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Institutt for informatikk**

**Concepts and Tools
for Web-Based
Community
Building**

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**Concepts and Tools
for Web-Based Community Building**

by

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ABSTRACT

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This research project explores a new approach to online community building and community health promotion. It is based on the concept of *salutogenesis*. Salutogenesis is a proactive approach to community health promotion which seeks preventative measures based around social, cultural and natural activities. This is in stark contrast with the traditional reactionary corrective and curative culture of public health care. The main aim of this thesis is the identification of the key salutogenic community building processes. The objective is to materialize the design criteria to develop a comprehensive community building tool which may be used for salutogenic community health promotion. The other objective of this research is the synthesis of the salutogenic Sense of Coherence (comprehensibility, manageability and meaningfulness), together with the criteria for community building (collaboration, planning and defining). An incentive for pursuing a philosophical line of inquiry is the adaptation of process philosophy into a coherent conceptual framework for epistemological objectivity. Process philosophy as an analytico-synthetic tool is a departure from traditional research paradigms because it does not posit a world of objects, like substance ontology. Process ontology offers rich insight into social practices since they are analytical processes. In spite of its clear and commonsensical intelligibility and enormous exegetic capacity, process ontology or action-based world views remain largely unexplored in Information Design (ID). My contribution is two-fold; the identification of generic salutogenic community building processes and the adaptation of process ontology into a conceptual framework for an analytico-synthetic methodology. This thesis is explanatory account of the salutogenic community building processes at a fundamental level and a non-composition, non-substance semantico-ontological framework is put to use. This research is based two qualitative surveys. The first is a preliminary survey about the extant online communities and tools, and the second is based on data collected in a 9 month ethnographic study of the practices of a Norwegian-based non-government organization involved in community health promotion.

Dedication

Because of his ever doubting attitude and unquestionable skepticism to the most ordinary and mundane, this thesis is dedicated to my son, Marius Silah Viravong. A little boy with a big attitude. His constant curiosity and willingness to learn (and antagonize) inspired me to put into dubiety even the most fundamental assumptions and practices known to me.

Khamphira Viravong

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I would like to thank Dino Karabeg for giving me the opportunity to write this thesis. It was something that I was anxiously awaiting but eagerly anticipating, at the same time. You pulled me away from the restlessness of an untimely unemployment. It was your vision which lead along this path and the subsequent actions which created this excellence from the mediocrity, and a worldly perspective from the parochialism. Thank you also for the pragmatic knowledge. It was the only solution from a very particularistic epistemology. I have learned a lot more about pragmatism and designing thanks to you.

Thank you Gunnar Tellnes for allowing me to participate in the NaCuHeal activities. Thank you Frank Marshall for organizing my work and some great ideas. Thank you Erek Gorturk, your wisdom and counsel (and constant antagonism) provided the impetus to explore the more tacit aspects information. Thanks to Aurile Aurilla Arntzen for tolerating my skepticism and showing me that vital community processes are those knowledge processes. I would also like to thank my dear friend Gabriel Khili. A man of duty and action, whom I admire and revere. And of course, my friend and colleague, Paulo Fierro. Thank you for sharing your inspiring design ideas - you are a true artist.

Finally, I would like thank my family. In particular,thank my son, Marius Silah Viravong, whose constant curiosity and willingness to learn inspired me to question even the most solid of those metaphysical foundations we necessarily presuppose. He is such an uncanny reflection of my own soul that it is quite frightening. Last but not least, thank you to my dearest wife, Marit Follsund Viravong, without whom I would not be here nor would I be the person I am today.

Khamphira Viravong

Preface

In July 2003, I began a duologue with Dino Karabeg about a possible master's research topic. Several conversations later and we collectively narrowed the possibilities to something about a cultural practice. Although Dino had many interesting and important theses, I was a little apprehensive about becoming and being a social critic for several reasons. First and foremost, I was anxious about doing something other than conventional Information Technology. Nevertheless, I continued my education about Information Science and it soon became apparent that the foundation of Information Science, which is Information Theory, rests on a social construct; communication. In hindsight, this was a critical point in my re-learning of Information Science, as it is incommensurate to Computer Science. Finally, after an arduous journey, through blistering wind and scorching desert (and the ever looming vocational concerns), I was able to see, in part, the *social nexus* Dino had professed in his classes.

It was to be the renewal of an enriched duologue and a renewed commitment to take action, not just a philosophical stance. I then became involved with several activities in accordance with the NaCuHeal International. I was also privileged enough to have been in dialogue with the co-founder of NaCuHeal International, Professor Gunnar Tellnes. His visions and actions showed a conviction and commitment which may only be described as philanthropy. I am honored by your acquiescence of my very humble contribution. The result is this monograph, a thesis of sorts and an article written for the Web-based Communities Conference, to be held in Spain later this year.

I will finish by answering some of the criticism I have received along the way, mainly because I have tendency to focus on the more tacit aspects of our knowledge. This thesis is first and foremost the result of a research project into a social phenomenon. I mean this in the strongest sense, since we cannot observe directly or in its entirety, a community. It is something we believe and therefore it exists. I have consequently taken the opportunity to pursue a more philosophical line of inquiry about our social reality. Grounding my conceptual framework with the Philosophy of Information and Process Philosophy gave that which all scientific research strives for; epistemological objectivity. To those who say that I use far too much time and energy on the philosophical aspects of information, I have this reply. What is information without philosophy? It is unfounded, ungrounded, unsupported, unsubstantiated or just baseless. So too, is gossip, hearsay, rumor and tittle-tattle.

Khamphira Viravong

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Part I

Introducing Community Health

Chapter 1

Introduction

Community life and social capital have been steadily weakening since the 1960s [43]. Though not completely understood, these trends have had a measurable negative influence on various aspects of public life and goods, including democracy, education, community health and happiness (ibidem). Technology has had an important role in these observed trends (ibid.). In particular, tools for gathering, processing, and distributing information have had the most impact on social changes in the twentieth century (ibid.). Arguably one of the most influential and powerful tools ever conceived, the computer obtains an equivocal power and generality from its ability to process data (and information) formally and mechanically. The most recent development is ubiquitous computing and mobile technology which has had unforeseen consequences in many fields [45].

Even though we seek individuality and uniqueness (as well as the recognition of those very important personality traits), we still need to socialize and identify with others, in order to share (inform about) the same problems and the same interests which characterize and describe a certain quality of sameness which binds us together and gives us strength in numbers. Those needs (of individuals and groups) have been met and are cultivated by the different types of organizations and governments. However, these efforts lack coordination.

The commencement of the *Information Age* and the inception of the internet changed the way we acquire and share information [61]. Online communities have flourished in the midst of these technological and social changes. They brought together socially, economically and politically disparaged individuals, groups and organizations (ibid.). The Internet also offered a 'countervailing force against the centralisation and concentration in government and the mass media which act to constrain freedom of expression and unrestricted access to information' (ibid.). In addition to the resistance to the 'government and corporate encroachment on individual freedom,' it allowed information to flow freely beyond the 'barriers erected by totalitarian or authoritarian governments and around the gatekeepers of the mainstream media' (ibid.).

Most recently, the culmination of those technological have resulted in a new genre of software. Social software and collaborative software has emerged as the preferred tool of 'qualitative sameness' for the Information Age. In the same way that the e-mail and usenet was for the *Data Age* (and the telephone was for the prior period).

Social software and collaborative software support online communities and provide an interface to a shared environment for both work and play. Modern groupware systems are now on the verge of becoming ubiquitous, portable and mobile.

1.1 Problem Overview

In spite of the abundance of community building initiatives (and tools) there is still a real need to build and rebuild communities anew [43]. This is a good indicator of the historicity and self-reflexive nature of communities. That is, communities are created and recreated by people and people have ever changing needs and interests. Although communities are powerful tools for changing our social and economic state of affairs, our ability to do so is still limited by an assortment of social, cultural, economic and political ascendancies.

There have been few successful community building initiatives and the pre-eminent civic culture endures a 'social disconnectedness' (ibid.). Nowhere else has the social disconnectedness had a greater impact than that observed in the effects on community health and well-being (ibid.). Those adverse effects are observed in the inequity of community health [56]. Consequently, a more socially connected approach to community health becomes of the utmost importance in restoring the diminishing fabric of community health and therefore, sustaining a healthy workforce. Such an approach would focus on social capital as the foundation of social infrastructure. That is, a foundation based upon social, natural (ecological), and cultural harmony.

Salutogenesis is such an approach to community health promotion. "Salutogenesis" is a term coined by Antonovsky and means the opposite of pathogenesis [3]. It explores well-being rather than disease processes, by focusing on successful coping strategies and health [33]. Salutogenesis is a new approach to health promotion and assessment which addresses the increasing inequalities of community health [33].

However, this approach to community health is not ingrained in the civic culture, as opposed to the corrective and curative culture. Although people understand that sustaining health means more than correction and curation, a "cognitive dissonance" still prevails over the dominant society. The cognitive dissonance compels individuals and groups to take a course of action which are otherwise destructive to their health. The inevitability of such a dilemma may lead to two undesirable consequences; ill health and therefore, a wavering workforce.

Social and collaborative software are powerful tools for information sharing and are extensive knowledge bases. They represent a conscious effort to organize and struc-

ture a remedy for what is equivocally a social and general phenomenon. However, the economical, political and cultural *milieu* do not share common values, precepts or maxims, and they definitely do not have the same goals. As a consequence, actions taken by those organizations and governments are not just socially disconnected but incoherent and often conflict.

As previously mention, the inception of the Internet and the commencement of the Age of Information changed the way we acquire and share information. In the place of books and other traditional informational resources, we now have an immediate, instantaneous and almost an infinite supply of information at the touch of a button. Idiosyncratic processes * dictate that we first search through our own computer and software (email, applications and files), followed by an internet encyclopedia, then Google (or another search engine) and last but not least, we resort to social and collaborative software. We even use the computer for the most social of events, such as dating, play and counseling.

Social software and collaborative software[†] have emerged as the preferred tools of communities of the Information Age. Collaborative software is application software that integrates work on a single project by several concurrent users at separated workstations[‡]. The wiki software upon which Wikipedia runs evolved from a free software philosophy for similar collaborative applications (without the trade limitations of proprietary software or the social limitation of a hierarchy). Social software applies to systems used outside the workplace, for example, Internet dating systems and social networks, like Friendster.

1.2 Problem Definition

”Community” as used in Information Technology, would seem to have several different and ambiguous definitions. Although some definitions are justifiable, there are some definitions which are so open that they misplace any meaningful claim of community. Nonetheless, ”community” is a crucial part of the sustainability and capacity of a functional workforce and society. One of the most insightful shifts in this field has been the recognition of participation and support as essential to a functional community. What is more, communities extend beyond their human constituents and beyond the software. The main problem is that we do not have a coherent concept

*Idiosyncratic to people of the Information Age.

†Also known as groupware.

‡In its modern form, it was pioneered by Lotus Software with the popular Lotus Notes application running in connection with a Lotus Domino server (http://en.wikipedia.org/wiki/Collaborative_software).

of community. As such, community building initiatives and tools are often inadequate.

So, we need to resolve the issue of what a community actually is, before we can start to design and build it. Where does it come from and where does it go? How is formed? And why is a community? These are some of the fundamental issues we need to explore in online community building. Another recurring issue is the distinction between real and virtual communities. Are such distinctions valid in our day and age? What are the basic principles of community building? The last question is most pertinent in community health. Not only in building but sustaining it. It is therefore important to identify the basic principles of salutogenesis since salutogenesis is vital to community health promotion and maintenance.

1.3 Motivation

The main motivation for this research is to determine the basic online community building principles and identify the essential qualities of salutogenesis. Superimposed on this is the drive to determine whether or not these qualities are commensurable. Unlike the predominant culture who celebrate with unreserved euphoric mania 'the miracle of medicine' and 'the free market,' I am more reserved and critical of the curative and corrective culture. They are fundamentally part of the same social nexus to which capitalism resides [40]. This motive rests on the observation of a steady decline of community health [56]. That is, the healthy workforce and social capital. In spite of the advancements in the free market and medical technology, social capital is declining [43].

Community health is central to the 'social fabric' of the community, where social capital is at the core [43]. Not surprisingly, social capital the binding element of community and the civic culture, and is therefore pervasive in all facets of society [41]. Conscientious actions to resolve the social, cultural, economical and political state of affairs are therefore part of the same processes of change. Consequently, this research obtains a critical-interpretive perspective; one of social critique and sense-making. That is, to bring into bold relief the inadequacy and inequity of "global" and "local" communities and to understand salutogenesis. An additional incentive is the exploration of salutogenesis as a core community building concept. This research focuses on virtual and online communities as a tool and mechanism for the emancipation of "global distancing" and social disconnectedness.

The other incentive is to question the metaphysical fabric of Information Design (ID). ID is dominated by particularistic epistemology and substance ontology. That is, culturally relative designs based purely on object oriented models. If we are to accept

these presuppositions, we cannot purport to draw any valid or nonvacuous generalizations [55]. This is because all knowledge is ethnocentric and the only valid entities are objects. I reject this form of relativism and world view. The main motivation for this objection is the limitations of epistemological relativism and compositional substance ontology. In this thesis, I will argue that this form of conceptual idealism has misplaced the notion of epistemological and ontological objectivity. In their place, I will present an alternative world-view in which panhuman generalizations may be valid and nonvacuous. It is based on a pragmatic epistemology and process ontology.

1.4 Aims and Objectives

The main aim of this thesis is to highlight the naive mediocrity and narrow-minded initiatives in community building as inadequate. Moreover, such naive attempts to counter globalization remain ironically, parochial. On the other hand, communities have a presence in the virtual and therefore, global sense. In light of this, the other aim of this research project is to analyze and understand those community concepts salient to ID and (in at least one instance) development of community health. The objective is to develop a well-formed understanding of the socio-cultural processes of interventional social change (salutogenic community building), *in situ*.

The other objective is to integrate process philosophy into a conceptual framework for an analytico-synthetic methodology for analyzing and "recreating" those salutogenic community building practices. Most of the primary research material will be obtained from a Norwegian-based non-government organization. The Nature-Culture-Health International Foundation is a non-government organization whose objective is to practice salutogenesis and promote community health via salutogenic communities. The aim is to collect primary data from the community building practices of social workers, health professionals and information technologists involved with the Nature-Culture-Health International Foundation. The data collection is based on an 9 month ethnographic study aimed at transpiring the salutogenic processes and practices instigated by community builders.

The outcome of this study will be the critiquing and challenging of the assumptions and practices of the curative, corrective culture. The purpose of the critical evaluation is to focus and establish the principles of salutogenic community building. A critical-interpretive approach to virtual community and ID is a departure from the naive interpretive approach which lacks *panhuman generalizability* (and results in ontological mismatches). It is also a departure from the particularistic epistemology of most ID research. Consequently, this critical-interpretive research aims to resolve some of the deficiencies in the curative, corrective culture of community health, while

extending knowledge about salutogenesis in community health promotion and process philosophy in ID.

