possibilities for assembling, aggregating and analyzing significant amounts of information, but with the Internet it always difficult to ensure that we are dealing with *quality* or even *useful* information. The process of becoming within the smooth dialogic space involves its territorializations (ways that groups come together to reach understanding) with their own machinic potentials (the ways that we come together in dialogue provide distinct opportunity for certain types of discourse).

Moulthrop's concerns are echoed in the participatory design literature that advocate not only user engagement in placemaking discourse, but also in user engagement in the design of the dialogic space. The online dialogic space for environmental design may be envisioned not simply as the online forum or chat room but instead as a form of hyperlinked multimedia document, a co-authored hypertext. Such environments could support collective acts of drawing, modeling and discussing. These may be thought of as (smooth spaces) layers that are assembled with a variety of personalized navigational strategies (striated spaces), spaces of potential providing opportunities for participants to share in the assembly and use of specialized tool sets. In George Landow's discussion of hypertext he notes that although text itself may not change, it is our expectations of text that will change due to it's lack of linearity and the multiple embedded paths of view.

As readers move through a web or network of texts, they continually shift the center - and hence the focus or organizing principle - of their investigations and experience. Hypertext, in other words, provides an infinitely re-centerable system whose provisional point of focus depends upon the reader, who becomes a truly active reader in yet another sense. One of the fundamental characteristics of hypertext is that it is composed of bodies of linked texts that have no primary axis of organization. In other words, the metatext or document set - the entity that describes what in print technology is the book, work, or single text - has no center.... one who uses hypertext makes his or her own interests the de facto organizing principle (or center) for the investigation at the moment."³⁰¹

User expectations of the collaborative hypertext document shift with the modes through which the text is processed, navigated, and consumed, and less focus is placed on how

³⁰¹ Landow, "The rhetoric of Hypermedia," 11.

text is constructed and by whom. Moulthrop builds on these ideas when he writes “new writing must be radically non-authoritative and collaborative” and

“If hypertext and other electronic media hold out any difference, it would seem to lie in participatory forms, not [simply] such traditional offerings as electronic novels or monographs. The native country of hypertext must be a stranger place than anything we have yet imagined.”³⁰²

If Moulthrop is correct then it is not only the artifact that is strange, but also the acts of engagement in the dialogic space.

Moulthrop provides another concern about hypertext, that is that hypertext may be that it is more about hype than text. Hypertext environments like much of the internet is often more show than substance. Although hypertext systems intend to be liberating spontaneous environments, it is more than likely that ones journey will end up in some anachronistic back lane or dead end narrative than a path to enlightenment (or at least something useful). Hypertexts for all of their good intentions are often in reality highly striated environments, environments based upon contrived rules and relationships, where freedom and spontaneity of movement depends upon what has been made possible by those building before you.

Towards an interactive dialogic space: the co-authored hypertext

The challenge today is to think beyond both the limits of past strategies and the tools of the present, to embrace visions of online participation that are flexible and permeable. These should be flexible in the sense that discursive tools support variable discursive assemblages (the ways that groups come together to make decisions). These should also be permeable in the sense that discursive assemblages remain open to user specified change, bounded by conditions and contexts defined by the participants.

As readers move through a web or network of texts, they continually shift the center - and hence the focus or organizing principle - of their investigations and experience.

³⁰² Moulthrop, 65.

Hypertext, in other words, provides an infinitely re-centerable system whose provisional point of focus depends upon the reader.³⁰³

A dialogic assemblage is not simply an online forum or chat room but instead may be envisioned as a form of hyperlinked multimedia document - a co-authored hypertext document. Such a document might include multiple discussion layers that are assembled with a variety of personalized tasks or customized work areas. It also provides opportunities for participants to share in the use of specialized tool sets. Dialogic assemblages must be responses to the multiplicity of claims for attention rising from potential needs and claims that participants brings to the public conversation. Various tool assemblages become the vehicle for the mobilization of meaning that provide support for a variety of acts of critical engagement. Ideally, dialogic assemblages should also support the broad range of user vocabularies, metaphors and operational eidetics used in situated discursive action.

A prototype example of a virtual reality based dialogic assemblage has been represented below. It is comprised of tool sets that include:

- Virtual reality model (VRML)
- Shared discussions on a number of subjects
- Design propositions
- Alternate representational strategies (VR)

These are supported by other links to:

- Design discussions (graphic and text)
- Related sites

The tool set assemblage is supported an online forum which includes:

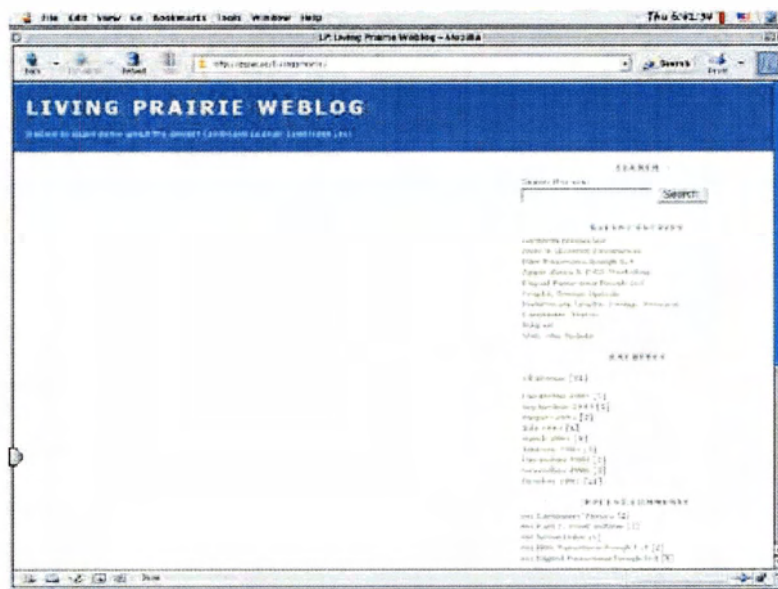
- QTVR imaging
- Discussion space

Project 9 - The prairie weblog³⁰⁴

³⁰³ Landow, "The rhetoric of Hypermedia," 11.

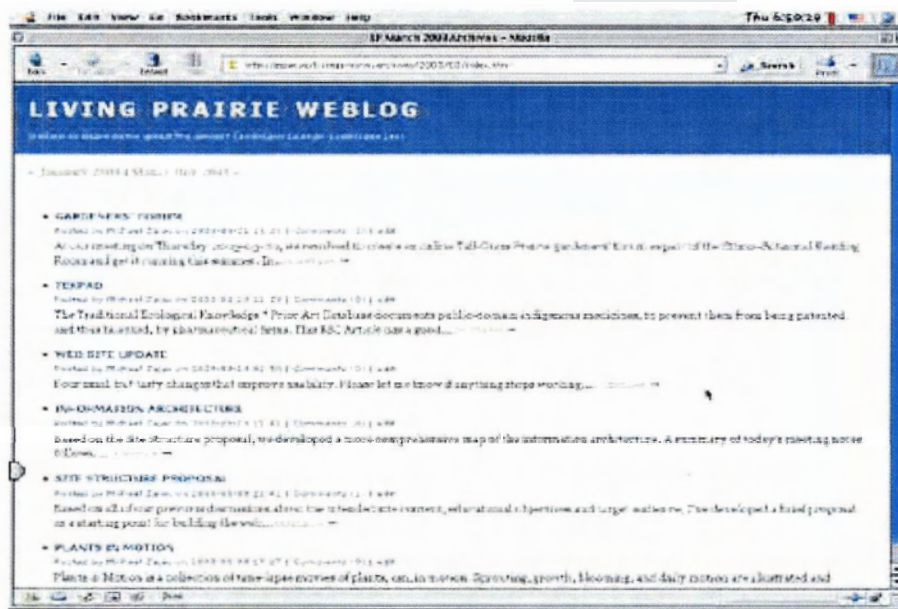
³⁰⁴ See: www.weblog.livingprairie.ca

The Prairie Weblog is our first attempt to develop a co-authored hypertext environment to support the planning and design, in this case of five web-based museum installations being developed for the Living prairie Museum and funded by Heritage Canada. The Prairie Weblog has been devised as a way of allowing multiple participants working on the project to work at different times and at different locations. The Prairie Weblog runs as an active website that allows participants on the project to develop conversation spaces in terms of the topics that they are working on.



The Prairie Weblog is built upon some of the lessons learnt in the previous case studies. In particular the site is designed in such a way that new communication strategies may be added to the site in response to the needs of the participants. As the project work evolves, the working team can use the Prairie Weblog in initially unpredicted ways. The Prairie Weblog is built with a flexible weblog (BLOG) publishing tool called MovableType.³⁰⁵

³⁰⁵ See: www.movabletype.org



A blog is basically a journal that is available on the web. The activity of updating a blog is "blogging" and someone who keeps a blog is a "blogger." Blogs are typically updated daily using software that allows people with little or no technical background to update and maintain the blog. Postings on a blog are almost always arranged in chronological order with the most recent additions featured most prominently.³⁰⁶

The idea behind the weblog is that many users can simultaneously share text based information. The Living Prairie Weblog was designed initially as a vehicle for a number of geographically separated people to work together on a Heritage

Canada Virtual Museums project. The Living Prairie Weblog takes advantage of the MovableType features to create multiple concurrent conversations. Movable type allows the programmer to create multiple threaded (connected) conversations. It is considered to

³⁰⁶ www.matisse.net/files/glossary.html

be a dynamic system allowing for revisions to the dialogic interface and providing for new possibilities for dialogue to be introduced while the program is in use.

Conversations may be structured and made available in a number of different ways, often organized temporally (such as current page entries). The first two illustrations offer a couple of the templates used for organizing and accessing conversations. The computer-mediated shared journal has advantages because it allows the group the ability to share in the writing and development of design concepts. One of the advantages of working in this way is that there is an on-going accessible record of project conversations.



The Prairie Weblog is set up as a facilitated working environment, in that the facilitators primary role is to assemble tools for the users as required through the process. The Facilitator builds the dialogic space as a response to the identified needs of the participants. In the case of the Prairie Weblog a number of tools are introduced to the site

based on their potential for representing spatial information relevant to specific conversations. The flexible nature of the Weblog allowed for the conversations to be broadened to include visual information. This began with inclusion of website links to design precedents. This was a way of looking at and discussing similar, related projects. It was also a way of considering technologies that could support the Heritage Canada installations. These technologies included virtual reality players, computer animations, and thumbnail image galleries.



The Prairie Weblog integrates online discussion settings and embedded / hyperlinked visual and textual references. This allows the participants to share information from related web sites, or to build their own sites as sources of additional content.

The Prairie Weblog represents a more participatory form of hypertext that supports: integrated (hyperlinked) immersive environments, and; active participation in the design

process. The previous two Sustainable Community-design web site projects relied on empirical data and quasi-linear monologic approaches to hypertext applications (as an interactive network rather than an open ended system). The Prairie Weblog project represents a shift in our understanding and attitude towards hypertext. It represents a dynamic evolution of the use of hypertext (which is consistent with the original organizing principle behind various visual and textual databases). The difference is that the structure of the dialogic environment is not established ahead of time but instead incorporates the tools or types of dialogic areas based upon the requests of the working participants. At this stage the Prairie Weblog still remains highly facilitator dependent (requiring that areas for “conversation” be built by a programmer when required).

Reflections

*Writing has nothing to do with signifying. It has to do with surveying, mapping, even realms that are yet to come.*³⁰⁷

Computer-mediated placemaking is about with how people come together to make place, and more particularly how media can be engaged in such activities. In is not only about a particular geography (a particular place or spatial phenomenon), it is also about how peoples with different understandings of place can engage new media in collective ways for redefining place. It considers media in terms of participatory potentials, as substrates of discourse, as agents for productive imaging, as routes for mapping meaning, and as ways of establishing and supporting social relationships.

This work is curiously situated in a time of ideological flux and rapid technological development. As such it is an attempt to take part in that flux, to approach the technology as critical voyeur rather than explicit analyst. As a form of writing this is an act of co-

³⁰⁷ G. Deleuze and F. Guattari, *Anti-Oedipus* (Minneapolis: University of Minnesota Press, 1994), 4.

dependency between writing for long term relevance versus the immediate gratification and accessibility for the reader. Together both forms of writing survive at the expense of each other. The work is concerned with ideas of community and technologies of time and place. When referring to the new media I try to avoid the use of terms like techniques and tools because I want to consider new media as ways of doing, designing, thinking, and communicating rather than existing as the instruments separate from the “voice”.

Project 10 - Landscape change: landscape loss³⁰⁸

Landscape Change: Landscape Loss may be described as an attempt at capturing and recording phenomenological hermeneutic understandings of place using new media. It can be seen as an investigation into how the new media pertains to our transitive notions of community, how they come to support ways of recounting and articulating the boundaries that define community, and how they may become involved in cultural geographies of place and placemaking. Landscape Change: Landscape Loss is a collaborative research and development project for the Living Prairie Museum in Winnipeg funded by the Heritage Canada Virtual Museums Program.

Landscapes are, by their very nature, dynamic, changing, and constantly in a state of flux. Although the consequences of change are often felt after the damage is done, it is often difficult to comprehend loss while it occurs. “Landscape Change/ Landscape Loss” is a project that celebrates loss as an active virtual event linking a living landscape to cultural memories and endangered species.

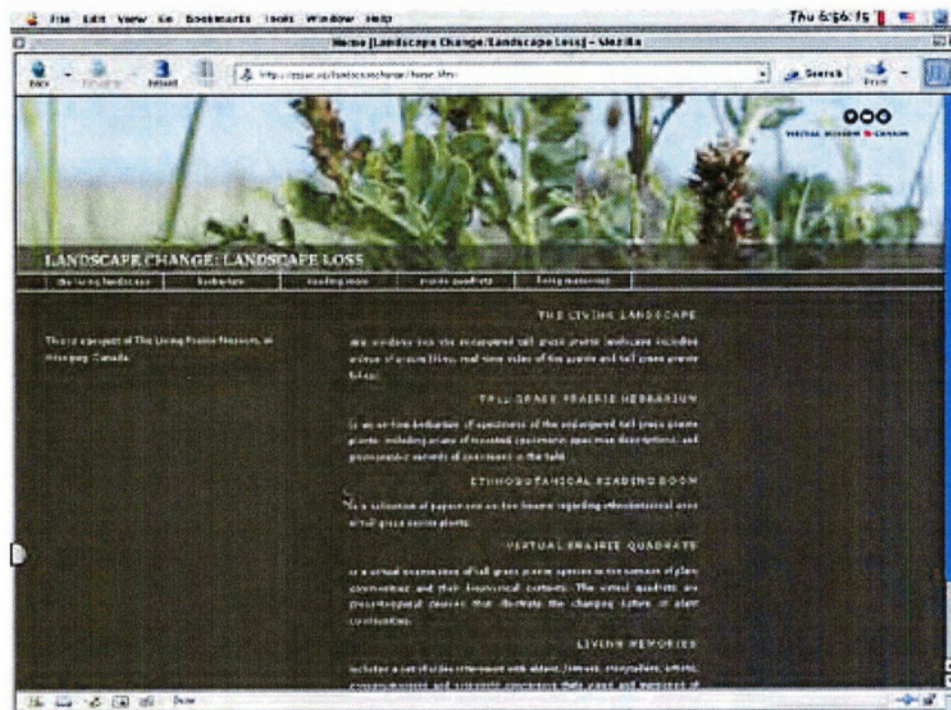
The native prairie grassland is one of the most altered and endangered ecosystems in the world. Today, there is less than 1% of original tall grass prairie remaining in North America. Much of these lands have been set aside as remnant tall grass prairie preserves. The Living Prairie Museum is one such example. The Museum’s mission is to promote awareness and conservation of natural and cultural landscapes, specifically tall grass prairie, through environmental education. Currently, programming at the Living Prairie Museum supports the Pan-Canadian School Curriculum Guide and is available to students of all ages (grades K-12) throughout the school year while the Interpretive Centre is open to the public during summer months. This, however, does not seem to be enough. Teachers, students (elementary school to university aged), and gardeners are constantly approaching the museum for specific tools and information on the subject of

³⁰⁸ See: www.livingprairie.ca

tall grass prairie and its plants. This web site is intended to meet the needs of those groups as well as providing an entertaining and educational forum that promotes awareness and conservation of the Canadian Prairies on a more general scale.

The title of the project 'Landscape Change/ Landscape Loss' is about the act of losing place; the social consequences of landscape change; the reduction of biodiversity and the ethnobotanical consequences of species depletion. The project uses World Wide Web technologies to interconnect themes of landscape change, landscape processes, and living memories. 'Landscape Change/ Landscape Loss' will become a touchstone for Canadians to see the subtle, interconnected consequences of our disappearing landscapes.

The project explores innovative ways of communicating landscape change through ongoing natural and cultural processes, as well as through oral histories. 'Landscape change/ Landscape Loss' allows society greater access to limited endangered materials furthering the museum's mandates of landscape protection and environmental education. The project allows for the dynamic contextualization of species artifacts through the hyperlinks of specimen; ethnobotanical and other writings; ethnobotanical and other



cultural commentaries; spatio-temporal investigations of the living landscape. The Living Prairie Museum, as the only existing urban tall grass prairie preserve, provides the unique context for a living museum. The virtual landscape provides a broader intertextual image of place that links the 'living' landscape to multiple content paths. Five inter-connected exhibitions are being developed into the Landscape Change/Landscape Loss web site and they are described briefly below.

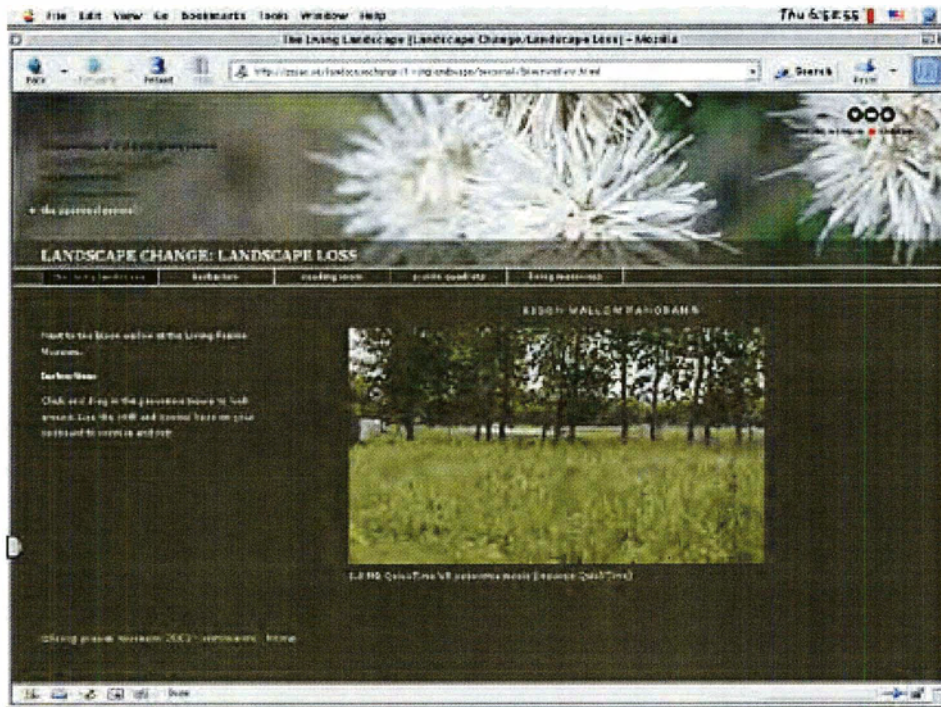
Living Landscape

The virtual landscape provides multiple windows into this endangered, living landscape. The living landscape component of the website is a multi-temporal view-port that provides a number of time based perspectives of landscape change. The living landscape exhibition uses a combination of live footage, time-lapse photography, and aerial view time change animations to illustrate the dynamic nature of the landscape.