1.5 Thesis Overview

The rest of this document is segmented into several parts. Namely,

I Introducing Community

II Online Society

III The Concept of Community

IV Community Health

V Conceptual Framework

VI Methodology

VII Results

VIII Discussion and Conclusions

The introductory part consists of two chapters. Chapter 1 provides an overview of the predicament and the problem is defined, as well as the motivation and objectives of this discourse. Chapter 2 discusses, in brief the scope of social software and the need for online communities.

The part about online society consists of two chapters. Chapter 3 is a preliminary survey of the extant online communities. Chapter 4 is a survey of the extant online community tools.

The third part of this thesis discusses extensively but not exhaustively, the main concepts community and the principles of building community. Chapter 5 discusses the notion of community as a culture. Chapter 6 discusses culture as a super organic system. Chapter 7 discusses the directing principles of community building in practice.

The part about community health consists of three chapters. Chapter 8 discusses the basic principles of salutogenesis. Chapter 9 explores the hidden dimensions of community and discusses the meaning of social capital. Chapter 10 describes the practice of salutogenesis in one particular organization.

Part five elaborates about the conceptual framework for this research. In particular, I discuss different ways of thinking and reasoning in Chapter 11. Chapter 12 discusses the notion of substance and its limitations. Chapter 14 discusses the main theoretical foundations of the research framework.

The research methodology part contains three chapters. Chapter 15 is a formalization of the conceptual framework into a research methodology. Chapter 16 is a discussion about the information design. Chapter 17 discusses the use of ethnography and data collection.

The results of the ethnography are presented in chronological order in Chapter 18.

Finally, the discussion and conclusion chapters. Chapter 19 is a discussion about those identified practices in salutogenic community building. It is also a critical reflection based on information design. Chapter 20 is the conclusion and suggestions for future research.

Chapter 2

Beyond Software

Going beyond social and collaborative software should be of interest to anyone wondering about what lies in the not too distant future for online communities. The emergence of wireless instant communications devices such as cell phones, Wi-Fi networks, pagers, and PDA's is a demarcation and the foundation of a new paradigm in communication. Such devices make information ubiquitous and they are used to organize information and people in new ways. In addition, these devices make it possible for people to once again, be 'on the move.' Since, people are no longer obliged to sit in a stationary position looking at a big screen to obtain information or the Internet. We are informed and active. The activeness and activities of online communities, in accord with portability and mobility, means that there can be an offline dimension which is dynamic and social.

This mixture of social mobility and technology has already had some beneficial results. Unfortunately, it has also had some rather destructive ones. In one hand, it is a constructive democratic device used to support political processes; street demonstrators in the 1999 anti-WTO protests used dynamically updated websites, cell-phones, and "swarming" tactics in the "battle of Seattle," and a million Filipinos toppled President Estrada through public demonstrations organized through salvos of text messages, whereas in the other, it is a malevolent machine used to coordinate terrorist attacks. What made these occurrences possible is largely attributed to the technological advancements in mobile communication devices and 'pervasive computing,' in accord with innovative organization [45]. We have witnessed, in our time, governments falling, youth subcultures blossoming from Asia across to Scandinavia, new industries emerging amidst fuming retaliations by those more established industries [45].

It would seem that the stage is now set for something more to happen. Radio identification, wireless Internet nodes (in cafes, hotels and other places), blogging, voting, rating and Friendster (social software in general), are all promising intermediaries for human interactions. Now that most new devices possess both communication and pervasive computing capabilities, we need a new cultural setting for these ensuing interactions and relations. Insofar as mobile devices have evolved into information sources, as well as information sharing resources with other mobile devices and of course, stationary devices, and therefore people. In addition, these devices connect the tangible objects and intangible processes of our daily lives with the Internet, such

that handheld communication media are on the verge of becoming wearable remote control devices for the physical world [45]. However, governments and mass media will once again enforce the establishment of broadcasting, where customers of technology are deprived of the power to create, and leave people only with the power to consume [61]. There is a war over such rights and will. It is the battle over file-sharing, copy-protection, regulation of the radio spectrum are about [61].

Perhaps the most insightful observation is that online communities demonstrate the same sort of behaviour as complex systems [45]. This sort of behaviour which emerged during the Information Age, shows decidedly connected and intricate inter-relationships, that are self-organizing at a very basic level (ibid.). At the same time, they create effects which appear complex and unpredictable at higher levels. In other words, they are highly adaptive to changing conditions. And it is change which is the key factor in the longevity of any system.

What is 'real' for virtual communities is that everyone is networked or connected. Whether by wired or wireless connections, in all virtual communities, everyone is either a node or a hub in someone else's network. As such, the quality of the virtual life is strongly tied with the quality of the network or connections. Not surprisingly, the networks have become a dominant organizing principle and parallels with the 'real world' dynamism. Similarly, economies are not just marketplaces; they are networks. As such, all communities have some global extent and all communities are part of a global society. Nonetheless, most communities remain local, with localized goals and ambitions.

Part II

Online Society

Chapter 3

Online Communities

Online or virtual community is the gathering of people, in an online "space" where they come, connect, communicate, and get to know each other better over time. [8]

The term "online community" and "virtual community" can be used interchangeably, since they are one in the same. Consequently, there is little which differentiates a virtual community from a real one*. It is mainly attributed to technology that the Internet has grown to such astronomical proportions. However, we must remember that without people, the Internet is nothing more than bits and bytes. Since people use the Internet, virtual communities are now pervasive in most cultures and are having real effects on peoples lives [7]. There have been several attempts to qualify the effects of online activities on our offline lives but most remain somewhat speculative since they concern addiction, meeting the "loves of our lives" online and 'real' relationships, it is primarily qualitative [7]. However, no one will deny the claim of virtual communities having a real extent. This chapter presents the preliminary findings from the preliminary online survey about virtual communities performed in the period between April and August, 2005. It is a first order attempt to qualify those extant virtual communities and the tools which support them.

3.1 A Brief History of Online Community

A very extensive survey of online communities was performed by Ambrozek and Cothrel [2]. As well as documenting many concrete findings, there were also a number of speculative predictions and new questions raised about the future of online community. The most prominent were the historical aspects of virtual community history. There were clearly two discernable patterns observed in this report. These patterns will be summarized in brief.

The history of online communities starts in the late 1960's and ends at the year of publication, 2004. Figure 3.1 is a graphical visualization of the relationship between the ideas, technologies and initiatives along the timeline (ibid.). In connection with the topical issue of this chapter, there are two main points to be noted from this history. The first is observed in the beginning of the historical summary. What is observed is that the ideas preceded the technologies and initiatives. However, during the late 1990's, this trend was somewhat reversed and the technologies started to

*Apart from the sharing of real and virtual space.

spawn new ideas and initiatives for virtual community.

The observed trends in the history of online communities raised many questions concerning the nature of the development of social software. Even though some of those questions have straightforward answers, there were also many speculative comments and ideas which came out of this survey. Most prominently, there was much conjecture about the next generation of social software and how pervasive or ubiquitous computing will affect them (ibid.). Nonetheless, there is very little fact to be found in terms of the real extent of online communities. Although the report shows people are aware of offline activities associated with online communities, much of the reason and sentient practice was lacking.

2002-03	"LINKED"	SOCIAL NETWORKING [FRIENDSTER, LINKEDIN, ETC.]	"SMART MOBS"
2000-01	B2B COMMUNITIES [CISCO, SAP, ETC.]	CAMERA PHONES	GOOGLE GROUPS
1998-99	"COMMUNITIES OF PRACTICE"	BLOGGER	"THE CLUETRAIN MANIFESTO" RSS
1996-97	INTRANETS	HOMESTEADERS [GEOCITIES, ETC.]	"NET GAIN" SIXDEGREES.COM
1994-95	COMMERCE COMMUNITIES [EBAY, AMAZON.COM, ETC.]	TEXT MESSAGING	
1992-93	"THE VIRTUAL COMMUNITY"	COMMUNITIES ONLINE [BLACKSBURG, ETC.]	
1986-91	LOTUS NOTES	INTERNET RELAY CHAT	LISTSERV WEB CROSSING
1979-85	ONLINE SERVICES [COMPUSERVE, PRODIGY, AOL, THE WELL, MINTEL, ETC.]		
1978-79	BBSs	USENET NEWSGROUPS	MUDs
1973	FIRST E-MAIL MESSAGE	"THE STRENGTH OF WEAK TIES"	
1968	ARPA PAPER PREDICTS EMERGENCE OF VIRTUAL COMMUNITIES		

KEY: **IDEAS** **TECHNOLOGIES** **INITIATIVES**

Figure 3.1 The Online Communities in Business Report (1968-2004) [2].

3.2 A Short List of Online Communities

There are currently over 1500 online communities registered in the Communities Directory, at <http://directory.ic.org/>. A full listing from the Communities Directory may be found in the appendix. A very rough generalization of this list of online communities has been drafted based on the functional capacity of the communities. The construction of this list has been largely guided by an extension of the listing by [7]. It includes some of the more recent online community developments, in accordance with [2] but is not an exhaustive listing by any means.

- Creative groups sharing techniques and work
- Intellectual discussion groups
- Wireless or Mobile groups
- Collaborative workgroups
- Illness support groups
- Professional groups
- Social spaces
- Family groups
- Role playing
- Ethnic groups
- Software support
- Special interest groups
- Social Networks and Dating
- Geographically related groups
- Peer-to-Peer file sharing groups
- Peer-to-Peer internet telephony groups
- Spaces for primarily face-to-face groups
- Virtual worlds and Massively-Multiplayer Online Games

What is clear from the short list above is that evidently, virtual communities are as diversified as real ones. The online communities listed also reveal the diversity of social realities and social interactions people are engaged in. That is, online communities vary from very professional and orderly communities to very social and unruly communities. This is because social interactions are a dynamic, changing sequence of social actions between individuals (or groups) who modify their actions and reactions due to the actions by their interaction partner(s)*. One way of categorizing social interactions is to separate them into the following temporal quantities (ibid.):

*http://en.wikipedia.org/wiki/Social_interaction

- 1 accidental (social contact) unintentional and unlikely to be repeated. For example, asking a stranger for the time or a shopkeeper for product availability.
- 2 repeated - unintentional but intermittent. For example, accidentally meeting a neighbour from time to time when walking on your street;
- 3 regular - unintentional but frequent and a cause for apprehension in a nonevent. Meeting a doorman or a security guard every workday in your workplace, dining every day in the same restaurant, etc.
- 4 regulated intentional and orderly according to customs or law, and irrefutably apprehensible when missed. Interaction in a workplace (coming to work, staff meetings, etc.), family, etc.

The quantification of social interactions and social actions may form the basis for qualifying social relations (ibid.) and hence the kinds of communities. This may also be done using agency as a criterion for social interactions. Thus, they may also be classified as the basis of social relations (http://en.wikipedia.org/wiki/Social_relation). That is, social relations primarily take place between:

- individuals,
- groups,
- an individual and a group

There are inherently many problems associated with the understanding of social relations. Firstly, most social relations are not directly observable; they can only be inferred with the aid of abstractions (ibid.). How can we know if they exist? And how do they exist? The other major problem is that of reflexivity. How can the scientist say anything valid or nonvacuous about the social reality they a part of?

At the end of this preliminary survey, I came across the observation that there are two key aspects of online communities which needed to be categorized; the functional capacity and the quality of social relations. Thus, the social interactions needed to have a quality beyond the timing and frequency of interactions. In the next section, I suggest a way of qualifying them. It is not only a simple classification, but as we shall see, a very broad and almost all-encompassing one.

3.3 A Classification of Online Communities

At the fundamental level, online communities provide the "space" required for social interactions whose role is none other than the foundation of social relations. In other words, they are the same human interactions which we assume in our every day lives, with real people and real relationships. What all communities have in common is that they all support some kind of dialogue. This is the primary criterion. The other criterion is whether or not the community supports more than a simple dialogue. Beyond a simple dialogue, people can cooperate and work together in some capacity. That is, if any exchange or trading takes place. This comes as no surprise, as the following categories of online communities are a hierarchical abstraction from the very same categories from collaborative software. They are namely social, collaborative and exchange communities. This classification represents a simple hierarchy of the online communities. See Table 3.1.

CATEGORIES	CONCEPTS	DATA
Socializing	Social Activities	Chatting, Conferencing, Gaming
Collaborating	Work-based Activities	Support, Management
Exchanging	Trade-based Activities	FileSharing, Shopping, Auctioning

Table 3.1 A classification of online communities.

Although these categories seem to encompass most communities, they are not exact in the sense that there are many fuzzy boundaries in the different categories. Some communities may belong to more than one category.

3.3.1 Exchange Communities

The defining criterion of exchange communities is the reciprocation of either goods or services. This can involve exchanging money, such as shopping communities or file sharing in Peer-to-Peer networks. The social relationships between the participants are based on this premise. Some examples of exchange communities are:

- Ebay
- Amazon
- QXL
- Direct Connect

- BitTorrent

3.3.2 Collaborative Communities

Although collaborative communities imply, strictly speaking, professional communities, it does not prevent people from finding new and innovative uses of extending their professional interests. Likewise, many collaborative communities adapt various social software as a supplement to other 'tools of the trade.' Collaborative communities include a host of Communities of Practice, other collaborative communities include:

- Wikipedia
- Blogosphere
- Knowledge Board
- GanttProject

3.3.3 Social Communities

Since socialization can occur at many levels; between individuals, groups, organizations and society in general, social communities are among the smallest and the largest. Communication technology such as mobile telephones, instant messaging, AV conferencing have facilitated all kinds of social interactions. The defining criteria for social communities are two-fold; they are not work-based nor based on the exchanging of goods and services. The object of social communities attains mainly to the facilitation of some kind of dialogue - "socialization." A very short outline of the conversational communities is given below:

- MMORPG
- Virtual Worlds
- Special Interest Groups
- IRC
- Skype
- Friendster.com
- Match.com

Gaming may occur in all three categories but is entered here since collaborative communities are strictly speaking professional communities and exchange communities are based on the transaction of goods and services. The reader should remember that this classification is by no means an exhaustive one. Nonetheless, it is a definitive classification based on clear and concise criteria. The next chapter presents the second phase of this preliminary survey. It is about the tools which support these communities.

Chapter 4

Online Community Tools

The purpose of the community and the needs of the group will dictate what tools you use and the kind of community you build.

Sue Boetcher, 1999 [7]

As mentioned previously, the purpose of many communities is associated with their ideal conceptions or design images. Even though it is tempting to classify the extant online community tools into the very same categories as the online communities they support, it is much more appropriate to use more technical or rather technological categories as they are much more descriptive of the functional and structural aspects of the tool. As such, the very general classification of human interactions of conversational, collaborative and transactional tools is less definitive of the kinds of interactions the application tools support. Firstly, I will present the classification which was most influential for its time.

4.1 A Classification of Online Community Tools

I have adopted the criteria from [8] to include some of the more recent advancements in community application tools. See Table 4.1.

TOOL	DEFINING CRITERIA
Conferences	A collection of member posts over time in a linear sequence
Forums	A collection of member posts over time in a threaded sequence
Emails	something that appears in your mailbox
Chats	Things that happen instantly
Wikis	Editable website for collaborative authoring
Blogs	Website journal posted in reverse chronological order

Table 4.1 Online Community Application Tools [8].

However, most of these applications are still text-based and Table 4.1 is therefore, somewhat limited and redundant as a classification scheme but it forms the basis of the following more simplified taxonomy of community application tools.

4.2 More Community Tools

There are a multitude of application tools which support communities. Some of which were not even intended as such [45]. I have chosen to restrict the survey to Internet-based tools and rule out those based on mobile devices and other protocols since it extends beyond the scope of this research project. However, once WiFi networks become more widespread and software like Skype becomes more ubiquitous (on mobile devices), the scope of this research project will change. For now, a more or less limited classification can now be made from the given criteria* to include a new genre of social software:

- data conferencing: networked PCs share a common "whiteboard" that each user can modify.
- voice conferencing: telephones allow users to interact
- video conferencing: (and audio conferencing) networked PCs share video or audio signals.
- Internet forums: (also known as message boards or discussion boards) a virtual discussion platform to facilitate and manage online text messages.
- Chat Rooms: a virtual discussion platform to facilitate and manage real-time text messages.
- Electronic Meeting Systems: (EMS) a conferencing system built into a room. The special purpose room will usually contain a large screen projector inter-linked with numerous PCs.

The other genre of community software I will present in the context of this thesis is based on work rather than simply socializing. It is otherwise called collaborative software and includes any form of software which is intended to be used for working together. Such as:

- electronic calendars: (also called time management software) schedule events and automatically notifies and reminds group members.
- project management systems: schedule, track, and chart the steps in a project as it is being completed.
- workflow systems: collaborative management of tasks and documents within a knowledge-based business process.

*http://en.wikipedia.org/wiki/Collaborative_software

- knowledge management systems: collect, organize, manage, and share various forms of information.
- social software systems: organize social relations of groups.

The last genre of software listed here are Massive-Multiplayer-Online-Role-Playing-Games, MMORPG and virtual worlds.

4.3 Faceted Classification

Below is the classification of online community application tools into a tabular format which is both easier to compare and to contrast. As with the online community classification scheme, there are also some fuzzy boundaries when it comes to the classification of community application tools. Nonetheless, it is a definitive classification and encompasses most of the available software to date.

Chatting	Conferencing	Publishing	Managing	MMORPG
Messaging	AVConference	Weblogs	Calendars	Everquest
Forums	DataConference	Wikis	PM Systems	Warcraft
Chat Rooms	NetMeetings	Web Diary	KM Systems	Sims

Table 4.2 A classification of the online community application tools.

4.4 Online Community Building Objects

Having categorized the extant online community application tools, I will now focus on the design of such tools and present the principle design categories of image, functions and morphology of these tools. The purpose is to generalize the designs to synthesize some kind of comprehensive community application tool.

The first noticeable feature is the similarity between the structure of text-based communication, AV conferencing and file sharing tools. Most prominently, the text output area is the largest and most central. Secondly, the text input field is at the bottom panel together with the push button on the right hand side. As with most applications, the menu remains at the top framed structure. Quite surprisingly, the only difference seems to be the placement of the video output area. Most often, such as with Skype and Windows Messenger, it ends up in the right panel, together with some control buttons.

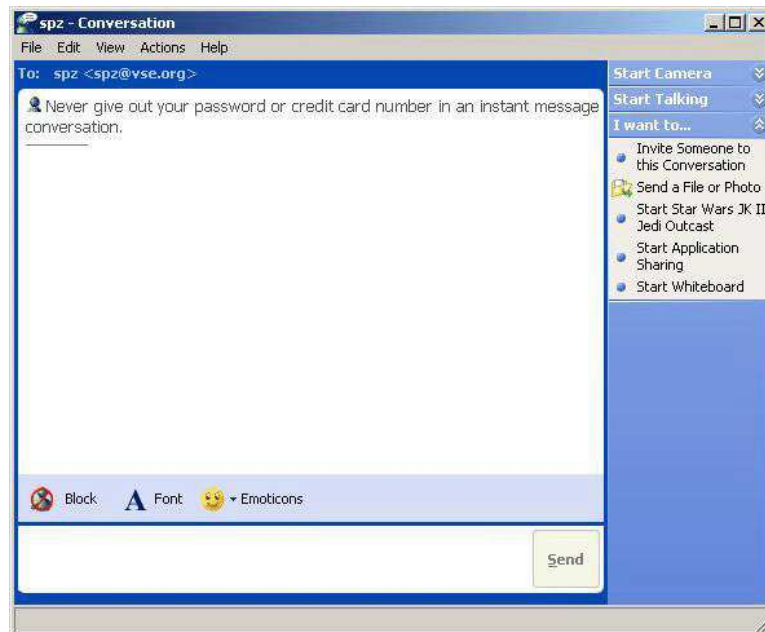


Figure 4.1 Generic Chat UI Objects.

4.4.1 Generic Objects for Online Community Building

What is most prominent is that most community tools are still text-based at some level, whether it be the main form of communication or as a support feature. As such, text output and input remains central to all community functions. This includes buttons for the attachment of files and sending of text input. In addition, the essential text-based functionality of community tools means that additional functionality, such as audio and video conferencing becomes add-on features and are thus placed in non central positions. A summary of the UI objects is as follows:

- 1 TextArea
- 2 TextField
- 3 Button
- 4 Menu

A visualization of the generic objects of online community tools is depicted below in Figure 4.5. It is also the morphology of the essential functional criteria of a comprehensive community UI.

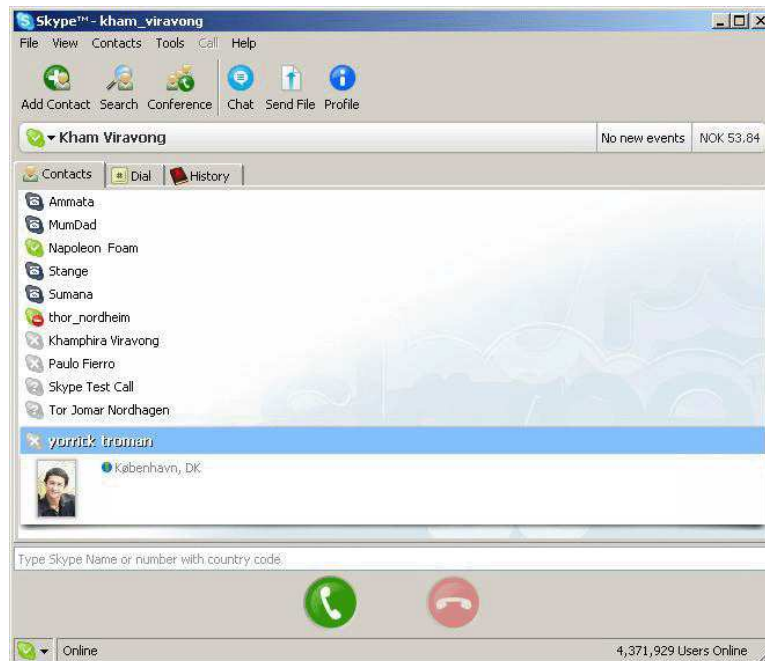


Figure 4.2 Generic Conference UI Objects.

Since we are aiming to provide a web-based community tool, we need not consider those software-based managing tools and MMORPG's. Thus, any comprehensive community tool needs to support:

- 1 text-based communication or chatting,
- 2 AV conferencing, and
- 3 web publishing

These are functional requirements of any online community as it forms the basis for acculturation*. Since all of these function specific tools are available freely, as open source software, a simple wrapper for these tools is all that is needed to juxtapose a comprehensive community tool. An example of this resolution is given below in Figure 4.6.

To implement these design and technical functions, CSS seems to offer the most benefits, especially in terms of flexibility, rendering, and accessibility [17]. According

*Acculturation or re-learning of culture will be discussed in a later chapter.

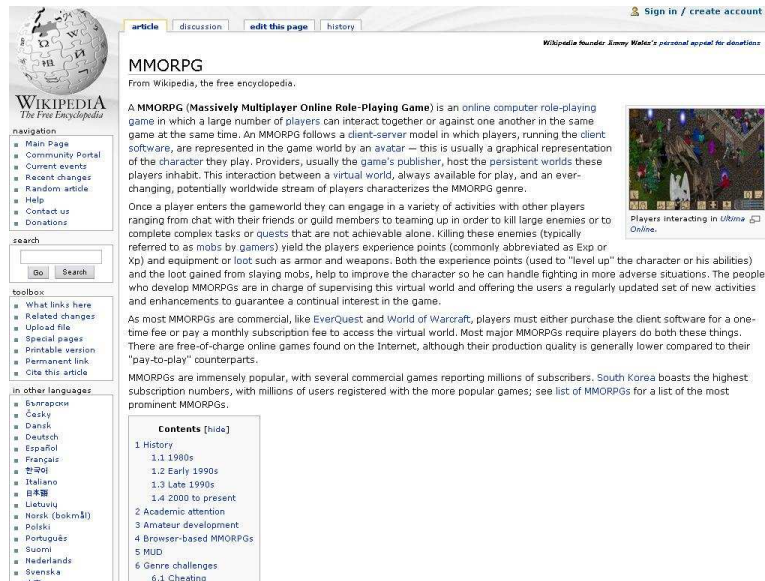


Figure 4.3 Generic Web Publishing UI Objects.

to Rewis [17], simply by designing web pages using a single (or multiple) external style sheets, changes may be applied to the site by modifying the style sheet and then simply uploading the modified version. In addition, rendering takes much less time with style sheets. An example of the implementation of the style sheets is given below.

```
#menuBar {
background: #fff;
width: 1000px;
height: 150px;
text-align: center;
margin-right: auto;
margin-left: auto;
border-left: 1px solid #bbb;
border-right: 1px solid #bbb;
}

#container {
line-height: 140%;
margin-right: auto;
margin-left: auto;
text-align: left;
```

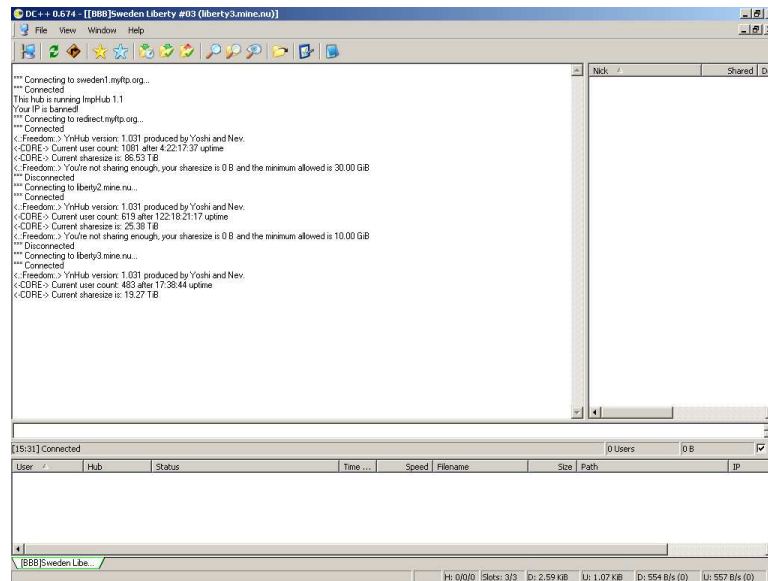


Figure 4.4 Generic File Sharing UI Objects.

```

padding: 0px;
width: 1000px;
background: #fff;
border-left: 1px solid #bbb;
border-right: 1px solid #bbb;
}

```

In practice, the generic design amounts to the following type of page as proposed for NaCuHeal International. See Figure 4.7.

Much like the communities they support, virtual community application tools are diverse. I have shown that at the most basic level of text-based communication, they are indeed the same. In addition, they also seem to have very similar generic structures. That is, socially-based or work-based tools. Nonetheless, the nature of online communities and tools means that they are multi-faceted. As such, the nature of being multi-faceted means that the word "community" is somewhat ambiguous. It has many different meanings and is used to describe different order of things. Why is "community" such a diversified concept? How can it have several forms and yet still be the same thing? Where did "community" come from? To resolve these questions and many more, I will discuss the concept of community. Firstly, by defining what exactly is "community" and secondly, looking at the true nature of community.

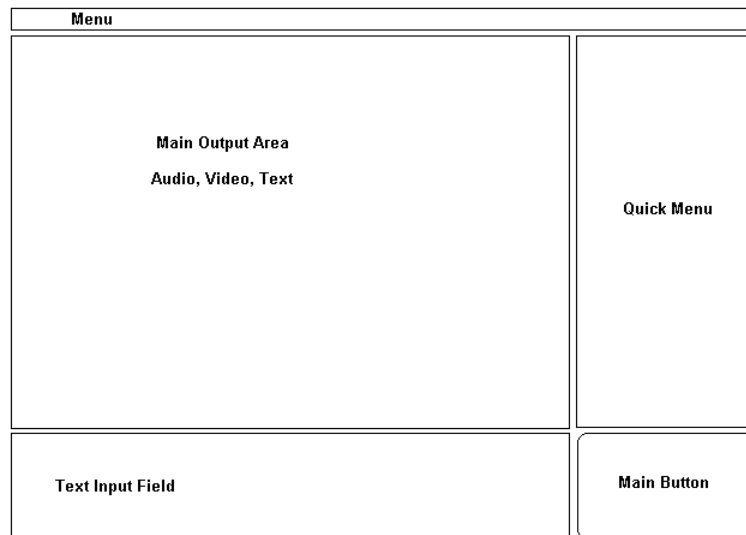


Figure 4.5 Generic UI Objects for Online Community Building.

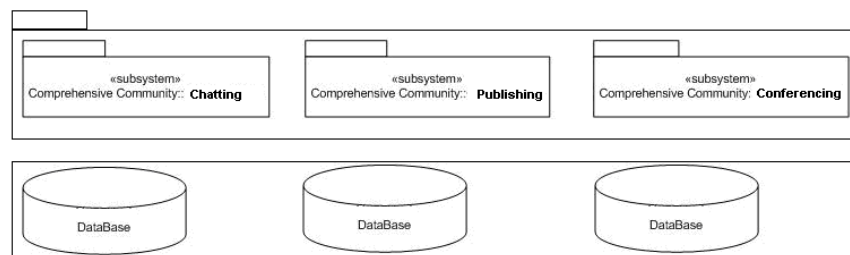
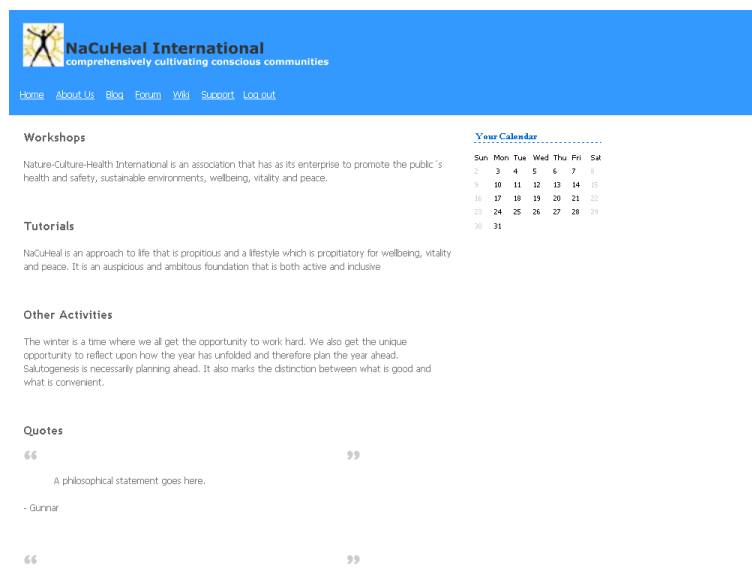


Figure 4.6 An Architecture for a Comprehensive Community Application.