Technically, the multi-temporal view-port allows the viewer to experience landscape change through a series of time-based readings of the living prairie. The real-time prairie view is a web cam based installation whereby footage is captured from within the tall grass prairie landscape. Perspectives will be chosen to highlight prairie diversity.

The tall grass prairie walk-through will include a video production simulating an interpreted hike through the tall grass prairie environment. The simulation is intended to be used as an educational tool for those who cannot physically visit the tall grass preserve. It contextualizes the prairie condition and its diversity while the interpretation highlights the site specific ecological and cultural features offered by the landscape. The simulation provides a virtual experience of an endangered site condition encouraging broader national and international exposure to this disappearing landscape.

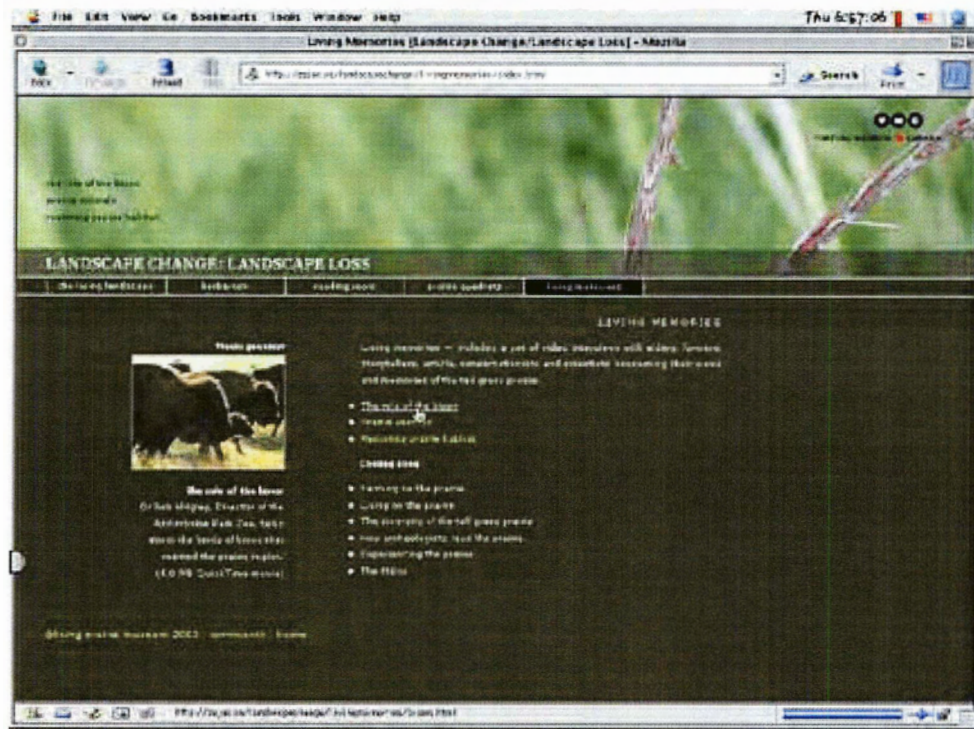
Imagery of the seasonal change that occurs over the growing season within the tall grass prairie will be developed using digital video time-lapse photography. Three viewing positions have been identified that take: i) a broad view of the prairie landscape; ii) a tight view of the open prairie condition; and, iii) a view of the prairie and encroaching forest edge condition.



The aerial view uses a series of archival aerial photographs of a tall grass prairie region showing how the extent of the depletion of the tall grass prairie due to competing land uses. The work is based upon a temporal period of approximately 80 years.

Living Memories

The living memories exhibition examines landscape loss through digital video interviews of affected parties. It includes interviews with storytellers, artists, conservationists, and scientists. Interviews deal with the cultural changes associated with the loss of living landscapes. Interviews include personal observations, reflections, and interpretations of the changing nature of place.

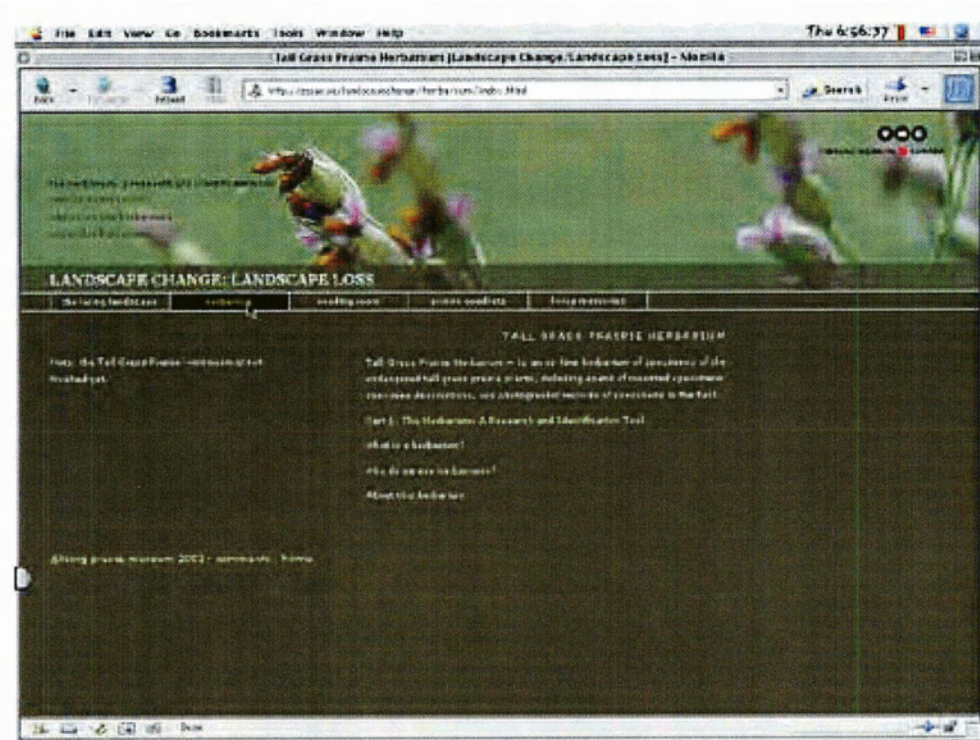


This component of the website includes the development of several video interviews concerning the cultural loss associated with the changing prairie landscape. The Landscape Change/Landscape Loss project disseminates this footage (via editing and interface design) and links it to the scientific information provided in the Endangered Species Artifact Collection, the Ethnobotanical Reading Room, and the Virtual Prairie Quadrats exhibits within the website. This exhibition may also include a virtual forum

through which site visitors are able to share ideas, memories, and experiences relating to the prairies.

Endangered Species Artifact Collection

This includes an online herbarium of specimens that are part of the endangered tall grass prairie. Currently, the museum's herbarium consists of approximately 80 of the endangered tall grass prairie species. This project involves the collection of in situ (growing) photographic records of plants from collection, which will then be linked to an online annotated herbarium database. Specimens are cross-linked to material produced for other components of this website. This allows the museum the ability to provide viewers virtual access to rare and endangered plants.



Virtual Prairie Quadrats

This includes an examination of species in the context of plant communities and other biophysical conditions. The virtual quadrats are cross-temporal devices that illustrate the changing nature of plant communities. This is a set of 1m x 1m quadrats that illustrate the living prairie condition. Species within the quadrats are identified and hyperlinked to a species list. This species list is then linked to a broader discussion through the Species Artifact Collection and, where appropriate to the Ethnobotanical Reading Room. Quadrats are documented weekly throughout the growing season, illustrating plant development and variable blooming periods over time.

The 'Landscape Change/ Landscape Loss' website becomes a vehicle to explore and expand the content and discussion around concepts of landscape dynamics. Projects are designed to create and collect impressions of change and reflections upon the residue of loss. Reflections and impressions are based upon curated discourse as well as the juxtaposition of viewpoints and multiple paths through the memories and artifacts that remain.

The site encourages interaction on different levels (sender/receiver). It is designed not only to discuss landscape change and loss but also to encourage and promote discussion. In this way, the reader becomes responsible for part of the site inscription. While there are a number of websites that capture the living event, the landscape loss project provides threads to a range of ways of understanding the nature and consequences of place in the process of change. This includes multiple temporal perspectives – real time, time lapse (day / season / year), and historic intervals (changing air photo diaries as animated sequences).

The website includes a combination of temporal devices for experiencing the living landscape. The devices include spatial projections based upon different means of framing time (real time to long term historical views). Also included are; landscape as memories through oral histories and landscapes, the endangered species artifact collections, and the

ethnobotany reading room. The online forums allow the oral histories to grow and to be linked to visual narratives of the living site. Although several elements may be produced using a variety of media including video book, and CD-Rom, the website provides the unique format for combining and linking the multiple mediated events. In particular, the web is suited to ongoing forums encouraging broad participation and input, as well as allowing for real time transmission of living landscape events.

Several means of audience evaluation are being be conducted throughout the development process including opinion polls (via email) of fellow CHIN members and seeking out relevant expert opinion through affiliates and local businesses and organizations. In addition, interviews have been conducted with audience members. Web-based tools are evaluated according to qualitative (does the user think it is a useful and interesting site) and quantitative (frequency of use) considerations.