NaCuHeal International
comprehensively cultivating conscious communities

[Home](#) [About Us](#) [Blog](#) [Forum](#) [Wiki](#) [Support](#) [Log out](#)

Workshops

Nature-Culture-Health International is an association that has as its enterprise to promote the public's health and safety, sustainable environments, wellbeing, vitality and peace.

Tutorials

NaCuHeal is an approach to life that is propitious and a lifestyle which is propitiatory for wellbeing, vitality and peace. It is an auspicious and ambitious foundation that is both active and inclusive

Other Activities

The winter is a time where we all get the opportunity to work hard. We also get the unique opportunity to reflect upon how the year has unfolded and therefore plan the year ahead. Salutogenesis is necessarily planning ahead. It also marks the distinction between what is good and what is convenient.

Quotes

“ A philosophical statement goes here. ”

- Gunnar

“ ”

Figure 4.7 Generic design for Online Community Building.

Part III

The Concept of Community

Chapter 5

”Community”

[W]e are reviewing our experience to enable us to respond to the cultural challenge: to help countries, communities and individuals interpret universal principles, translate them into culturally sensitive terms and design programmes based on them, programmes that people can really feel are their own.

We can succeed in this if we keep close to our hearts the conviction that brought success at ICPD, that each human life is uniquely valuable, and that the right to development is the right for men and women to express the full measure of their humanity.

Thoraya A. Obaid, UNFPA Executive Director

In this chapter I discuss some fundamental ideas concerning the concept of ”community.” Apart from the *etymon* of ”community,” I also discuss the notion of community as a culture. I explore the codes of a culture beyond birth place and talk about the learning of other cultures. In doing so, I ask if cultures are fundamentally the same? Or are there insurmountable differences between cultures? And more to the point, I discuss just how global communities communicate and if there is a global culture. In this chapter, I focus on culture and social organizations since they are the binding element of communities. Since online communities and communities, in general, are as diverse as the cultures they support, a more social and therefore, cultural perspective of ”community” is salient to its disambiguation.

5.1 A Sociological Construct

”Community” means the quality of similarity or identity. It stems from the Latin word ”*communitas*” which literally means sharing, participation, and fellowship. From this definition, it is quite clear that *community* encompasses much more than people. However, neither dogs nor trees talk about ”community” in the same way that humans do. This means that ”community” is a human concept. According to [4], ”community” is a sociological construct. It is a model of how we perceive the world around us. Since we can neither see a whole community nor touch it, we can not directly experience a community (*ibidem*). But we know intuitively that communities exist, that they come and go, grow and shrink. As such, communities exhibit much human behaviour, as well as many mechanical or non-human ones. Just as important to the concept of community is that the authenticity of the community does

not necessarily mean 'of the same family.' Communities can be society at large, a commonwealth or state, a political body, the public, or people in general, that is, social groups like family, friends, teams and other less formal groupings of people (ibid.).

Underlying all communities are sets of actions, interactions and human behaviours that have meaning and expectations between its members (ibid.). However, a community is much more than this. They are also collective actions, shared expectations, common values, widespread beliefs and public opinions (ibid.). On a regional scale, there is more heterogeneity and therefore larger differences in origin, language, religion or various features forming the common identity (ibid.). For this reason urban communities are special. The unique configuration of urban communities means that it is more difficult to differentiate, since it is more diverse, more complex, and therefore, much more difficult to organize using standardized community development tools (ibid.). Since urban communities are more complex and more sophisticated, it requires more sophisticated methods of development (ibid.).

Like many sociological constructs, communities are socially organized (ibid.). By definition, something which is socially organized is cultural and systematic to some extent (ibid.). This means that communities are socio-cultural systems (ibid.). Furthermore, as socio-cultural systems, communities are systems of systems and as such a social organism (ibid.). As an organism, the community obtains a life of its own and transcends the lives of its constituents (ibid.). Moreover, changes to the individual, do not change the community. In other words, socio-cultural systems transcend their human constituents and subsystems. Social change is therefore, not about changing individuals, but systems or systems of systems. For this reason, all things social and cultural are transmitted by symbols rather than by genes (ibid.). As such, they are learned and not inherited. Therefore, cultural and community development is not about building houses or paving roads, it is about knowledge and learning. That is to say, it is "a form of social change, (which) requires changes in the messages of symbols rather than genetic surgery" (ibid.).

5.2 Culture

Culture is the sum of socially transmitted behavior patterns, arts, beliefs, institutions, and all other products of human work and thought [4]. It is socially organized and systematic, and learned. There are two ways of learning culture. *Enculturation* is the learning culture for the first time, whereas *acculturation* is the re-learning of culture (ibid.). Promoting social change, means promoting the learning of new concepts, compared to that which has already been learned. As such, instigating social change in a community means initiating the process of acculturation (ibid.). Primarily, this

means we are therefore interested in adult education; the re-learning of culture. To do so, we need to understand culture, how it is structured and how it can be stimulated.

Culture is a human tool for survival, but it is a fragile phenomenon since it is ever changing and can be effortlessly mislaid as it exists only in our minds (ibid.). As such, our written languages, governments, buildings, and other man-made things are only the products of culture but they are not culture itself [38]. For this reason, when we dig up the past, we do not dig up culture directly (ibid.). These are artifacts of people of the past; they are only the material remains which reflect cultural patterns (ibid.). These are things that were made and used through cultural knowledge and skills (ibid.).

Stimulating culture and social change in a community means that we must always be able to distinguish what is happening at the community, not just the artifacts. Since a community transcends its individuals, it abides by a different set of rules [4]. As such, a discourse in common cultural patterns becomes of the utmost importance as a means of adult education and building community, not artifacts. We need to know exactly what we want to change and which cultural dimension we should use. Some communities have a broad and varied influence over the rest of society and are thus valued highly among members and non-members alike. The community's scope is a commonsensical, methodical, and consistent affiliation of its parts and its members, and its rationality is to communicate sympathy to others with similar views. Consider the conversations and relationships which foster and nurture the emerging cultural identity. They encourage participation and discussion which gives confidence and awareness to people, as well as the willingness to share them. That is, they are able to transcend Maslow's Hierarchy of Needs. See Figure 5.2. The higher level *being needs* continually change our behaviour and therefore, the way we interact with the community.

5.2.1 Common Cultural Patterns

Communities are not coincidences of communication but a consequence of it. That which can be communicated is, by virtue, that which can be shared. Wherever communication had been possible, individuals and groups have found shared sympathy and understanding with one another. It is clear that some communities were created out of necessity, out of the need for survival. Primarily because the social group functioned more effectively as a unit (than the individual) for the purposes of hunting, gathering, child-rearing and defense from other (hostile) groups. To understand community, to go beyond artifact, we must understand people's common cultures and those 'universal cultural patterns' which are common to all people. According to [10],



Figure 5.1 Maslow's Hierarchy of Needs.

these cultural patterns are:

- 1 The need to make a living: men and women must have food, shelter, clothing, and the means to provide for their off springs' survival.
- 2 The need for law and order: from earliest times, communities have had to keep peace among their members, defend themselves against external attack, and protect community assets.
- 3 The need for social organizations: for people to make a living, raise families, and maintain law and order, a social structure is essential. Views about the relative importance of the group and the individual within it may vary with any such social structure.
- 4 The need for knowledge and learning: since earliest times, humankind has transmitted knowledge acquired through experience, first orally then by means of writing systems. As societies grow more complex, there is increasing need to preserve knowledge and transmit it through education to as many people as possible.

- 5 The need for self-expression: people have responded creatively to their environment even before the days when they decorated the walls of Paleolithic caves with paintings of the animals they hunted. The arts appear to have a lineage as old as human experience.
- 6 The need for religious expression: equally old is humanity's attempt to answer the "why" of its existence. What primitive peoples considered supernatural in their environment could often, at a later time, be explained by science in terms of natural phenomena. Yet today, no less than in archaic times, men and women continue to search for answers to the ultimate questions of existence.

These are learned behavior patterns that are shared by all of humanity [38]. Regardless of habitation, where people live in the world, they share these universal traits. According to [38], a more descriptive way of looking at these universal "human cultural" traits which form the basis of cultural systems, like community is given below.

- 1 communicating with a verbal language consisting of a limited set of sounds and grammatical rules for constructing sentences
- 2 using age and gender to classify people (e.g., teenager, senior citizen, woman, man)
- 3 classifying people based on marriage and descent relationships and having kinship terms to refer to them (e.g., wife, mother, uncle, cousin)
- 4 raising children in some sort of family setting
- 5 having a sexual division of labor (e.g., men's work versus women's work)
- 6 having a concept of privacy
- 7 having rules to regulate sexual behavior
- 8 distinguishing between good and bad behavior
- 9 having some sort of body ornamentation
- 10 making jokes and playing games
- 11 having art
- 12 having some sort of leadership roles for the implementation of community decisions

They patterns are systems of systems, since in each cultural pattern we find another system within a system, such as the rules and regulations governing each. However, these rules and regulations do not always apply across cultures.

Chapter 6

Cultural Systems

a 'super-organic' system (society) is more evolved than another if it can accommodate a greater variety of members, each able to perform a greater variety of actions, reflecting a greater diversity of values.

W. Virkkala, 1989 [58]

A community is a social organism; it is neither an organic organism, like a tree nor an inorganic organism like a fire [4]. In the same way as the organic level is based on the inorganic (living things are made up of non living atoms), the super-organic level is based on the organic. Since a community is cultural and cultural systems are socially organized systems, a community is a super-organic system (ibid.). That is, socio-cultural systems are based on the living individuals but at the same time transcend them (ibid.). Since the super-organic level is based on the organic (society is not a human being even though it is made up of human beings), changes at the super-organic level will affect the individual (ibid.).

Nonetheless, the laws and principles concerning things at an atomic or a cellular, micro-level (in a dog or a tree), are unlike those which shape the macro-level (dog or tree) (ibid.). What it means is that the forces influencing an individual human being (in a community) are not the same forces influencing the development of a community (ibid.). Consequently, a crucial understanding of the nature of social change in a community (at a community level) is the capability of distinguishing that from the change by individuals in that community (ibid.). It is precisely this social perspective which illustrates how a community transcends its residents (ibid.).

6.1 Anthropocentric, not Anthropomorphic

It would appear as if the comparison of a community and a super-organism is reasonable and accurate. That is, a community is an organized body composed of individuals and groups. In addition, communities subsist and have functions beyond their human members since people have a tendency to move and have a relatively short life cycle. In the same way as a living cell, either plant or animal transcends its atoms, so does an institution and a behavioural pattern (ibid.). In other words, a community transcends its human members. Furthermore, the behaviour of an atom or the life cycle of a molecule occurs in accordance with a different set of rules and regulations than those living plants and animals in which the atom or molecule is reside, abide by (ibid.). Similarly, individuals, both human and non-human are subject

to a different set of forces than social organizations (such as a community) where it resides. This means that even though "community" is an *anthropocentric* concept, it would be erroneous to project human laws and values onto it. In other words, *anthropomorphism* or the attribution of human motivation, characteristics, or behavior to inanimate objects and natural phenomena is not suitable for community (ibid.). Communities do not feel or react in the same way that we do. This implies that a community cannot know, since we assume that knowledge (such as a meme) and beliefs are believed and understood by mind endowed, reasoning beings. Nonetheless beliefs and knowledge survive beyond people, places and things, long after its inception.

Even though a community is a system, they are not necessarily harmonious [38]. According to [38], a cultural system is a discordant entity, filled with factions, struggles and conflicts, based upon differences in:

- gender,
- religion,
- access to wealth,
- ethnicity,
- class,
- educational level,
- income,
- ownership of capital,
- language and
- many other factors.

Building community participation and development means bringing together these factions and splinter groups, encouraging tolerance, inspiring team spirit, and obtaining consensus decisions [4]. Organizing social change in a community necessarily requires knowledge of how such a system operates. In addition, it is also important to have an idea or inkling about how the community and its members may react to changes and interventions (ibid.). Just as a medical doctor must know how the human body operates, the community builder must know how a community operates.

6.2 The Cultural Dimensions

Nonetheless, anthropomorphism in matters relating to human concepts is quite natural and to refrain from doing so seems somewhat counterintuitive. This is not altogether unwarranted because there are components and subdivisions of a community which apply to all social organizations and culture but not to human beings. As with any other organism, a community may be separated into different organs or parts (not just disputing factions). In particular, the six cultural dimensions are parts of culture which are neither directly observable nor are they tangible. They are dimensions or "scopes" in light of the fact that they are analytical categories, or sociological constructs. In other words, any cultural entity, such as a community, will have these six dimensions, just as the Cartesian framework for mathematics, where any physical object will always have four dimensions, height, width, depth, and time [4]. According to [4], the six dimensions of culture are:

- 1 Technological,
- 2 Economic,
- 3 Political,
- 4 Institutional (social),
- 5 Aesthetic-value,
- 6 Belief-conceptual.

As mentioned previously, every one of these dimensions of culture is carried and conveyed by symbols and not by genes. In addition, each cultural dimension consists of subsystems of learned ideas and behaviour, in themselves [4]. Once again, it implies that every cultural dimension exists and subsists in varying sizes and are pervasive throughout society, as we know it. Precisely because each and every one of these cultural dimensions are subsystems within the socio-cultural system and they are interdependent, much like the members of any community, whose interdependence is understated and not well appreciated. In the same manner as one person, alone cannot constitute a community, one dimension cannot constitute culture in itself [4]. A community is dependent on the coexistence of many individuals and a culture is dependent on the coexistence every cultural dimension. Since culture is neither tangible nor observable in its entirety, it is of the utmost import to be socially and culturally aware using analytical methods. That is, to be conscious beyond simple objects, beyond substance. For this is our social reality - the community. To stimulate community and social change means stimulating intangible (non-substance) dimensions which must perform in a proper socio-cultural framework.

Chapter 7

The Principles of Community Building

Community building is more an orientation than a technique, more a mission than a program, more an outlook than an activity. It catalyzes the process of change grounded in local life and priorities. It addresses the development needs of individuals, families, social groups and organizations. It changes the nature of the relationship between the community and the system outside its boundaries.