DIALOGIC ASSEMBLAGE REVISTED

The dialogic assemblage as defined is (in its simplest form) an approach to thinking about design as a series of dialogic events. Alternatively it is the deliberate and temporary territorialization of the dialogic strata. In terms of CMC the strata represents the potential dialogic assemblages that can come together, thought of in terms of either dialogic activities (dialogic assemblages), available computer-mediated dialogic methods (method assemblages), or as the cobbling together of various CMC tools (tool assemblage). The CMC machinic assemblage is about the types of dialogue that can take place under temporary condition of possibilities that the dialogic assemblage provides. The potential embedded within the CMC strata are represented as lines of flight, multiplicities of potential discursive paths, multiplicities of potential dialogic articulations. Understanding the CMC as being either smooth or striated can be thought of in terms of how easily different dialogic configurations may be assembled or in terms of the articulation of the possibilities for content and expression.

The two projects described in this chapter are interrelated in a productive capacity, the Prairie Weblog (PW) being a dialogic environment that is constantly being revised in order to support the design and development of the Landscape Change/Landscape Loss (CL) Website. The two different types of CMC environments are in an on-going content/expression exchange. PW is constantly changing its content in response to the expressions contained within CL. Similarly the content in CL is changing with respect to the expressions of design ideas in PW. It is relatively easy to see the relationship at work through the design and development process. The CMC is only in this kind of content/expression articulation as part of the creation and development process (becoming). The content/expression articulation is neither pre-defined, nor predictable, but instead emerges as a result of the communication needs and desires of the participants.

The dialogic assemblage may also be thought of in terms of its role in the symbolic construction of communities. Communities become identifiable through the differences constituted in the types of dialogues that take place as well as in the different dialogic stages that bring people together as part of the participatory strategy. Often it is only through consciously constituted dialogic situations that the community actually exists. At other times this becomes a strategy for initializing community contact, serving as the foundation for sustained bonds. The dialogic assemblage becomes a recognizable condition of difference, or perhaps better understood by Jacques Derrida's term *différance*.³⁰⁹ This is a difference that is recognizable through shared commitment to processes of change, a commitment in a praxis characterized by flux, a process of mutually interdependent differentiation of meaning in place and time.

I would propose that part of the new challenge of geography exists in finding ways of working within in this kind of flux, of continually challenging and deriving meaning in a mediated culture, of engaging in processes of uncovering the symbolic boundaries that

³⁰⁹ Derrida understands *différance* as simultaneously understanding the two senses of the verb differ (*différer*), as in make different, and to defer. Our experience of being in the world is a dynamic process of differentiation, differing (timing) and differing (spacing) as parts of the same process.

can be used to construct new notions of space place, and of developing paths, tactics and eidetics of local resistance that serve to churn from within the flux. This is a praxis of distinguishing community through shared commitment and engagements in processes of change, a praxis that involves the uncovering shared (in an active sense) purpose(s) and/or interest(s), a praxis in which people accept the responsibility to participate in a yet to be determined dialogic tasks. Commitment to community through building the dialogic assemblage involves our realization of our interconnectedness with others in shifting dialogic contexts.

This is in part an active resistance to our neophyte infatuation and conversion to, and witless saturation by, communications technologies (an active and on-going radical hermeneutics of flux from within, while recognizing and celebrating our local spatial realities). I propose that the symbolic boundaries that make up our cultural identities need to be continually engaged, repeatedly interpreting our relations to prevalent and dominant technologies. But, such technologies should also be continually questioned and challenged by means of local resistance. Specifically, approaches that can be characterized as dialogic in nature, adopting and adapting communications technologies in their own development and flux.



Chapter 10. GEOGRAPHIES OF EDIFICATION

EDIFICATION AND GEOGRAPHY

What I refer to as a *geography of edification* is a geography in the dynamic present and a geography of an ever-articulating future, a geography that resists fixed position, a geography that is about participating in everyday events more than featuring a freeze dried reality of the tangible. It is a geography about coping with the everyday though *dérives* with abnormal discourses. But while Rorty speaks of an edifying philosophy in terms of a willingness to adopt abnormal discourse, where does abnormal discourse fit in human geography? I believe that the answers exist not simply in alternative discourses, but in alternative approaches to geographic discourse that treat the fixations of meaning as suspect. In the previous chapters I proposed that Deleuze and Guattari provide such an abnormal discourse, and I briefly waded into a discussion about how such a discourse is reflected in how we think about CMC and SCD. Deleuze and Guattari offer a way of

thinking about knowledge a something that is never really acquired but is instead more akin to a process of continually configuring, and reconfiguring, of temporarily stabilizing and assembling meaning (territorializing with the subsequent de-territorializing). In this final chapter I begin by considering two geographies that appear to be reflective of this kind of thinking, abnormal geographies that draw upon the ideas of Deleuze and Guattari, namely the poststructuralist geographies of Marcus Doel and the non-representational theory of Nigel Thrift. My intention is to illustrate how these geographies may be viewed with regards to Rorty's notions of edifying philosophies.

Following from Rorty, I propose that a geography of edification begins to open the door for considering all spatial knowledge to be the result of different forms of conversation. On this point I agree with Habermas that images (and other forms of representations, maps, myths etc.) may be differentiated from language, since images usually convey a plentitude of meanings (*the obscure plentitude of being*), while language attempts to engage in *a logical disclosure of a categorically articulated world*.³¹⁰ But language itself is also caught up in its own plentitude of being (and that is where the role of hermeneutics comes in). Images and language together emerge into spatial conversations, agents for the possibilities of becoming, allowing individuals to act as the adjudicators of what constitutes appropriate and relevant knowledge. This does not mean that a geography of edification releases us from the pursuit of knowledge, but rather it releases us from our tendencies to settle for fixed versions of what is right or wrong, or more accurately fixed versions of how to get at right and wrong.

NON-REPRESENTATIONAL THEORY

Nigel Thrift's non-representational theory stems from the idea that geography should be about *summoning life*, "I admit that at times I can get frustrated with geography. Much of it seems to follow the logic of the corpse, interested in the broken, the static, the already

³¹⁰ Habermas, 1998, 11.

passed.”³¹¹ The corpse to which Thrift is referring exists in our tendencies to view geography as ways of explaining the world rather than as means of coping from within it. For Thrift, theory should not form the basis of explanation or justification, or serve a fixed body of thought, or be seen as a panacea. Instead he offers non-representational theory as “a modest supplement to practice, helping people create new ways of living-thinking through which they can explore and add to the world – rather than offering ready-made solutions.”³¹² Non-representational theory is an active/on-going realization of geography, a geography that *lives* through the events of everyday life. In Thrift’s own words “Life itself is process of production of the new”.³¹³ Geography as non-representational theory is an attempt to engage in practices, or what I believe could be called abnormal discourses, that stimulate the production of the new.

“non-representational theory is concerned with forging a new kind of ethics, one which is concerned above all, with changing our stance to the world by working on the faculty of judgement as it is actually exercised – in the immediate present... This is, then, an ethos of awareness, working experimentally upon virtualities that exceed the realm of conscious control. It is the cultivation of ‘expertise’ as judgement able to be fully attuned to each event rather than the application of set rules, since truly ethical behaviour does not arise from mere habit or from obedience to patterns of rules.”³¹⁴

Thrift’s describes five stimuli; depicting a world of resonances and temporary articulations, motility of embodiment, destabilizing and disputing notions of the objective world, experimenting with new therapeutic/psychoanalytic set-ups, and emphasizing procedures of *somatic action* (what alternatively might be referred to as a response to phenomenology). These stimuli are depicted as geographic approaches to disclosing the world in terms Thrift describes as *experimental, demonstrative, relational, ethological* and *dynamic*. Like Deleuze and Guattari, Thrift avoids notions of causality in favour of assemblage as means of constructing interpretive narratives, “the world is built out of

³¹¹ Thrift, “Inhuman Geographies,” 82.

³¹² Thrift, “Inhuman Geographies,” 83.

³¹³ Thrift, “Inhuman Geographies,” 85.

³¹⁴ Thrift, “Inhuman Geographies,” 93.

various ‘polymorphic’ forms of relations”.³¹⁵ Assemblages for Thrift are only temporary structures that exist in practice, shifting and replacing one another in processes of *co-adaptation*. The world can never be accurately explained because it is always incomplete and inconsistent, and that the best way to understand the world is *as a set of constantly - becoming ethologies*. Or to put it another way, Thrift’s non-representational theory is geography of intersecting and interacting narratives (descriptions, operational eidetics) lived out in the everyday. It is a geography about the co-habitation of polymorphic voices. It is a commitment to participating in geography where behaviour “is not localised in ‘individuals’ but is understood as a relational structure that constitutes what might be termed an ‘extended organism’, a ‘small’ world within which becomings take place in terms of affects and capacities for affecting and being affected”.³¹⁶ In many ways this reflects Rorty’s notion of pragmatism as not being caught up in fixed representational discourses, but instead being committed to a continual becoming, an edifying philosophy of openness to outside influences and approaches. Thrift’s own description of non-representational theory resonates with Rorty’s idea of edification enabled through the discourse of Deleuze (although he doesn’t refer to Rorty directly) when he states “non-representational theory can be understood as a pragmatism of ‘human’ transformation (the question, of course, being ‘What is human? Or how can we become human?’), which works by the unfolding of concrete multiplicities.”³¹⁷ Although Rorty would probably argue that questions about the nature of humanity echo traditional problematic ontological and epistemological pursuits (ontologies of knowing as opposed to ontologies of becoming), and that we should also be committed to a *letting go* into the potential unfolding of concrete and abstract possibilities.

This is not to say that Thrift is advocating a prescriptive form of pragmatism, on the contrary non-representational theory is an “attempt to fight against the terrorized imagination that characterizes modern societies by stressing the *primacy of poetic invention*: that the primacy of poetic invention is a crucial political move.” James

³¹⁵ Thrift, “Inhuman Geographies,” 87.

³¹⁶ Thrift, “Inhuman Geographies,” 87-88.

³¹⁷ Thrift, “Inhuman Geographies,” 89.