L. B. Schorr, 1997 [47]

The pursuit of effective community building tools has gathered momentum in recent years. It is a reaction to an ever changing political and economic environment and the deterioration of social capital. For the most, community building mechanisms is being fueled by rapid technological progress. In spite of the most outstanding efforts of creative community developers and organizers, and major changes in public and private institutions, most people would agree that there is still a great need for new and improved community building tools. It is a verification of our social dynamism; that people produce and reproduce their own social reality. While it is obvious that some communities are based on technology, others are historically constituted by different cultural dimensions. Community builders must go back to basics, to the communities themselves. To find once again what strengths and weaknesses, capacities, assets, and even those unwanted qualities which lie within those communities, in order to be able to stimulate and organize social change.

As previously mentioned, communities are not harmonious entities; there are disputing factions and hierarchies. Thus there are many different types of community building work which occur at many different levels and on many different scales, from educational, political, economic and even religious development. Most of the community work is based around the following discordant groups:

- gender,
- religion,
- access to wealth,
- ethnicity,
- class,

- educational level,
- income,
- ownership of capital,
- language and
- access to tools and technology

At their finest, these communities are shared efforts that constitute an infrastructure of formal and informal support. However, these communities represent a collection of disconnected programs and services that are largely defined by disputing stakeholders from private and public sectors. In addition, there is the hazardous combination of high expectations and scarce resources. Such that in practice, only the participants are able to bring some clarity and definition to the role that community building work needs to play in a community context [57].

7.1 The Objectives of Building Community

Community-based organizations (CBOs) need to coherently structure and systematize changes in beliefs and attitudes if they are to bring lasting social change. This includes changes which reciprocate social cohesion starting at the family. However, many of these beliefs and attitudes cross political and ideological borders (*ibid.*). This implies that community goals may pervade each cultural dimension without conflicting objectives. According to [57], the objectives of community building work should be

- 1 building and sustaining a vibrant, active, and representative grassroots infrastructure in places where it has been historically weak.
- 2 transforming the range of community building activities in a given community into some form of collective agenda and action for change?
- 3 place residents at the center of the community building effort; residents must define and drive the agenda for change.

In addition, resident involvement is the only reliable indication that the change agenda will indeed be connected to the genuine needs of the community, and that the community building solutions will have an impact (*ibid.*). While organizations and neighborhood leaders are critical stakeholders, any effort will fail if there is not a genuine and vocal resident base (*ibid.*).

7.2 Community Building Activities

Organizing is empowering but it needs to come from within the community. According to [57], the main community building activities include:

- 1 Organizing neighbourhoods.
- 2 Organize consumer issues.
- 3 Identity organizing.
- 4 Consensus organizing.
- 5 Develop a Culture of Organizing throughout the Organization.
- 6 Create an Apparatus for Constituent Development and Social Capital Development
- 7 Conduct Community Organizing Campaigns
- 8 Create Systems for Leadership Development
- 9 Build Strategic Alliances

However, it is inherently difficult to sustain such energy and resources intensive efforts. As organizations change, they develop into less orderly organs, since they are not static entities but dynamic ones. According to [57], the following activities will support and sustain those changes as they internal participatory mechanisms which permeate the whole community.

- Invest in Quality Staff Support and Supervision
- Integrate the "Organizing Approach" Throughout
- Set Achievable Benchmarks for Involvement
- Define your Own Style of Organizing
- Acknowledge and Address the Difficulties of Collaborative Governance

7.3 Key Principles of Community Building

As mentioned, community building is a process which is driven by internal member involvement and participation. The process integrates roles and relationships, for development and support. It also needs to be sustainable, in the long term by including the broader society. And most importantly, it needs to be equitable. I will now explore the key principles outlined by [41]. These principles may be applied to community building in real and virtual communities.

7.3.1 Vision

First and foremost, create a vision for the community [41]. Make a clear and concise vision statement of an ideal social reality. People will be attracted to it and want to learn more about it or even better, become involved in some capacity. Secondly, all communities must exist for a reason [14]. "Purposeful populations" and "causal communities" have a better outlook when there is just cause. Reason is motive and a developmental rationale. Thirdly, the vision defines the community [19]. The community members should work together to compose a vision for the community. Materialization of that vision will enforce the collectivity of purpose. Ultimately, the community members must make a share the envisioned concepts and ideas in service of the community, for it to work on a global scale (online) and with local (offline) organizations.

7.3.2 Rational Planning

Rational planning can help turn a vision into reality but there is a crucial difference between rational planning and community building [41]. Identifying the needs of a community and organizing its resources requires that one listens to the members of the community. Only the community members may identify their own mutual interests and priorities and they must work as partners in the process of taking action, and develop the capacity to resolve their own problems (ibid.). Community Planners must learn to that programs and policies also have consequences beyond the desired effect. However, it does not imply a change to irrational planning; producing undesired effects and consequences simply requires the redefinition of goals and objectives to include those other social values (ibid.).

Have a clear and concise roadmap with short term and long term goals means that in practice, it is a realistic and inclusive activity where new knowledge is contributed by members. Some of the short terms goals are

- Organize. Form a team to plan and organize others.
- Strategy. Goals, priorities, alternatives, a plan of action.
- Organize others.
- Intervention.
- Evaluation.

Long term goals include the involvement of minority groups, the development of leaders and mentors, and staying in touch with the communities needs.

7.3.3 Bridge Building

Just as important as the previous two community building principles, is bridging the gap between individuals, neighborhoods, and social institutions [41]. Such that bridge building is not something for neighborhoods can do alone, governments and other public and private bodies should work cooperatively with all the stakeholders (ibid.). Joint decision-making processes and open dialogues are important bridging activities, since they mediate power and authority. What is more, bridging mediates a larger network of resources available in the community (ibid.).

7.3.4 Collaborative Leadership

Perhaps the most crucial principle in sustaining communities is the practice collaborative leadership (ibid.). Running policies and programs from a centralized office does not work (ibid.). Community building must involve the citizens and the organizations that represent them. At the most fundamental level, it implies engaging citizens in the process of making decisions. By delegating responsibility, you delegate authority and power. In other words, empowering the citizens. This becomes especially important as local governments begin the process of working more closely with private sector and nonprofit organizations.

Organizations are becoming increasingly aware and realizing that creating community is not just about networking events and directories, but something that they must focus on strategically and thoughtfully [30]. They do this by using the age old human propensity for movement along the Community Building Continuum. An understanding of community may help the understanding of the fluid social values and its members' ever changing informational needs [30].

Part IV
Community Health Promotion

Chapter 8

Salutogenesis

Health is a continuum between total ill health or disease and total good health or well-being [33]. The cause of ill health is called a pathogene. A pathogene is one of a class of virulent micro organisms or bacteria found in the tissues and fluids in infectious diseases, and supposed to be the cause of the disease; a pathogenic organism; a pathogenic bacterium. A *salutogene* is the opposite of a pathogene [3]. Salutogenes cause good health and well-being. *Salutogenesis* is therefore the opposite of pathogenesis. Whereas pathogenesis is the development of disease and ill health, salutogenesis is the development of well-being and good health. "Salutogenesis" is a term created by Aaron Antonovsky [3] to refer to a new way of promoting health. Unlike the approach to public health care, health promotion explores well-being rather than disease processes, by focusing on successful coping strategies and well-being (ibid.). Thus, salutogenesis is a holistic approach to health promotion which encompasses the whole health continuum and focuses on the ability to comprehend the whole situation and the capacity to utilize the available resources to resolve problems (ibid.). That is, it is a strategy which seeks the cause of ill health and deals with it with the available resources. The ability to cope is also known as a Sense of Coherence (SOC). That is,

"global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected."

Aaron Antonovsky, 1979 [3]

In other words, a person's SOC is the capacity to assess and understand the a situation and meaningfully act to move toward well-being in the health continuum [33]. The coping resources comprise of

- internal factors, like confidence, and
- external factors like the community and other cultural influences.

Consequently, the ability to cope goes beyond the individual and depends very much on the strong community and cultural ties. Nonetheless, the stronger the SOC, the more likely you are to cope and reach well-being. According to Antonovsky [3], the general criteria for a person's SOC are:

- 1 Meaningfulness
- 2 Comprehensibility,
- 3 Manageability

These three criteria are fundamental to all problem solving strategies and the ability to cope. Meaningfulness is the feeling that life makes emotional sense (ibid.). Moreover, the quality of meaningfulness is the view that life is worthy and desirable. Manageability is the quality of feeling of having the capacity and resources to deal with problems (ibid.). Comprehensibility is the perception of meaning, structure which is consistent and predictable which makes the world orderly and gives a sense of security (ibid.).

As mentioned previously, the development of these SOC criteria is very much part of the development of the community and culture. It equates directly with the social and health capital (ibid.). Since social capital is pervasive in all levels of society, it is a critical factor in salutogenesis. Health capital is an established concept in health care but varies greatly due to the socio-economic situation and other cultural influences. Since salutogenesis is still a new concept to mainstream society, the central theme in community health promotion is the understanding how to manage good health. This attains mainly to adult education or acculturation. By educating people about salutogenesis and simply increasing their awareness of the health continuum, we can increase their coping strategies and thus, their SOC.

Chapter 9

Social Capital

The trouble with the virtual community metaphor is that it implies that technology itself can create community. Usually its effect is the very opposite: it hastens the breakdown of traditional community. Still, electronic networks can play a role in strengthening communities if they are used to augment social networks that are already in place. In addition to their obvious benefits as text-based information systems, networks can serve as public spaces for informal citizen-to-citizen interaction, they can support rational dialogue and, in some cases, deliberation, and they can promote the social connectedness, trust, and cooperation that constitute social capital.

S. London, 2004 [34]

”Social capital” is ’the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition’ [9]. Social capital is the binding element between economic capital (which is defined as the command over economic resources (cash, assets)) and cultural capital (which is defined as the forms of knowledge; skill; education; any advantages a person has which give them a higher status in society, including high expectations. Parents provide children with cultural capital, the attitudes and knowledge that makes the educational system a comfortable familiar place in which they can succeed easily) [9]. Another definition of social capital refers to the collective value of all ”social networks” and the tendencies arising from such networks to perform favours for one another [43]. Regardless of which definition, social capital is pervasive in all levels of society (ibid.). It extends from the level of society at large, down to the most basic social interactions [35]. Even though social capital is pervasive, there are two broad levels of social capital [43]; localized and generalized. Moreover, the individual level is composed of social interaction and the broader societal level is the civic culture [41]. The continuum between these two levels is known as the ’Ladder of Community Building’ (ibid.). That is,

- Civic Culture
- Civic Infrastructure
- Community Organization
- Social Capital

- Social Interactions

To stimulate social change means that we need to foster social interaction at the most fundamental level, as well as to nurture the civic infrastructure and culture, at the broadest level. However, the programs and policies of the private and public sector are organized and implemented independently and incoherently (ibid.). What it implies is that incoherent governmental and non-governmental activities and actions are as socially disconnected as the people and groups they try to help. An example of this incoherence is the disparagement between the focus on pathogenesis in public health care and community health promotion. According to Pomeroy [40], political capital, cultural capital and economic capital are all part of the same social *nexus*. As such, there are many mechanisms facilitating the development of social capital and community building. By virtue of their pervasiveness in the Continuum of Community Building, these processes are interdependent and interconnected, such that we need to cultivate and promote them together [35]. Consequently, we need to approach these objectives not as mutually exclusive goals but as mutually beneficial ones since we stand to achieve more by cooperating than competing (ibid.).

In the Information Age, the process of decentralization and privatization has highlighted the deficiencies and inadequacies of government. As a result, many governmental and non-governmental organizations sought to provide higher quality services to more people with fewer resources. Consequently, organizations at all levels responded with systematic reform initiatives that focus on reengineering, downsizing, and total quality management [41]. These reforms essentially changed the structure of government which became equivocally more effective and efficient (ibid.). However, the reengineering, downsizing, total quality management and other initiatives did not account for the dynamism of the social, political, and economic milieu. According to Potachuk *et al* [41], society depends on social capital, at one level or another. Increases in social capital can also change the code of conduct for community business to become more inclusive, more collaborative, and even more organized (ibid.). Sustaining community development means sustaining the dialogue between members and the community. In this way the increases in social capital fosters social cohesion.

9.1 Social Cohesion

A "social network" is 'the map of the relationships between individuals, indicating the ways in which they are connected through various social familiarities ranging from casual acquaintance to close familial bonds'*. Whereas "social cohesion" refers to the state 'in society in which the vast majority of citizens respect the law, one

*http://en.wikipedia.org/wiki/Social_network

another's human rights and values, and share a commitment to retain social order[†]. In other words, social cohesion defines and describes the state or 'health' of the social fabric. As such, social cohesion is founded on trust, reciprocity, networks and collective action [18]. What is more, the social infrastructure for social capital are the very mechanism by which the cultural identities of groups within a community are recognized, fostered, and uncovered through a range of cultural events and activities [43].

Social infrastructure is important in terms of social capital because it develops heritage, language, symbols, images, ideas, values, and our way of life [18]. It is the instrument societies use to forward their social, political or economic visions (ibid.). According to [6], the social infrastructure of a community consists of three components:

- Social Institutions - local government, social service organizations and voluntary organizations (including churches, civic, recreational and political associations, etc.).
- Human Resources - organizational skills, technical expertise, educational levels, and the social, ethnic, racial and cultural qualities of the town's citizens.
- Social Networks.

All communities have a social infrastructure but the scope varies greatly. Some social infrastructures are more developed than others (ibid.). According to [64], the main indicators of a social infrastructure are:

- Social change,
- Increasing social capital,
- Community Building,
- Developing human resources, and
- Improving economic performance

The vitality or social fabric of any community can be evaluated within this given framework of social infrastructure. In many respects, the health of a social infrastructure implies that efforts between the private sector and the public sector must be fostered and organized coherently to develop human resources and improve economic performance (ibid.). Moreover, to commit to economic ambitions without any real

[†]http://en.wikipedia.org/wiki/Social_cohesion

conviction or commitment to the interconnectedness between the cultural, social and educational milieu is a negation of the interconnected nature of the social infrastructure. As such, cultural processes which recognize diversity, support cooperation, and focus the strengths of communities are the same basic processes which establish trust, collaboration, networks, facilitate organization and increase levels of cooperation, and therefore the production of social capital [18].

9.2 Cultural Heritage

To give an idea of the diversity of social infrastructure, I will present and discuss, in brief the different cultural heritages which not only embody social values but also cultural identity. The UNESCO list of cultural heritage indicates partially the diversity of culture.

- Cultural Heritage Sites
- Historic Cities
- Cultural Landscapes
- Natural Sacred Sites
- The Underwater Cultural Heritage
- Museums
- The Movable Cultural Heritage
- Handicrafts
- The Documentary and Digital Heritage
- The Cinematographic Heritage
- Oral Traditions
- Languages
- Festive Events
- Rites and Beliefs
- Music and Song
- The Performing Arts

- Traditional Medicine
- Literature
- Culinary Traditions
- Traditional Sports and Games

Clearly, within any society there are numerous forms of cultural heritage. The most prominent are intellectual, artistic and spiritual. But cultural inheritance is not static; it is dynamic [64]. As mentioned previously, culture is knowledge and knowledge is learned, not inherited. As such, cultural heritage requires social interaction with family, friends, places, books and other forms of collective knowledge (ibid.). Cultural heritage embodies the symbolic value of cultural identities and constitutes a fundamental reference for structuring society (ibid.). Insofar as it enables us to understand ourselves and become aware of our culture, cultural heritage is also the key to understanding others (ibid.). As the articulation of our perspective of the world, cultural heritage is also the articulation of our identity (ibid.). This means that an identity is learned or acquired (ibid.).

The most prominent aspect of culture is cultural identity. Not only does it define who we are, it also defines who we are not. In other words, a cultural identity is founded in the roles and relationships people have in the community as well as the roles and relationships with other communities [64]. Since cultural heritage is dynamic, cultural identity is also dynamic (ibid.). The dynamics of cultural identity means that the process of cultural self-definition is a continuous dialogue between the individual and the culture *. However, such a dialogue is not one which is in equal balance. The inequality of cultural dialogues implies that the process of cultural self-definition or cultural identity is associated with imbalanced power relations (ibid.). Since the effects of globalization on national economies and cultural practices have been experienced at a local level, cultural dialogue must engage the local community [43]. Otherwise, these effects will undermine the infrastructure of local communities, by changing the patterns of work and leisure, and influencing the way we create and consume our culture (ibid.).

*http://en.wikipedia.org/wiki/Cultural_identity

Chapter 10

Nature-Culture-Health International

Nature-Culture-Health International is an association that has as its objectives to promote the public's health and safety, sustainable environments, well-being, vitality and peace.

Nature-Culture-Health International By-laws

Nature-Culture-Health International is a non-government organization involved in preventative health and promoting community health. Implicit in the objectives of Nature-Culture-Health International are the aforementioned salutogenic measures, such as

promoting nature and cultural activities that can strengthen people's functional ability and coping

- Nature-Culture-Health International By-laws

Although salutogenesis on a broader societal scale is esoteric something new, salutogenesis on a local scale, has been tried and tested successfully, in Norway. Nature-Culture-Health International or NaCuHeal, is an organization which is developed upon a successful and far reaching Norwegian social and cultural organization, the NaKuHel Foundation. NaKuHel is an abbreviation for Natur-Kultur-Helse, a Norwegian conceptual approach to salutogenesis.

The Center for NaKuHel was officially inaugurated by former Prime Minister, Kjell Magne Bondevik, on 21st September 1997, after having been in trial since 1995. It lies unabashed in a beautiful and peaceful forested area by Sem Lake, just west of Oslo. The Center is open to all who are curious about this form of alternative health and participation in NaKuHel activities is strongly encouraged. This includes a myriad of cultural activities based in natural, forested settings, in fellowship and is meant to improve a persons SOC by improving the ability of coping and the quality of life.

The philosophy and concept was developed by the founder of NaKuHel - Gunnar Tellnes is a medical doctor and Professor of Community Health at the University of Oslo. The other prominent figure in NaCuHeal is Professor Dino Karabeg, also from the University of Oslo. These two founded NaCuHeal International in Oslo, 2004. Since then they have drafted a number of important internal documents as well as

having published articles relating to NaCuHeal International.

NaCuHeal International is the international effort to meet those very difficulties and challenges of preventative community health and community health promotion, by building a global model for salutogenic community. As such, NaCuHeal presents a unique opportunity to study three levels of practices; organizational, community building and salutogenesis. All of which are key areas of social capital development. Since the NaCuHeal International is in its infancy, the main focus of the organization has been the identification of those organizational and community building goals. However, salutogenesis has been a theme which underscores all activities within the organization since salutogenesis (as well as the other two practices) is self-reflexive. Consequently, to be able to analyze such a phenomenon requires a new conceptual framework which not only reveals the self-reflexive nature of such processes but also focuses on the continuum of health as a whole, not health as an object.

Part V

Conceptual Framework

Chapter 11

Modelling the Real World

Familiar things happen, and mankind does not bother about them. It requires a very unusual mind to undertake the analysis of the obvious.

Alfred North Whitehead

A "complete," definitive and exhaustive classification of entities is an unattainable undertaking. The mind-independent aspect of "reality" has a complexity and depth that extends far beyond the horizon of the human mind. TextitHomo mensura, is a reality, but it is not all reality. Nevertheless, we stand at the dawn of a new paradigm; one seen by an informational and turn in technology. It is the Age of Information. Insofar as "what we know" and "what is knowable" are metaphysically fuddled, our ontology and epistemology are muddled by the very fabric of ordinary natural language - a commitment to substance. As a result, a more intuitive and insightful way of thinking and talking about the world eludes us.

Nonetheless, the combination of compositional semantics and substance ontology would seem to be an equivocally powerful and ostensibly general tool for modelling domain ontologies and as a research paradigm. Not surprisingly, Smith [53] denies computation theory as a subject in its own rights, for computation is a branch of mathematics. Methinks this antithetical claim is reason enough to abandon the dissonant compositional semantics and substance ontology as the foundation of IS and ID research and practice. Information Science is not mathematics. We must therefore look wider for other foundational grounds where independent IS and ID research and practice is justifiable.

The root problem of the compositional, object-based world view is in "substance." Not only is it pervasive in the way we think of the world but it is also pervasive in our ordinary language. Compositionality implies that we take a bottom-up approach to modelling and designing. Fortuitously, the short-comings of compositionality and substance mirrors and illuminates a manner of theory and practice in which the abandonment of the current paradigm may be forfeited in favour of a world view with greater exegetic capacity. This perspective extends a kind of "idealistic realism" which exemplifies the progressive nature of scientific knowledge.

This chapter is a critique of the underlying philosophical principles of the way we think and talk about the world. It will explore the validity and extent of the

categorial structure of ordinary, natural language, in light of the lack of a common language which is an obstacle to "real communication" [27]. Another aim of this philosophical inquiry is a definitively discursive discourse into the kind of ontological category implied by Smith's (pp.156-159) [53] concept of "ontological commitment" to an "upper-level ontology." This very purposeful speculation will hopefully ground the ideas of "truth" and "meaning" in terms of reference and propositional attitudes toward "real knowledge" and therefore metaphysical reality for a research setting. This might seem like a defeatist exercise but the ostensibly oxymoronic "idealistic realism" is a scientific paradigm where it is a critical rationale for the perception of reality and its interpretation and translation into knowledge.

I hope to illustrate a more comprehensive and holistic understanding of the world and knowledge, especially the concept of ontological category by highlighting the inherent fallibility and limitedness of a substance ontology and the categorial structure implied by the semantic innocence of ordinary natural language.

11.1 Homo Mensura

Perhaps the most important aspect of language and communication is the informational content (provided that there is no discordance with the intentionality). But who is ordained to judge the truth of such content and how it is represented and used. Probably the most famous Sophist, Protagoras of Abdera (c.490-c.420 B.C.) made the most famous claim, *homo mensura*:

"Man is the measure of all things - of things that are, that they are, of things that are not, that they are not."

Protagoras of Abdera (c.490-c.420 B.C.)
(*Cambridge Dictionary of Philosophy*, pp.863)

The intention to which was to take the position that there is no "objective truth". By denying the comparativeness of the truth of perception and judgement, Protagoras was able to adroitly advocate its utility in various situations (ibid.). Although Protagoras' teaching was primarily relevant in ethics, being a Sophist, it also had a broader influence on philosophy, in relativism. However, as Spiro [55] points out, relativism in the strong sense is epistemological relativism. And if we are to accept such suppositions, then we cannot purport to say anything that is not particular (ibid.). That is, we cannot generalize.

Based on generalizability alone, I object to the premise of epistemological relativism on the ground that "what we know," our substantive knowledge and "what

is knowable,” our putative knowledge fall under the very same continuum of apprehensibility. According to Rescher [46], ”what is real” and ”what is knowable” are both active and independent in the causal commerce of the world. The quiddity of existence may then be specified in a recursive manner (ibid.) accordingly:

- The things that we experience with our internal and external senses exist
- The things whose existence we need to postulate to realize an adequate causal explanation of the things that exist also exist

That is, we are mind-endowed, sentient beings ordained with the capacity for reasoning (ibid.). Moreover, we have the capability of perceiving things by means of the senses both internally and externally (ibid.). Thus, existence and knowledge can be ascribed to capacity for sensing and reasoning. Consequently, there is a clear demarcation between a thing and its perceptibility (ibid.). To be sure, this dissonance of what we know and what is knowable or ”cognitively accessible” is marked by a continuum of ordered intelligence and sentiency (ibid.). This is a ladder of cognitive accessibility and starts from oneself and towards higher orders;

- Oneself
- One’s contemporary (human) fellow inquirers
- Us humans
- Some actual species of intelligent creatures
- Some physically realizable (thought not necessarily actual) type of intelligent being - creatures conceivably endowed with cognitive resources far beyond our feeble human powers
- An omniscient being (a God)

Although half of the list may be ascribed as pure *possibilia*, they are still qualified cognizers. Subsequently, the orderly strata of qualified cognizers extend far beyond the realm of human cognitive accessibility, such that homo mensura is not the measure. To be sure, there certain aspects of reality are ultimately beyond our own cognizance (ibid.). It is the part of the essence of being real; being mind-independent and active in the causal commerce of the world.

Nonetheless, realism, in its naive form is bounded and purported by a fallibility and is therefore limited (ibid., pp.246). As such, even the sum of all human knowledge, our putative knowledge cannot possibly qualify ”the way things really are”

(*ibid.*). And how can it? It is not based on a definitive and exhaustive classification of all things. Nothing can be. However, we should remember that "what is real" and "what is knowable" is being active in the causal commerce of the world. As such, a systematic syndication of real entities and lawfulness may be qualified by "a thing is what it does" (*ibid.*, pp.247).

The criterion of defining a real thing by its action or activity, signifies, by design, the impasse of "the exhaustive manifestation of the descriptive facets of any actual existence" (*ibid.*) and sees the non-contention of a complete or definitive and exhaustive classification scheme (at least with the current linguistic and ontological scheme). However, such latency is also a decisively descriptive aspect of our substantive knowledge. Our concept of a real thing must withstand a multi-faceted and varying account. Take the exemplifier from Rescher (pp.247). We can appreciate and describe the stone in various ways:

- Physical features - shape, surface texture, chemistry, etc
- Causal background - genesis and history (to which there are many complete and conflicting accounts)
- Functional capacity - to a stonemason or to an architect or landscape decorator (again boundless).

Consequently, the tacit aspect of a "real thing" implies a both mind-invoking and mind-involving, identification and identifiability (*ibid.*, pp.260). The perceptibility and conceivable transparency of "the world" means our putative knowledge and substantive knowledge will never be congruous (*ibid.*, pp.249).

11.2 Thought and Speech

Thought and speech are intertwined in a harmonious ensemble. According to Vygotsky ([59], pp.210) the meaning of a word is the fundamental binding unit of thought and language. He implied that each word is a generalization or concept - "A word without meaning is an empty sound" (*ibid.*, 212). This was a crucial point in which he prescribed that the word meaning passes imperceptibly from thought to language and becomes the necessary criterion of "word" (*ibid.*). Synonymous with concept formation, the process by which we come to learn, know and ultimately speak of the "the world" (*ibid.*). This process shows how the world ("things") may be conceptualized:

- Unorganized congeries - vague syncretic conglomeration: random $\dot{\iota}$ visual $\dot{\iota}$ "incoherent coherence"

- Thinking in complexes - concrete or factual: associative \wr collections \wr chain \wr diffuse \wr psuedoconcepts
- Abstraction
- Potential concepts
- Singling out

The process of conceptualization is an account of the world in which certain certified conventions (language and approval) are followed in order to arrive at these concepts. That is, from the real world to a model. Diagrammatically,

World \triangleright Language \triangleright Model

This is also known as the formation of a spontaneous concept (ibid.). The process of conceptualization is neither simple nor linear. It goes from something essentially infinite ("the world"), to something very finite (a concept or model of the world). In linguistic terms the process may be described as figurative speech, in the sense that the intended meaning is not the literal meaning. Like a metaphor, it is a figure of speech that literally means one thing but its use is to mean another, hence its comparative contextual nature. This kind of figurative speech is called a trope. In his explanation of concepts and generic knowledge, Reisberg alludes to this manner of speech by his structure of knowledge and mental models. The ambiguous nature of "fuzzy boundaries" and "graded membership" (Reisberg, pp.275) implies the figurative or non intentional nature of our knowledge. It is intuitive and illuminates the nature of human categorization. According to Reisberg (pp.298):

"Typicality results can be also explained with a model that relies on specific category exemplars, and with category judgements made by drawing analogies to these remembered exemplars. The exemplar model also has other advantages. It can explain our sensitivity to category variability, and also our sensitivity to patterns of correlated features within a category. This model can also explain the pliability of categories, including our ability to view categories from a new perspective, and also our ability to create ad hoc categories."

Chapter 12

The Substance Paradigm

Every philosophy is tinged with the coloring of some secret imaginative background, which never emerges explicitly into its train of reasoning.

Alfred North Whitehead

This chapter highlights the inadequacies endemic to most traditional IS research and development paradigms. Most of those inadequacies rests on one simple ontological presupposition, which is the *conditio sine qua non* for an object-based world view. The ensuing critique of the dominant research and development paradigm may be thought of as an *exegesis* of a conscientious objector. Like other conscientious objections, it is a *cri de coer*, since I truly believe that this world view is not only inadequate, but also misleading. Hence, the notion of 'ontological mismatches' has become a widespread phenomenon. It is perhaps not a definitive denunciation of the object-oriented paradigm but it brings into bold relief the benefits of an alternative world view, as a research perspective in IS and ID.

"Substance" was defined by Aristotle in the Categories as "that which is neither predicable ("sayable") of anything nor present in anything as an aspect or property of it" (*Cambridge Dictionary of Philosophy*, pp.887). In the sense that *being a horse* of something is a predicable conclusion and remains self-identical but a horse is not (ibid.). Since only substance remains self-identical through change, all other things are accidental to substance, such as properties and relations (ibid.). Presently, the concept of substance is refined and it is pervasive in the underlying philosophical principles of language and thought. According to Puntel [42], there are three senses of substance:

- Substance is a substratum or bare particular characterized by properties and relations and is an instantiation of a universal.
- Substance is being an instance of a proper kind, in which a substance or a concrete particular are the subjects of essential and accidental properties attributed to them (although this limits the idea of instantiation and independent identity).
- Substance is "independence" - capable of existing by itself (an indispensable quality but not a sufficient condition of being a substance).

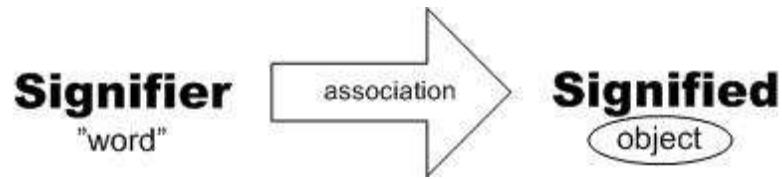


Figure 12.1 Modeling the Substance Paradigm.

Not surprisingly, the way in which we talk about the world is to predicate on the basis of a substance, i.e. the substance is the subject of predication (see Figure 12).