Corner's work on operational eidetics may also be viewed in this way, eidetics that are not meant to capture the world as an accurate fixed representation. Eidetics in the way Corner is using them serve in the exploration and articulation of existing and imagined worlds of events and experiences. Non-representational theory is not an attempt at inhibiting representation, on the contrary it is a call for the liberation of representation from fixed ways of seeing and making of the new.

Thrift views non-representational theory as something that is fundamentally political or at least concerned with *forging new political spaces*.

Of course, how these spatialities and temporalities are disclosed differs from author to author - the refrains of Deleuze and Guattari, the intricately practiced space-times of Lefebvre, the circulations of Latour – but they all share the same broad goals and technologies. And they all share the commitment to valuing a practical poetics of everyday life, not just some idle remnant left to speak only after 'larger' forces have had their say, but as a viable sphere of politics in its own right, the fount of a constant and ongoing virtuality which exceeds, always exceeds. Everyday life is the rough ground where potentials are worked out, a practical *practice* of composition which, for those of a scholastic disposition, is too easily framed as 'banal'.³¹⁸

It is within these political spaces that the opportunities for abnormal discourses arise, where new expressions of cultural desires become part of the intellectual challenge, a challenge that involves jarring us out of our cultural complacency. "Non-representational theory is, in part, an attempt to reposition the intellectual outside of this space of cultural celebrity by moving her into different territories of expression that can in turn produce new contents."³¹⁹ I believe that this may also be reflected in placemaking activities and non-traditional research agendas that are about participating in, and valuing our participation in local dialogues.

³¹⁸ Thrift, "Inhuman Geographies," 88.

³¹⁹ Thrift, "Inhuman Geographies," 92.

FOLD

Poststructuralism has seeped into geographical thinking, not quite long enough for the term poststructuralism to hold a place of signification within my word processor's dictionary, and perhaps that is appropriate, but long enough to take root in destabilizing geographical discourse. The word processor itself bloats with its own sense of self importance, as if that bit of filtered accumulation of knowledge, that temporary representation of an assemblage of understanding takes precedence over any lived world. Poststructuralism has seeped into geographical thinking, not as knowledge, but acting upon geographical approaches to knowledge that strive to freeze place in delusions of understanding. Instead of settling for a contribution to knowledge this dissertation is unapologetically poststructural in its orientation. Consistent with Marcus Doel's poststructural geography, this dissertation has been the result of a tacit drift, a process of folding readings into themselves (kneading the needing of understanding), and uncovering alternative assemblages of coherence. "To take flight without ever leaving the ground, to voyage without ever moving from the spot, and to become the dissimulative other of the same. Such is the geographer's art, when it is radical, when it is perverted enough. Everything is in the interminable process of becoming what it will have been: *post modo*. Coherence is a retroactive effect, and only takes hold from the vantage point of a certain perspective."³²⁰ But, although it has been an attempt to take flight, by being a *dissertation* the work lifts off only in optimistic hops and remains weighted down by its own speculations and strategies. In the end dissertations that try to play both sides at the same time become little more than theoretical flight safety cards.

Poststructuralism has seeped into geography to release us from the ontological fixations of being, from geographers as *being counters*, into ontologies of continual becoming. The cogito, *I think therefore I am* has taken root, not merely as a form of justifying existence

³²⁰ Doel, *Poststructuralist Geography: the Diabolical Art of Spatial Science*, 28.

but as a means of fueling existence.³²¹ A geography of edification is a geography that finds comfort in being continually displaced, disoriented, in a constant process of disintegration. It is a poststructural geography that wears a transforming human face.

DRIFTWORKS

Geography will not have been a found object – like a long-lost treasure or heirloom that one could polish and put on permanent display. Whatever it is, it will have to be assembled more or less from scratch and lent a transient consistency in contexts that are still to come and according to passwords and driftworks that are barely discernable.³²²

Although poststructuralism is often associated with a sense of nihilism and denial Doel's descriptions of a poststructural geography seem to really reflect tendencies of optimism and creativity about finding alternative ways of *coping* in a materialized world, and engaging in the shifting meanings of our representations of place. "Contrary to popular opinion, we do not wish to elude the gravitational pull of the world in order to float freely amongst signs and images. Rather, we affirm the falling back of signs and images into the play of the world. We remain – as always – resolutely materialist. So, we are struck by the force of signs, the intensity of images, and by the affects of language."³²³ *Coping* in the materialized world is the on-going interpretation of the signs and images of place, an on-going critical dialogue about, and with, the images and languages of place, as well as an on-going critical dialogue concerning the images and languages that places emit. Coping comes with the realization that we eventually throw everything away, that *things fall apart*, even our own values and judgements, but that is in part the nature of an edifying philosophy. "Though they [values and judgements] reign over us, they are not manna from heaven. They are fragments of practice – one or two snatched from an infinite array – that are thrown up into the sky before falling back in order to constrain

³²¹ Meanwhile digital media is for the most part focussed upon finding inscriptions and representations to count the beings in new and better ways, while justifying its own existence in the self-procreation of strategic ontologies.

³²² M. Doel, "Poststructuralist Geographies: the essential selection," in *Envisioning Human Geographies*, eds. P. Cloke, P. Crang, and M. Goodwin. (New York: Edward Arnold, 2004), 157.

³²³ Doel, "Poststructuralist Geographies: the essential selection," 150-151.

and regulate other fragments of practice... We are struck by everything, but only as 'passwords' for 'driftworks', never as 'order-words' that must be obeyed. We may even subscribe to an essential selection – on condition that it has built-in obsolescence."³²⁴ Doel's use of the term 'driftworks' echoes Rorty's edifying philosophy, but perhaps enables it as well, as the metaphor dabbles into the materialized world it serves as a marker of the potentials of places as sources of edification and traces of edification past. This dissertation began as a search for *order-words* (SCD, CMC, planning strategies, etc.) but has become a search for *essential selections* and finding comfort in *built-in obsolescence*.

Doel's work on poststructuralist geography wades deeply into the abnormal discursive potentials brought forward by Deleuze and Guattari. Doel challenges epistemological academic traditions by allowing other forms of discourse to take root. "For mine is a universe of alchemists, sorcerers, and lycanthropes, of cyborgs, schizos and becomings."³²⁵ A poststructuralist geography is a means of resisting extant ideas that fix space in a frozen past by reinforcing discourses of emergence. In Doel's poststructuralist geography space itself is no longer extant, something that can be identified or objectified, but rather space is seen as an active potential of becoming. "*Letting space take place*: that is the ambition of geography when it is radical... It is the event of space, of spacing, that deconstructs... [P]oststructuralism affirms the fact that there are no points of constancy in this or any other universe. There are just folds of consistency – and nothing more. Everything is manifold. Even points vibrate."³²⁶ Doel radicalizes geography by treating it as an event, that resists tendencies for evaluation that comes from the outside in (correspondence, coherence, integrity). For Doel geography should be thought of as an event that is understood in terms of how it affects and is affected by other events. A poststructuralist geography is a form of resistance to the hermeneutics of the past but more closely likened to the radical hermeneutics of philosopher John Caputo. Radical hermeneutics is in many ways synonymous with poststructuralism, but for the fact that is

³²⁴ Doel, "Poststructuralist Geographies: the essential selection," 151.

³²⁵ Doel, *Poststructuralist Geographies: the Diabolical Art of Spatial Science*, 27.

³²⁶ Doel, *Poststructuralist Geographies: the Diabolical Art of Spatial Science*, 10-11.

not only interested in *keeping the conversation alive*, but it is also about keeping the interpretation alive, and as such may be seen as other passwords for the driftworks of poststructural geographies.

GEOGRAPHY AND RADICAL HERMENEUTICS

Questioning is thought's movement, kinesis, the work (ergon) of a thinking which cannot rest ("just in so far as it cannot rest," Aristotle would add). Questioning is a way of staying under way. Undecidability keeps us in motion, keeps us faithful to the flux, in *physis*, closes off the escape routes, does not permit us to climb through the window (metaphysis). Undecidability consigns us to the *doxa*, wandering two headed in a maze of differential interweavings, with no footing, on constantly shifting, slipping grounds. It keeps us off balance, in the ébranler, the trembling.³²⁷

Radical hermeneutics is a deliberate attempt to engage in interpretation in ways that are not delimited by our temporal slices and snapshots. "If intentional life is a flowing stream, the matter/form theory isolates, synchronically, a cross sectional slice whose structure it describes, while leaving out of consideration its temporal, progressive development."³²⁸ As a method of geographical interpretation, radical hermeneutics provides a means of engaging in the constant flux of meaning and change in social/spatial inquiry. Radical hermeneutic inquiry is not about the construction of knowledge (the contribution of new knowledge) but about an on-going commitment to the deconstruction of knowledge, recognizing deconstruction as a force in the cobbling together of meaning ([de]construction).

Radical hermeneutic inquiry resides upon a deliberately shaky foundation. Wandering, questioning, interweaving and slipping, throughout questioning and writing, but it is not *about* kinesis, moreover is it not an attempt at kinesis? It is a search for a *contribution of knowledge* in the slippage of meaning and the flux and chaos of our experiences. It begins in an attitude that can treat geography as an unstable text, not so much as something, but

³²⁷ J.D. Caputo, *Radical Hermeneutics* (Bloomington: Indiana University Press), 1987), 188.

instead that 'other' which can never truly be reified, geography as more like catalysis, liberating meaning in our everyday life.

Radical hermeneutics is in part about uncovering the nature of play, play that engages the world, play that decomposes, deconstitutes, and deconstructs.