This is a typical feature of first order predicate language. That is, the semantics presupposed by substance-property ontologies is compositional (ibid.). It is a simple extension of the *Principle of Sentential Compositionality* (PSCP) (ibid.):

”The meaning (or semantic value) of a sentence is a function of the meanings (or semantic value) of its subsentential components.”

In our ordinary language, we say that an object is the sum of its parts and never more. As such, this world view, compositionality focuses entirely on content. At an informational level, the meaning of a sentence is the semantic value. Therefore, the preferred expression is ”semantic value” instead of ”meaning” as it clearly expresses the propositional nature of compositional sentences. Consider the trivial example of ” $1 + 2 = 3$ ” which is a valid sentence because we define ”1” to mean unity, ”2” to mean twice unity, ”3” to mean thrice unity, ”+” to mean addition and ”=” to mean equality. In a more generic form, the atomic sentence ” α is ϕ ,” or ” $\alpha\phi$,” for short (where the subject α is a singular term or proper name and ϕ is the predicate) implies an *intentionality**. Such that ” ϕ ” is presupposed by ” α .”

The removal of ” α ” from the expression would make ” ϕ ” undefined in the sentence. And as such, invalid or meaningless, since it presupposes ” ϕ ” in order to be determinate and meaningful. For example, if ” α ” is ” $1 + 2$ ” and ” ϕ ” is ”3,” then ”3” is meaningless unless ”1” or unity and ”2” or twice unity is predefined. As undefined entities are not intelligible they should be rejected [42]. Nonetheless, such compositionality and extensionality is analogous with the reductive nature often expressed in classificatory schemes. However, all classificatory schemes are fallible and limited by virtue of their composition [46].

*Or aboutness; things that are about other things (*Cambridge Dictionary of Philosophy*, pp.441).

Ordinary natural language as a meta-language has intrinsic problems associated with its non-figurative denotations. In turn, a figurative non-compositional language may avoid these problems. An attempt at such an alternative to substance ontology which denies the existence of substratum and subject with a new category called tropes, is called trope theory [42]. Tropes are figurative contextual comparatives and not of substance, characterized as an abstract particular or as a particularized or concretized property (ibid.). Trope theory is based on categorial atomism and tropes are construed as the 'sole fundamental category' (ibid.). However, trope theory faces problems that ultimately arise from the linguistic limitedness of ordinary language (ibid.). That is to say, trapped inside a natural language paradigm, trope theory is without the inkling to the proper expressive terms and structures.

The root problem of a ordinary non-figurative language and substance ontology is its inadequacy in expressing more intuitive world views. The fallibility and limitedness of non-figurative language and compositional substance ontology is the omission of the changing figurative or contextual nature of reality (ibid.). Insofar as the meaning of the entity or subject would be empty, in the literal or non-figurative sense, if all attributes were retracted. It is a foregone conclusion that non-substance ontology voiced by a non-compositional semantics must prevail if we are to avoid the fallibility and limitedness of the ordinary natural language of substance ontology.

Traditional IS and ID research follows the customs and hegemony of western knowledge. That is, its constitution and sense of certitude [27]. It is an interpretive perspective which focuses on particular concepts and categories, such as "concrete" and "object." The culmination of which has arrived at object-oriented modelling of knowledge itself. Accordingly, information is defined as facts told, heard or discovered. Furthermore, such information is considered to represent the truth and therefore, a discrete unit of meaning in itself [1]. However, information is not limited to texts. It includes the whole gamut of sounds, smells, tastes, touches, images and gestures. In essence, all of the ways in which data can be processed and communicated by a mind-endowed, sentient, reasoning being.

Perhaps, the most comprehensive definition of information is 'recorded experience' [27]. Traditionally, information constituted the convention of juxtaposing a *thing* with a proper name. To be sure, information is the association of objects with labels, such as in particularization or instantiation (see figure 12) which is characteristic of the substance paradigm. In semiotics, information is the association of the signifier with the signified [13]. That is, informing or signing was taken to be directly associated to real world objects [13] and is therefore, committed to a categorial structure of the substance-property sort [42]. However, such ontological assumptions draw too much

on static entities. To set forth in words entities as static objects is to neglect or rather to trivialize the richness and dynamism of human experience.

Chapter 13

Beyond Substance

The Continuum of Understanding (see figure 13) represents the conceptual processes of the abstraction of data to information to knowledge and finally wisdom. The continuum shows that there is a necessary connection of the different categories by *mereological essentialism*. Mereological essentialism is the thesis that a whole has each of its parts necessarily. In other words, the continuum shows and interconnectedness by those fundamental actualizations, where data is essential to information, just as information is essential to knowledge, and knowledge is essential to wisdom. At the same time, the continuum discloses some of the hidden dimensions in information, knowledge and wisdom. In other words, the continuum highlights the true cognitive opacity of reality there some things we cannot see and some things we cannot say. That is, the hidden dimensions of our knowledge and social reality [28].

The intuitive abstraction from something that is essentially opaque to our perception means that there is at some level an ontological commitment. In turn, our ontological commitments guarantees the cognitive inexhaustibility of our perception of *real* things [46]. There are infinite ways of perceiving a "thing."

The most fundamental cognitively accessible level of abstraction is data [52]. It is mind-independent and describes a state of affairs (or fact) by virtue of its convention, that is, "truth by convention" [44]. At the next level, information is normally perceived of as a compositional complex of data. Information Theory holds that, as a message (communication), information's validity is propositional in accordance with the definition (*Cambridge Dictionary of Philosophy*, pp.435):

Information is an objective (mind-independent) entity. It can be generated or carried by messages (words, sentences) or other products of cognizers.

It is precisely the propositional and mind-independent nature of information which gives it such flexibility in its representation and therefore, versatility in its commonsensical communication. Especially as a meme (a unit of cultural information, such as a cultural practice or idea, that is transmitted verbally or by repeated action from one mind to another), information has a very broad influence on the social, economic and political *milieu* [40]. Knowledge is, however, not mind-independent [46].

Knowledge is mind-involving by virtue of the process of knowing. To be sure, cognitive opacity is the distinction between "things as we think of them" and "things

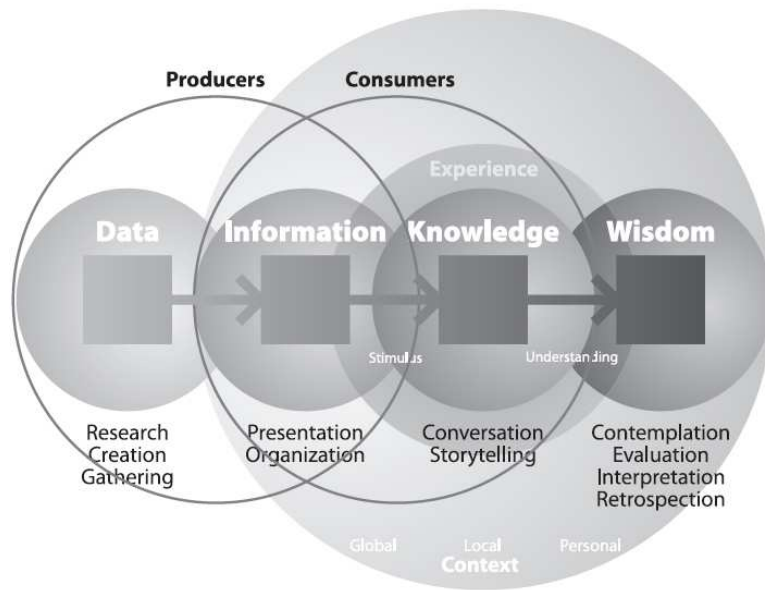


Figure 13.1 The Continuum of Understanding [52].

as they actually and truly are” (ibid.). As such, the experiential dimension of knowledge is a form of *conceptual idealism* and therefore the *conditio sine qua non* for identification, characterization and description (ibid.). The linguistic expressiveness of such experiential truths are therefore ambiguous or pragmatic by virtue of its form and function (see figure 13).

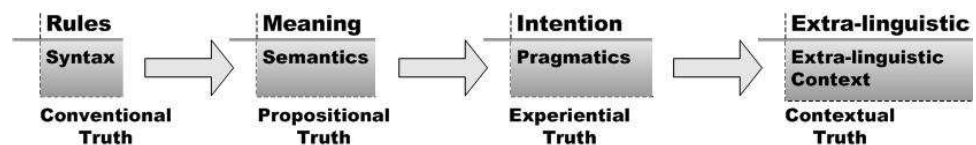


Figure 13.2 Linguistic Expressiveness Continuum.

This mind involvedness is further illuminated by “knowledge,” the *etymon*. A broad and widely accepted view of “knowledge” is the state of knowing. *To know of* or knowing something is to become aware of with the mind or through one of the senses. That is, to know of something is to perceive of it. Moreover, perception and cognition are quintessential to mind-endowed, reasoning, sentient beings. Therefore, real knowledge is purely internal, *of mind*. That is, of and by *mentalese*. Mentalese

is a hypothetical language in which concepts and propositions are represented in the mind without words (*Cambridge Dictionary of Philosophy*, p.556). In contrast, "information," the *etymon*, is precisely the process of *putting into form*, which is, by virtue of its inception, external to the mind.

I am a conscientious objector to the representation of knowledge as text, book and even *uvre*, as it presupposes *knowledge by acquaintance*. Knowledge by acquaintance is the knowledge of objects by means of direct awareness of them (*Cambridge Dictionary of Philosophy*, pp.472). However, to understand texts, books and *uvres*, we should not only read but contemplate and reflect upon its meaning. Consequently, knowledge is indirect by virtue of cognition and is communicated by mentalese, that is, without words. To be sure, knowledge is created and mediated purely *of mind*. To know of something is to understand its existence as part of a metaphysical interconnectedness which is *knowledge by description*. Knowledge by description is the knowledge mediated or created by the anticipation of true propositions (*Cambridge Dictionary of Philosophy*, pp.472). Such a metaphysical nexus would illustrate the richness and dynamism of human experience which is not captured in how we traditionally model the world. Traditional modelling paradigms in IS and ID are therefore impoverished because it lacks that basic metaphysical interconnectedness and dynamism of social reality. In other words, the ontological commitment to substance (objects) is a distorted dialectic. Nonetheless, the mystery of metaphysical interconnectedness and dynamism remains unanswered and the idea of substance is still pervasive in our thought and language [42].

Chapter 14

Semantico-Ontological Framework

Human life is driven forward by its dim apprehension of notions too general for its existing language.

Alfred North Whitehead

The discourse now turns from the critical, analytical mode to that of allegory, metaphor, simile and other forms of figurative speech. Since we believe that the figurative is the best representation of our dynamic social reality. In harmony with the aforementioned non-compositional semantics and non-substance ontology, we now put forth a very simple argument based on contextual involvedness. I begin by elaborating on concepts already recognized in language philosophy.

The mereological essentialism of data, information, knowledge and wisdom is encapsulated in the Continuum of Understanding, where design is to knowledge as understanding is to wisdom [52]. Although, the representational and organizational processes of design are ostensibly aesthetic, modelling ideas and concepts also implies the apprehension of meaning. In other words, the design is also the construction of the purposefulness, or teleology of something (its role, meaning and the form that it takes). As in the three fundamental categories of design which focus on:

- 1 Image (idea or ideal conception),
- 2 Function (the job that must be done), and
- 3 Morphology (constitution, structure in accordance with functionality).

Nevertheless, traditional ID does not encompass online community building, in principle. ID does include the design of online community tools but tools which are design for particular purposes not general. It is because ID is committed to a particular perspective, a particular ontology; object oriented and can therefore not be in principle commensurable.

14.1 Contextual Semantics

Contextualism is the view that inferential justification always takes place against a background of beliefs that are themselves in no way evidentially supported (*Cambridge Dictionary of Philosophy*, pp.179). Since we reject all forms of doctrine of intrinsic credibility, we therefore place no restrictions on the kinds of beliefs that can, in

appropriate circumstances, function as contextually basic. This is a departure from PSCP and is articulated by the *Principle of Sentential Contextuality* (PSCT) [42]:

Only in the context of a sentence do words have any meaning.

Nonetheless, PSCT is still encumbered by the same semantic and ontological pre-suppositions [42]. An even stronger version, called *Strong Principle of Sentential Contextuality* (S-PSCT) contains three important and essential aspects which directly address the root problem (ibid.). Firstly, S-PSCT is incompatible with PSCP. Secondly, S-PSCT means the abandonment of singular terms and predicates*. A non-referential rephrasing of the sentence " $\alpha\phi$," to " ϕ " is a method for the omission of undefined entities [42]. That is, the subtraction of the subject from the sentence leaves a non-referential predication. The third point of departure implies that S-PSCT is well-formed (syntactically) and meaningful (semantically)[†], that is, an informational content which we have called the *Informational Quiddity*.

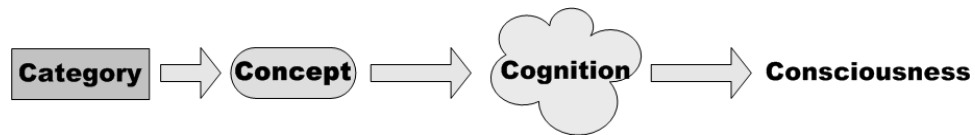


Figure 14.1 Forseeing is Believing.

As it is the essence of the communication. Thus, the sentence "Information is a design," becomes "It informs designingly." Furthermore, the complex sentence "It informs designingly" may also be interpreted as a configuration abbreviating two prime sentences, "It informs" and "It designs," where the Informational Quiddity (IQ) is "informing" and "designing" respectively. Consequently, the notion of "prime" or "fundamental" should be detached from both "atomic" and "simple." In summary, the criteria and approach which is the foundation of ID is best captured by the *Principle of Holistic Contextuality* (PHCT) [42],

Only in the context of language as a whole do sentences have semantic value.

*With respect to their semantic status, leaving prime sentences devoid of substratum. That is, non-referential predication, such as, "It snows," "It rains" and "It informs" [50].

[†]Every prime sentence in accordance with 1 and 2, has an informational content called a *prime state of affairs*, whose expressive role is similar to that of predicates in first order predicate languages [42].

PHCT is quintessentially "holistic thinking and informing" [26] and therefore the communication of 'real knowledge' [27]. In this light, the IQ (informational quiddity) is the best representation of 'real knowledge' and not a monadic monument of substance. Sentences are not independent or isolated; they serve as a part of a whole, a process called language. Decorations of this language are not dispensable, for they contribute to the (cognitive) meaning of our own discourse[‡]. That is, the pursuit of consciousness (see figure 14.1). As such, a contextual re-interpretation based on semantic *holism* will illuminate the way to meaningful and purposeful action. The aforementioned experiential dimension of knowledge is a form of *conceptual idealism*, and the *conditio sine qua non* for identification, characterization and description. That is, "action speaks louder than words" is an intentional ideal and the condition of being a conscientious person. Even though the belief forming process may be vague [21].