Deconstruction is ongoing, always unfinished work, not a position but a praxis, not a theoretical outlook or standpoint but an activity which is always in *actu exercitu*. For Derrida, speech and writing alike are acts, speech acts and literary acts, designed to produce an incessant perlocutionary effect. Deconstruction is an exercise in disruption which displaces whatever tends to settle in place. Now, if I have felt the effect of this textual operation, the thrust of this stylus tip, I would say that the whole thing is a work of emancipation, a strategy or praxis of liberation. It is not a theoretical discourse about freedom but a textual operation performed in the name of liberation. The emancipation of the signifier from the rule of a priori grammar begun in the Husserl essays is generalized into an emancipatory project which seeks liberation from all oppressive, regularizing, normalizing, and exclusionary discourses. It means to issue in free writing, free speech, free literature, and free science, freedom in the academy and freedom outside.³²⁹

A radical hermeneutic geography is in part the deconstruction of the *text* of lived place, in part through what we say and what we write, but more importantly through how we engage in space and place. This is a constant condition, a living in the flux, accepting that we are wandering, always on slippery ground, that understanding and meaning are always only temporary. This is in part a recognition of a *living geography*, or more accurately a recognition that we are living a geography of continual cultural flux, that the slippery ground of meaning and understanding is to be continually put into play, all along engaged in acts of <un>mooring, and of watching the sources of meaning and understanding slip away.

Radical hermeneutics and the technologies of place can be seen as methods of critical nomadism,; a deconstruction of static beliefs, constructs, and ideologies in a dynamic interpretive study of flux. This form of inquiry follows from the philosophical writings of

Caputo, 43.

³²⁹ Caputo, 193.

Rorty, and John Caputo (who in turn builds upon the works of Gadamer) and Brian Massumi (following the work of Gilles Deleuze and Félix Guattari). Caputo challenges us to take an active role in the deconstruction of meaning in our world, yet all along with the view that deconstruction is a fundamental critical activity, not necessarily serving the idea of progress but instead engaging in re-addressing and disrupting ideas such as progress. Massumi takes us on a journey into the heart of the beast (beasts perhaps if we are also to consider the texts of Deleuze and Guattari), into ways of reading and being with flux, into ways of engaging in “abnormal” discourses. Massumi provides a number of useful paths for thinking about our world, including his interpretations of *essence* and the *virtual* that may be used to *limit*³³⁰ the discussion of terms such as sustainability, community and technology.

Deleuze and Guattari dislodge the notion of *essence* from that *which is* to that which is always in the state of becoming.

It is called that because as the point of intersection between formations, it constitutes a point of contraction enveloping the entirety of their processes. The word *essence* should not be taken in any Platonic sense. The essence is always an encounter; it is an *event*; it is neither stable nor transcendental nor eternal; it is immanent to the dynamic processes it expresses and has only an abyssal present infinitely fractured into its past and future.³³¹

It is of this *essence* that the symbolic boundaries that constitute place come together. But the notion of essence also carries with it the metaphysical baggage of representations of a world that may be captured as a form of transcendental knowledge, in the Platonic sense. To liberate Massumi’s idea of essence or immanence as a way of thinking about our relationships with the world it may be more useful to think of geography with respect to Rorty’s term edification. Let me finally describe what I mean by a geography of edification.

³³⁰ I use the term limit here in the sense of a mathematical limit, that which is approached but understood as something that can never be reached or achieved.

³³¹ Massumi, 18.

In this dissertation I have been trying to release sustainable community design from the constraints of the understood, into a radical hermeneutic process of interpretation in the flux of understanding. A commitment to such a form of sustainable community design is not about learning and applying banked knowledge but is instead a commitment to rhizomic local/spatial/dialogic paths of edification. It is a spatial practice of searching for shared processes of self-formation. *Part of this edification process is rooted in criticism and the belief that sustainable is never obtainable, but rather it is a call for on-going creative pursuits.*

A GEOGRAPHY OF EDIFICATION

A geography of edification is understood in terms of immanence rather than fixed descriptions. This is a poststructural geography where electronic landscapes collide with the boundaries of home, where community identities emerge as *placeless* instances, where image and substance couple momentarily, where future and past inhale and exhale simultaneously in the present. It is of this *immanence* that we seek to live and play through a geography of continual becoming.

But this is not to say that such *play* is innocent and helpless, rather it is best when bound in ethics and hope, recognizing that although ethics and hope are as unstable as anything else, they form the firmest foundations that we can have. In this way the deconstruction of our texts of place becomes a *praxis of protest*³³² and discovery, a thin and unstable surface of meaning and interpretation shifting and coercive rather than stable and definitive, all along seeking and uncovering minor flaws and imperfections. In the words of Caputo:

... in the thin membranes of structures which we stretch across the flux, in the thin fabric we weave over it, there are certain spots where the surface wears through and acquires a transparency which exposes the flux beneath. There are certain breaking points, let us say, in the habits and practices, the works and days, of our mundane existence where the flux is exposed, where the whole trembles and the play interrupts...³³³

³³² Caputo, 192.

³³³ Caputo, 269.

A geography of edification may best be understood by using the metaphor of the fractal (although one could do the same thing with p-lines or similar generative systems, all used as metaphorical devices). For many the fractal exists as a computer generated image that may be appreciated for the detail and apparent “self-similarity” in scale. This way of seeing is about fixation and reduction, to believe that the fractal is the image, is the diagram, is the mapping. But, as Massumi points out, a diagram of a fractal is a dead fractal, that a fractal by its very nature is infinite, is a process rather than an object, that when it is reduced to the object the fractal seizes to exist. “Actualization is always death: a becoming-other, or a staying the same but inert.”³³⁴ The diagram of the fractal, the mapping, is itself the tragedy of a process captured and mummified. But mummification captures only the image at time of capture, what has become, rather than the process of becoming, captured anew in the process of mummification.

A fractal process can be stopped and diagrammed at any point in its dividing. Every stop will yield a different diagram, each of the same fractal. Since the process is infinite, the number of potential diagrams is infinite. Even as itself, even between its two limits, the fractal is multiple and boundless. All the potential diagrams are immanent to the many levels of any one, as potential effects of the same process. The overall identity of the fractal is enveloped in each diagram, but is not manifestly present in it. It cannot be, since the fractal’s identity (becoming) is one with the generative process that must end for a given diagram to be produced. A mathematical equation or verbal instructions on how to construct the fractal are *diagrams* that express its latent identity-in-process more adequately than a static representation. All of the diagrams derivable from the same equation (abstract machine) subsist in the actual diagram produced (repetition as an inherent dimension of difference).³³⁵

The alternative ways of seeing, the mathematical equation, the eidetic mapping or verbal instructions on how to construct the fractal, are strategies for capturing latent identity-in-process. But, as static representations such strategies in themselves provide little insight into the nature of the process of becoming. A geography of edification engages mapping as a way of liberating understanding about process rather than object (for passing on the nature of a fractal), an assemblage of ways of seeing latent potential (identity in process, equation, eidetic map) along with static possibilities (descriptive diagrammatic mapping).

³³⁴ Massumi, 37.

A living geography, a geography about living in spatial social/flux, does not mean that we are living in a world that is independent of physical laws and constraints, but instead it means that we are indeed living in our shifting interpretations of physical, spatial world. But this is also a temporal world, a world temporally afloat in changing ideas and virtual ideologies, a world that exists in simultaneities of experience and meaning. This world of edification resists reduction, objectification and categorization, but is instead a world of overlapping calculus, a world of stratified differential meaning, of multiple co-existing limits and asymptotic convergence(s). It is a world that churns with the complexities and contradictions of the everyday; simultaneously bound by the limits of our perceptions, our representations, and how we make sense of the everyday. This is a geography of humanization. Skepticism and scrutiny concerning the nature of community and sustainability should be considered through, and as a part of, dialogic placemaking processes. Community, in this way, is never fixed or stable, but always a result of the process of dialogic reclamation. Sustainability really only ever exists as a temporary negotiated ideal, in the shadow of everyday life.

The practice of a living geography, a geography of edification, involves an interweaving of what Henri Lefebvre described as the perceived space of materialized spatial practice; the conceived space or representations of space; and lived space or representational space. This is an interweaving of beliefs and desires with everyday life, a mingling of meaning and hope with the uncovering of power and domination (spatial/historical/social). A geography of edification becomes a geography of uncovering; uncovering new ways of seeing, uncovering new ways of writing (drawing, mapping), uncovering new forms of habitus (ways of living together, the practice of everyday life for social beings). A geography of edification is also about continually uncovering new ways of interweaving lived, conceived, and perceived spaces, and resisting the domination of prescribed methods of seeing, mapping and living our world. Engaging in a geography of edification is in large part a dialogic activity, an activity that is derived through our interaction with others and an interaction with place.

³³⁵ Massumi, 37.

I see at least two challenges in the driftworks of a geography of edification. The first challenge involves the playful engagement of languages and images, recognizing that language (and I think of different forms of media as potential sources of language) contain intrinsic potentials and biases. The second challenge becomes one of how to develop dialogic strategies that combine latent potentials with static possibilities for lived, conceived, and perceived spaces. This means that art, mathematics, and discourse etc. should be considered as more than ways of doing (solving problems, or representing situations), but instead as constituting a potential for dialogue; coexisting ways of seeing; potential assemblages for the mapping of essences (mapping of becoming).

Thus between the limits there subsists a multiplicity of potential fractals. This in-between constitutes a level of virtuality lower than that of new being or nonbeing: what could be called the fractal's realm of *possibility*. Possibility is a restricted range of potential: what the thing can become without ceasing to be itself (how the process can end without ending up outside).³³⁶

To engage in a geography of edification is to think about self, community, space and place as becoming, always in potential (deterritorializing), always offering a new realm of possibilities (territorializing), contingent in experience and contingent in our dialogical relations.

Touching glass

Perhaps the real question of this work is in fact all along been the question that my father asked me. Why Geography?

If we are to agree with Rorty, as I am inclined to do, that philosophy is no longer about the Mirror of Nature, and that all we can ever have is the strata of the multiplicity of coinciding meanings, where does this leave geography? To try to answer this I return to the place where this whole discussion started, my memories. As a child sitting at home, sick again, I would spend a good part of my day looking out the window. In the winter I

³³⁶ Massumi, 38.

would inscribe drawings on the icy window and watch as the children passed by on their way to school, now moving through my newly drawn, and slowly disappearing, icy landscapes.

Our dialogues are like the ice on the window that we can choose to inscribe through alternative discourses, discourses that allow us to momentarily play with the possibilities of new ways of seeing. Every time we assign meaning to our world we re-create it as momentary vestiges of personal understandings. Every time we participate in conversation, it offers us new potential glimpses through the playful inscriptions of others. I believe that these inscriptions are at their most beautiful, most playful, and most edifying when they evoke our existence. That's what keeps geography relevant, and that's why geography.

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Index

- a contribution of knowledge, 14, 285
- abnormal discourse, 14, 15, 18, 105, 122, 125, 147, 217, 220, 222, 223, 226, 245, 277, 279, 281
- abstract machines, 224
- action, 6, 27, 29, 32, 33, 34, 35, 37, 38, 39, 41, 51, 57, 60, 61, 62, 63, 70, 80, 81, 108, 109, 111, 112, 113, 114, 115, 116, 117, 118, 124, 140, 142, 143, 144, 146, 147, 148, 150, 151, 155, 157, 159, 160, 161, 164, 167, 168, 181, 187, 189, 190, 192, 197, 210, 211, 217, 234, 237, 238, 239, 240, 241, 243, 248, 249, 251, 252, 255, 259, 279, 305, 310
- aggregation, 35, 36, 40, 75, 79
- argument, 14, 64, 122, 164, 166, 167, 168, 189, 190
- articulation, 46, 160, 223, 251, 252, 274, 275, 281
- assemblages, 17, 148, 194, 195, 198, 201, 204, 208, 209, 223, 224, 225, 226, 232, 235, 251, 253, 258, 259, 274, 282, 291
- Becoming, 18, 19, 45, 127, 192, 203, 215, 216, 222, 224, 225, 235, 236, 242, 246, 248, 252, 253, 257, 275, 278, 280, 282, 284, 287, 288, 289, 291
- Being, 222, 223, 242, 307
- boundaries, 30, 34, 35, 36, 37, 38, 39, 40, 56, 58, 81, 94, 141, 151, 152, 226, 234, 249, 252, 256, 266, 275, 276, 287, 288
- CAD, 94, 193, 305
- Caputo, 15, 18, 29, 246, 284, 285, 286, 287, 288, 295
- CMC, 3, 5, 6, 12, 13, 14, 15, 17, 18, 23, 40, 43, 44, 45, 46, 47, 48, 49, 51, 53, 54, 55, 58, 59, 60, 63, 64, 65, 66, 67, 68, 69, 71, 73, 79, 80, 81, 82, 83, 84, 85, 86, 88, 89, 90, 91, 92, 93, 97, 98, 99, 100, 101, 102, 103, 104, 105, 116, 117, 124, 125, 126, 127, 135, 136, 137, 139, 140, 141, 142, 145, 148, 149, 155, 156, 157, 158, 161, 163, 166, 169, 170, 171, 176, 179, 180, 181, 182, 183, 184, 186, 188, 191, 192, 193, 194, 195, 204, 209, 210, 212, 213, 221, 225, 231, 235, 236, 237, 242, 243, 244, 245, 247, 255, 274, 275, 277, 284, 303
- Cohen, 16, 20, 30, 31, 34, 35, 36, 40, 81, 296
- commensurable, 123, 145, 146, 147, 191, 214, 219, 221, 234
- commodification, 15
- communication methods, 225
- community, 3, 4, 5, 6, 7, 9, 10, 11, 13, 14, 16, 17, 19, 20, 21, 23, 25, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 44, 45, 60, 62, 66, 68, 72, 73, 74, 75, 78, 79, 80, 81, 83, 84, 90, 91, 94, 101, 103, 105, 108, 109, 110, 112, 113, 115, 116, 119, 120, 121, 125, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 142, 143, 144, 145, 147, 148, 149, 150, 151, 152, 154, 155, 156, 157, 158, 160, 161, 166, 167, 168, 169, 170, 177, 188, 189, 190, 191, 192, 193, 194, 196, 197, 202, 208, 210, 211, 214, 216, 217, 218, 219, 220, 221, 223, 224, 225, 226, 228, 232, 233, 236, 238, 239, 240, 241, 242, 243, 244, 246, 247, 248, 249, 250, 251, 252, 253, 254, 265, 266, 275, 276, 287, 288, 290, 291, 295, 302, 306
- composite imaging, 230, 231
- computer mediated communication, 3, 4, 5, 10, 41, 43, 44, 111, 116, 125, 127, 131, 138, 139, 143, 145, 146, 158, 186, 209, 223, 225, 226, 234, 242, 245
- concientization, 187, 213
- constitutive, 15, 19, 163, 211, 251

content and expression, 188, 193, 252, 274
 Contextual design, 88, 103
 coping, 3, 5, 16, 29, 105, 108, 122, 123, 124, 168, 184, 218, 221, 245, 246, 248, 249, 256, 277, 279, 283
 Corner, 18, 226, 227, 229, 230, 231, 233, 281, 296, 297
 CSCW, 13, 17, 43, 47, 64, 65, 84, 85, 92, 94, 158, 194, 195, 308
 deconstitutive, 15, 19, 163, 210, 211
 deconstruction, 15, 36, 211, 251, 285, 286, 288
 Deleuze, 8, 15, 18, 98, 125, 220, 221, 222, 223, 224, 225, 226, 227, 245, 248, 252, 253, 255, 256, 264, 277, 279, 281, 284, 287, 297, 312
 desire, 1, 16, 20, 120, 144, 148, 190, 192, 222, 249, 250
 dialogic life, 249
 dialogic space, 6, 12, 34, 43, 61, 108, 143, 149, 150, 153, 154, 157, 158, 160, 166, 169, 172, 196, 207, 210, 221, 225, 229, 232, 233, 253, 256, 257, 258, 262
 discourse, 4, 7, 9, 11, 18, 23, 33, 34, 37, 43, 50, 55, 77, 80, 110, 111, 113, 115, 117, 123, 124, 125, 127, 128, 137, 142, 144, 145, 146, 147, 149, 150, 151, 153, 154, 165, 181, 189, 190, 197, 208, 210, 211, 213, 214, 215, 216, 217, 219, 221, 222, 223, 226, 233, 234, 237, 238, 240, 242, 244, 245, 251, 253, 254, 256, 257, 264, 273, 277, 280, 282, 284, 286, 291
 discourse networks, 151, 153, 254
 distanciation, 180, 188, 209, 215
 domination, 27, 34, 37, 112, 116, 117, 118, 122, 139, 155, 162, 163, 164, 178, 182, 187, 191, 192, 207, 211, 215, 222, 223, 233, 245, 290
 DSS, 124
 edification, 2, 16, 18, 31, 105, 123, 145, 216, 225, 226, 246, 252, 277, 278, 280, 284, 287, 288, 289, 290, 291
 eidetic, 229, 230, 231, 232, 233, 243, 289
 epistemology, 4, 8, 18, 19, 61, 62, 123, 129, 140, 162, 186, 187, 189, 209, 210, 213, 214, 215, 216, 217, 218, 219, 220
 essence, 122, 215, 221, 222, 287
 ethics, 8, 60, 113, 123, 153, 221, 246, 248, 250, 279, 288
 Ethnography, 87, 301
 everyday life, 2, 3, 9, 18, 31, 34, 35, 90, 120, 122, 123, 234, 235, 243, 245, 247, 249, 279, 281, 286, 290
 exchange relationship, 81, 117, 124, 198, 200, 235
 flux, 14, 15, 19, 25, 29, 31, 216, 221, 223, 245, 246, 249, 250, 264, 266, 275, 276, 285, 286, 288, 290
 forum, 51, 100, 102, 132, 133, 134, 196, 202, 206, 207, 208, 209, 257, 259, 267, 270, 272
 Foucault, 48, 152, 232, 294, 299
 fractal, 289, 291
 Gadamer, 26, 27, 28, 29, 188, 234, 287, 299, 311
 game, 1, 18, 97, 158, 183, 226, 231, 234, 235, 237, 238, 239, 240, 241
 GDSS, 194
 Genre, 80, 298, 310
 geography, 2, 10, 11, 15, 16, 18, 41, 73, 96, 122, 216, 226, 264, 275, 277, 278, 280, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 296, 307

geography of edification, 2, 11, 15, 16, 18, 216, 226, 277, 278, 283, 287, 288, 289, 290, 291
 Gibson, 76, 77, 78, 300
 GIS, 45, 52, 57, 63, 66, 124, 142, 193, 199, 293, 294, 295, 298, 299, 302, 305, 306, 308, 311
 glass, 1, 185, 291
 Guattari, 15, 18, 125, 220, 221, 222, 223, 224, 225, 226, 227, 245, 248, 252, 255, 256, 264, 277, 279, 281, 284, 287, 297
 habitus, 290
 hermeneutic, 7, 11, 13, 15, 17, 18, 26, 28, 33, 40, 41, 54, 104, 105, 110, 113, 121, 122, 123, 137, 138, 144, 161, 163, 164, 186, 187, 188, 191, 193, 213, 216, 218, 220, 230, 249, 250, 266, 285, 286, 288, 310
 hopes, 34, 40, 123, 143, 149, 150, 193
 hypermaps, 14, 66, 72, 124, 136, 158, 179, 199
 hypertext, 54, 59, 60, 64, 65, 69, 70, 71, 77, 82, 98, 102, 124, 132, 133, 136, 146, 158, 206, 208, 217, 255, 256, 257, 258, 259, 260, 263, 312
 ice, 1, 292
 ideal speech situation, 190, 192, 210
 implicit conversations, 235, 243
 intention, 11, 22, 25, 27, 36, 54, 101, 120, 153, 220, 236, 249, 278
 Internet, 4, 16, 17, 18, 41, 44, 45, 46, 49, 64, 66, 68, 76, 82, 85, 94, 110, 128, 129, 132, 133, 135, 136, 138, 170, 177, 190, 198, 201, 209, 239, 240, 241, 243, 257, 297, 298, 299, 301, 304, 306, 308, 310, 312
 interpretations, 3, 8, 18, 28, 31, 36, 41, 86, 91, 96, 108, 110, 118, 121, 125, 141, 144, 160, 167, 179, 237, 248, 250, 270, 287, 290
 Interpretivist, 103
 Landow, 69, 71, 257, 259, 302
 landscape change, 267, 268, 273
 language, 22, 23, 24, 26, 53, 54, 56, 71, 73, 108, 113, 118, 120, 121, 122, 125, 128, 129, 133, 143, 144, 145, 146, 147, 148, 149, 180, 186, 211, 213, 214, 217, 219, 223, 225, 227, 228, 232, 233, 234, 243, 249, 253, 278, 283, 291, 300
 Laseau, 231
 linear, 70, 136, 146, 171, 174, 200, 225, 254
 link, 26, 50, 54, 70, 73, 104, 125, 139, 199, 207, 208, 272
 living geography, 216, 286, 290
 local, 12, 19, 34, 35, 38, 44, 59, 60, 64, 68, 72, 73, 95, 110, 115, 124, 128, 137, 138, 143, 151, 156, 162, 163, 166, 182, 193, 196, 197, 218, 219, 248, 249, 250, 251, 253, 254, 272, 274, 276, 281, 288, 302
 MacEachren, 46, 49, 50, 59, 60, 304, 310
 machinic assemblage, 223, 224, 225, 226, 237, 247, 248, 249, 254, 274
 machinic potential, 224, 237, 257
 map, 49, 50, 74, 76, 81, 84, 158, 200, 228, 230, 256, 289
 Massumi, 18, 224, 287, 289, 290, 291, 304
 matrix, 18, 111, 112, 172, 174, 214, 218
 McLean, 231

meaning, 2, 3, 14, 19, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 37, 39, 40, 41, 44, 45, 46, 49, 50, 52, 53, 54, 55, 67, 83, 96, 99, 108, 111, 119, 123, 124, 127, 128, 138, 140, 141, 143, 144, 146, 151, 152, 153, 154, 160, 162, 165, 171, 179, 193, 199, 200, 213, 216, 217, 220, 222, 224, 229, 231, 233, 236, 241, 245, 246, 247, 248, 249, 252, 256, 259, 264, 275, 277, 285, 286, 287, 288, 290, 292
 metaphor, 51, 146, 203, 237, 243, 254, 284, 289
 metatheory, 7, 8, 11, 15, 16, 43
 method, 17, 21, 25, 26, 36, 60, 87, 88, 101, 114, 123, 140, 158, 161, 162, 166, 171, 177, 178, 184, 195, 197, 198, 201, 202, 204, 208, 225, 233, 242, 249, 274, 285
 monologic, 34, 35, 216, 264
 morals, 248
 Moulthrop, 255, 256, 257, 258, 305
 multiplicities, 154, 224, 225, 226, 254, 274, 280
 Museum, 92, 97, 260, 266, 268
 neighborhood, 20, 36, 114, 116, 130, 131, 157, 190, 197, 199, 237
 nomadism, 286
 normal discourse, 219, 235
 object, 12, 25, 28, 29, 50, 51, 53, 55, 66, 120, 151, 223, 226, 230, 250, 253, 283, 289
 ontology, 8, 25, 46, 56, 57, 58, 108, 112, 113, 140
 operational, 168, 227, 229, 230, 251, 259, 280, 281
 Peirce, 49, 50, 51
 Placegames, 89, 91, 236, 237, 238, 240, 243
 play, 26, 54, 90, 136, 142, 159, 184, 186, 221, 235, 238, 245, 254, 282, 283, 286, 288, 292
 postmodern, 19, 27, 28, 189, 221, 288
 potential, 6, 8, 14, 31, 36, 37, 39, 44, 50, 72, 73, 80, 94, 98, 102, 111, 115, 116, 118, 122, 124, 135, 144, 145, 147, 149, 154, 159, 163, 171, 173, 181, 182, 183, 190, 191, 192, 194, 202, 218, 220, 224, 226, 229, 237, 243, 248, 250, 254, 256, 257, 259, 263, 274, 280, 284, 289, 291, 292
 power, 27, 60, 61, 73, 74, 104, 152, 153, 155, 156, 159, 166, 190, 228, 233, 248, 249, 255, 290
 PPGIS, 124
 prairie, 91, 97, 98, 107, 244, 260, 266, 268, 269, 270, 271, 272, 273
 praxis, 2, 11, 12, 15, 19, 25, 28, 30, 32, 33, 34, 41, 43, 60, 61, 62, 63, 64, 104, 105, 127, 145, 192, 213, 216, 220, 232, 247, 249, 250, 251, 275, 276, 286, 288
 project, 12, 14, 15, 17, 18, 23, 24, 26, 62, 68, 81, 85, 86, 87, 89, 91, 92, 93, 97, 98, 104, 122, 123, 126, 128, 129, 132, 134, 135, 143, 149, 152, 156, 169, 171, 177, 193, 195, 203, 206, 210, 245, 260, 261, 262, 264, 266, 267, 270, 271, 273, 286
 real, 3, 13, 26, 48, 50, 52, 60, 69, 72, 73, 76, 78, 84, 86, 91, 94, 96, 103, 104, 111, 113, 119, 120, 121, 124, 125, 135, 136, 141, 144, 145, 146, 153, 179, 180, 182, 192, 195, 197, 199, 210, 213, 219, 235, 238, 239, 241, 252, 273, 291
 representation, 5, 6, 10, 15, 22, 33, 34, 35, 49, 51, 53, 54, 75, 124, 135, 141, 151, 152, 166, 182, 183, 202, 221, 222, 227, 228, 229, 233, 234, 236, 242, 243, 255, 281, 282, 289, 291
 Rheingold, 75, 78, 307
 rhizomatic, 18, 103, 150, 226, 255

rhizome, 225, 227, 254
 rhizomic, 18, 255, 288
 rightness, 118, 119, 121, 141, 167, 181
 Rorty, 8, 14, 15, 16, 18, 21, 24, 29, 51, 108, 121, 122, 123, 125, 127, 128, 137, 145, 147,
 213, 214, 215, 217, 218, 219, 220, 221, 222, 234, 242, 243, 245, 246, 277, 278, 280,
 284, 287, 291, 302, 307
 self representation, 234, 235
 self-realization, 31, 213
 semiotic, 22, 23, 24, 49, 52, 54, 55, 56, 58, 80, 82, 93, 103, 104, 217, 252, 253
 Sidorkin, 15, 215, 216, 308
 situated action, 90, 95, 101, 193, 239, 251, 255
 smooth space, 225, 256, 257
 Southworth, 231, 232, 309
 speech act, 37, 114, 118, 159, 165, 166, 167, 168, 181, 182, 183, 184, 210, 211, 216, 251,
 286
 Stiny, 250, 310
 strata, 223, 224, 226, 237, 251, 252, 274, 291
 striated space, 225, 256, 257
 sustainability, 9, 16, 33, 36, 39, 40, 127, 131, 153, 216, 234, 247, 248, 254, 287, 290
 Sutherland, 75
 symbolic communities, 32, 110
 systematic, 82, 110, 114, 116, 162, 221
 technology, 44, 46, 49, 73, 76, 77, 79, 85, 86, 91, 92, 93, 98, 101, 102, 103, 117, 133,
 136, 144, 155, 164, 192, 203, 246, 250, 255, 256, 257, 264, 287, 306, 309
 territorialization, 253, 274
 touching glass, 1
 truth, 16, 26, 27, 29, 113, 114, 116, 118, 119, 120, 121, 137, 140, 141, 142, 143, 144,
 147, 154, 162, 166, 181, 189, 213, 215, 216, 217, 221, 243
 truthfulness, 118, 141, 142, 167, 181, 182
 Tufte, 68, 231, 232, 310
 understanding, 2, 5, 10, 14, 16, 17, 22, 23, 25, 26, 27, 28, 29, 30, 31, 33, 36, 37, 40, 41,
 44, 49, 63, 69, 78, 82, 108, 109, 110, 112, 113, 115, 116, 117, 118, 120, 121, 127, 129,
 131, 137, 138, 139, 140, 141, 142, 143, 145, 146, 152, 154, 155, 159, 160, 161, 162,
 164, 165, 167, 177, 178, 179, 181, 187, 188, 191, 192, 193, 198, 199, 200, 208, 209,
 210, 213, 214, 216, 217, 223, 224, 226, 227, 229, 230, 231, 232, 233, 234, 236, 243,
 246, 248, 252, 254, 257, 264, 273, 275, 282, 286, 288, 289
 utterance, 110, 118, 120, 121, 145, 146, 155, 165, 166, 167, 181, 183, 184
 virtual, 14, 45, 48, 51, 59, 60, 61, 69, 72, 73, 74, 75, 76, 77, 78, 79, 82, 83, 84, 91, 92, 94,
 95, 96, 98, 100, 117, 128, 134, 135, 136, 137, 140, 141, 202, 206, 207, 235, 239, 241,
 242, 259, 263, 266, 268, 270, 271, 272, 273, 287, 290, 302
 web, 45, 66, 68, 70, 71, 72, 80, 82, 83, 85, 91, 92, 97, 103, 112, 128, 132, 133, 134, 137,
 139, 143, 156, 170, 191, 193, 194, 204, 208, 219, 239, 241, 253, 257, 258, 261, 263,
 264, 267, 268, 273, 274, 294, 310
 Weblog, 14, 49, 92, 93, 260, 261, 262, 263, 275
 whiteboard, 51, 85, 134
 windows, 94, 185, 195, 268