Action-based world views are very progressive. The semantico-ontological framework explicated has some very powerful philosophical foundations. Firstly, the only (kind of) entities which are acceptable are primary state of affairs or *pristates* [42]. These pristates will be addressed as either processes or actions by virtue of their meaning (or semantic value). Hence, ID is a configuration of complex processes; processes in which the Informational Quiddity is expressed (eg. "It informs"). Secondly, processes are the only ontological category at the fundamental level [42]. As such, a mono-categorial ontology offers a unified framework where the representation and organization of 'knowledge' in an orderly and integrated manner [50]. This implies that information has a participant structure which can be a one-agent process, one-agent-one-patient process, collective-agent-collective-patient process, collective agent-patient process, and the types and identities of agent-patient processes [50]. Finally, the mono-categorial process ontology offers a dynamic representation of the dynamic shape and content of our social reality. That is, a dynamic context is an adroit advancement in information design as it obtains 'real knowledge.'

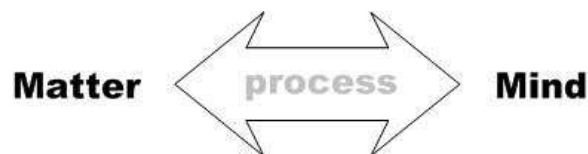


Figure 14.2 Matter to Mind.

[‡]The culmination of cognitive complexity is the actualization of consciousness [28].

Ex hypothesi, the enshrinement of the intellect in text, book and *wvre*, is not the best representation of knowledge. Texts, books and *wvres* obscure much of the IQ (informational quiddity). As such, texts, books and *wvres* pay homage to knowledge. It is in the process of conversation, reading or the telling of story in which a person becomes aware. In hindsight, we believe that all knowledge is figurative. That is, by the process of figuration, in and of the mind, that text, book and *wvre* becomes knowledge. The actualization and realization process of the connectedness or relatedness of thought and language may be seen in figure 14.3. It is a meaningful metaphysical *nexus* and a new approach to information and design processes. That is, purposive design processes of symbolism and iconography. Since knowledge is best represented without words, as knowledge is of mind and the mind speaks in mentalesé. To this end, short messages which clearly and concisely state the IQ, which is the process, in essence (see figure 14.2), complement the symbolism and iconography.

14.2 Process Ontology

Although process ontology offers superior exegesis and insightfulness its maturation has been bounded by the specious soundness and simplicity of substance ontology. In this section, we present a process ontology which we believe to be the best approach thus far. It is a process ontological scheme called APT and is based on an ontological category called 'free process' [50]. 'Free processes' offer a wealth of possibilities as an ontological category for the purpose of designing information because of the following reasons:

- 1 process theory is strongly reductive, definitional integration, ontological categorical atomism - an ontology with fewer basic notions is explanatorily more powerful than those with more.
- 2 process ontology is better suited to capture our common sense judgements about the individuality, qualitative sameness, and persistence of things than substance ontology.
- 3 APT offers a unified framework in which the structural organization of our knowledge about things and occurrences can be reconstructed in an integrated fashion*.

*The inferential links of common sense and scientific discourse depend crucially on classificatory knowledge about types of occurrences [50]

14.2.1 Free Processes

'Free processes' adhere to a formulation serving as a guide in the speculation of ontological schemata [50]: **(SUB1)** *Any basic entity of an ontological scheme must belong either to the category of particular entities or to the category of universal entities..* The aforementioned example, "It informs designingly" may also be construed in this manner, as a particular performance of a human activity - "informing," "designing" or a particular occurrence of a subjectless, absolute or "pure process" [50]. However, 'free processes' are not alterations in a subject nor are they 'bound to' a specific spatiotemporal region [50]. They are concrete as they occur necessarily in some spatiotemporal region but unspecific in their identity criteria since no reference is made to a specific spatiotemporal region [50]. As opposed to "a design" which can vary significantly over spatiotemporal regions. Furthermore, 'free processes' are not concrete universals, they are 'multiply occurrent' or 'repeatable' in ways that differ crucially from the multiple occurrences attributed to concrete universals [50]. Nonetheless, breaking from tradition is easier said than done as there are deep seeded ontological presuppositions of substance which guise our idealistic inkling of reality as "uniquely occurrent units." Therefore, the rejection of a non-particular and non universal dynamism is often a wasted and time-consuming affair.

The fundamental ontological category of 'subjectless free processes' has three persuasive and powerful principles [50]:

- 1 A close relationship between the *lexical meaning* of expressions and their *inferential roles* - PHCT pertains more as inferential role than PSCP as a categorial classifier. Exemplified by the aspectual inflexion of a verb, like present tense to past tense or as a distinction in nominal aspectual meanings, such as "It designed," "It designs" and "some designingly."
- 2 Inferential symmetries between verbal and nominal aspects. A more general classification of entities into countables and non-countables - Almost every part of some snowing is some snowing, as (almost) every part of some water is some water. That is, unbounded color impressions, sound, smell, taste, touch impressions, unbounded surfaces, and boundaries of indeterminate length can be treated as parts of four dimensional non-countable or subjectless activities.
- 3 Treating countables as special cases of non-countables - A countable item can be treated as a mass or activity with a minimal degree of 'homomerity.' That is, count terms can be taken to refer to non-countable entities which occur only in their minimal amounts.

The last principle of the ontological category of free processes implies the contextual alignment of countable entities as non-countable entities which are at least partially 'homomerous' (like-parted) or at most rough in approximation [50]: (*MN-H*) *An n -dimensional ($1 \leq n \leq 4$) non-countable entity x is minimally homomerous iff for some n -dimensional region R in which x occurs, either there is no part of R which is an occurrence of x .* Therefore, free processes as non-countables, are a generalization of 'stufflikeness' over spatiotemporal extent, not a particular entity nor (concrete) universals*. However, such occurrence in the spatiotemporal extent implies that universals (abstract or concrete) always depend on a particular that is the logical subject of their qualitative determination [50]. 'Free processes' are general and multiply occurrent without being 'attributed' to any particular[†] and are concrete, general, independent entities [50].

14.2.2 Dynamism

A theory of types of processes that will capture the dynamism in a systematic classification of types that have characteristics or traits in common in process ontology is a departure from classical extensionalist mereology because it is not transitive* [50]. Free processes are therefore coarsely classified into residing types according to characteristic sets of mereological conditions[†]; minimally homomerous and maximally homomerous. Further and finer classification of free processes with 4-dimensional parameter space founded on the following evaluative dimensions [50]:

- 1 participant structure (types and roles of participants)
- 2 dynamic composition
- 3 dynamic shape
- 4 dynamic context

Designing illuminating information requires, unequivocally, an artistic flare and insight into the kind of classificatory characteristics common to a culture. Knowledge of the associated processes is of the essence. Some of these processes include generating,

*Universals are said to occur multiply in space, their identity conditions do not involve its spatiotemporal locations, and they are not countable by means of spatiotemporal extent.

[†]You and I, we may have the same stuff in our glasses and when we drink from them we engage in the same activity, but there is nothing, not even the space-time region to which these would be attributed as stufflike qualities.

*A recognition of the failure of the Proper Parts Principle.

[†]The formal theory and study of part-whole relationships, such as Boolean algebra that excludes the null class.

creating, gathering, storing, organizing, diffusing, using and exploiting information. It requires turning personal knowledge into a clear and concise message (see figure 14.3) which can be shared throughout a community or society at large. The design concepts and challenges are therefore central to the process paradigm. That is, challenges of semantic contextualism. In this section, we elaborate on such design processes and discuss what they mean for a culture or an identity. We will also discuss how an action based design is more advantageous than object based design.

14.3 Meaning: An Emergent Perspective

All research paradigms strive for some sort of objectivity. The purpose of obtaining objectivity is none other than convincing the rest of the scientific community that it has been performed using conventional procedures which comply with the standards set out by that community. This epistemological or ontological objectivity underlies the methods and procedures. Choosing a research paradigm is therefore halfway to understanding and explaining social phenomena. Qualitative research methods are intended to aid researchers in their understanding of people, as well as the social and cultural contexts [36]. The abstraction of the social and cultural context is thus a commitment to a metaphysical reality; a purposive process of representation, in order to qualify information and knowledge about that reality. See Figure 14.3.

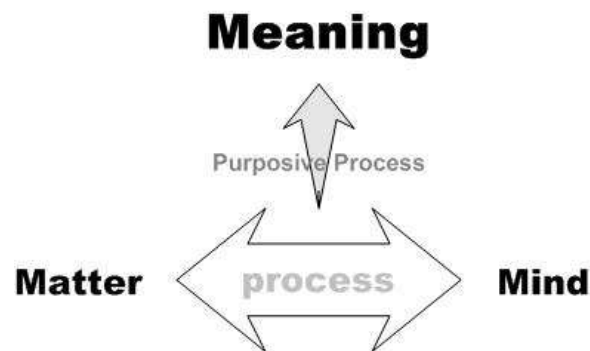


Figure 14.3 Purposive Processes.

The extension of knowledge or the abstraction of the social and cultural contexts is first and foremost, beneficial for the knowledgeable community and for its members. Since the knowledge processes involve collaboration at some level, they designedly empower the members of the community. In addition, knowledge is a part of culture and cultures are dynamic. Knowledge communities are analytical cultural entities,

forever seeking new intelligence about the world and acting alternatively and adaptively. Consequently, a prerequisite for participation in knowledge communities is curiosity and inquiry. In addition, the meaning or contextuality which emerges from scientific inquiries is our internal adaptation knowledge and wisdom, of external stimuli data and information. See Figure 14.3.

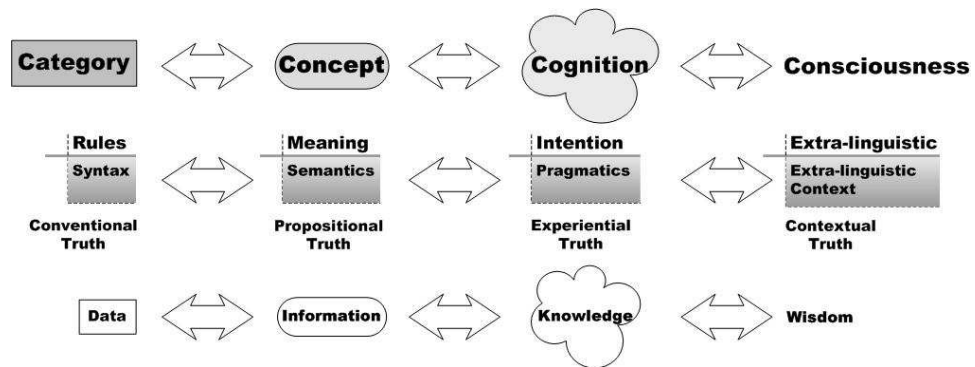


Figure 14.4 Knowledge Processes as Culture.

In accepting this world view, we forgo the concrete, object-based representational schema. What we obtain is meaning (and context, like in myths and stories) which may help our understanding of the flow of events such as know-how and practices. Seen in this context, we create our own myths and stories about cultural practices.

Part VI
Research Methodology

Chapter 15

Methodology

Thinking well is wise.
Planning well is wiser.
Doing well is wisest and best of all.
An old Persian proverb.

There are few practices, procedures, and rules in use which are comparable with that of the methodology of scientific studies. Methodology is the theoretical analysis of the methods appropriate to a field of study or to the body of methods and principles particular to a branch of knowledge. That is, methodology refers to the principles and practices fundamental to research in that field. Consequently, methodology has become a challenge in scientific research contexts. In the modern sense, "methodological" means pertaining to methods or more simply, that which is orderly and systematic. However, there is an important conceptual distinction between the tools of scientific investigation (methods proper) and the principles that determine how such tools are deployed and interpreted (methodology proper).

Having prepared such a careful deliberation of the concepts and tools, I finally arrive at the point where I discuss the primary data collected about community building practices and salutogenesis. But before I can do this I need to develop a formal framework and methodology for analyzing and interpreting them. In this chapter, I formalize the conceptual framework based on process ontology which is used as a basis for the principles of a methodology proper and therefore in practice. That is,

process ontology + contextual semantics \triangleright conceptual framework

semantico-ontological framework \triangleright methodology \triangleright practice

The research methodology of this project is based on a critical and interpretive research perspective. It is interpretive because of the assumption that "access to reality (given or socially constructed) is only through social constructions such as language, consciousness and shared meanings" [36]. However, it is also critical because of the assumption that "social reality is historically constituted and that it is produced and reproduced by people....people can consciously act to change their social and economic circumstances, critical researchers recognize that their ability to do so is constrained by various forms of social, cultural and political domination" (ibid.).

Consequently, this research is a departure from the traditional research paradigms set out by [39]. Moreover, community is socially constructed and salutogenesis in a community health context is a critical position as it presupposes the corrective, curative, reactionary approach to public health care of the dominant culture is inadequate.

The problem with traditional interpretive and critical research in IS is that although it strives for epistemological objectivity, it remains metaphysically subjective. Largely because IS research does not start with ontology proper. Instead, it acquires a social ontology or particularistic epistemologies as the basis. Such that, any claim of objectivity is only by virtue of its "collective acceptance or recognition or acknowledgement" [49]. As mentioned previously, ontological objectivity is the antecedent of epistemological objectivity. Moreover, we assume something is objective if it exists independently of the human mind and therefore independent of human subjectivity [60]. According Once again, ontological objectivity is the starting point for epistemological objectivity and thus presupposes an ontological realism (ibid.). I will now focus on the underlying conceptual framework for a analytico-synthetic methodology.

The foundation of the analytico-synthetic methodology is a dyadic framework of process ontology and contextual semantics. Whereas compositional substance ontologies (and social ontologies) purport the 'real' world (metaphysical reality) as a world of objects, process ontology characterizes metaphysical reality with change and dynamism [63]. This processual world-view or action paradigm is an established concept in IS [48] but remains unfounded by ontology proper.

Unlike the traditional substance ontologies, process ontology offers a superior exegesis of dynamic content, individuation, universals and persistence [50]. The processual view of reality is also a closer representation of real knowledge, since knowledge is not an object even though the real world might be composed of them. To be sure, to know of or knowing something is to become aware of with the mind or through one of the senses. That is, to know of something is to perceive of it. Since perception and cognition are quintessential to mind-endowed, reasoning beings, real knowledge is purely internal, of mind, by *mentalese**. According to Seibt [50], the most fundamental ontological category is 'free processes.' As such, the most basic entity may be perceived as processes or actions, as they initiate change and knowledge. Process ontology is one half the rich dyadic conceptual framework. The other half is contextual semantics, exemplified by the *Principle of Holistic Contextuality*, PHCT [42]:

*Mentalese is a hypothetical language in which concepts and propositions are represented in the mind without words (Cambridge Dictionary of Philosophy, p.556).

Only in the context of language as a whole, do sentences have semantic value

In accordance with PHCT, each sentence is well-formed and meaningful, and expresses an informational content (ibid.). That is, all actions or processes have a context in which they belong. The conceptual framework is therefore a semantico-ontological framework. This framework offers contextual analyticity in and processual synthesis by virtue of its semantic structure and the ontological category of free processes. Since the only valid and nonvacuous categories are subjectless processes, like "it's raining," and "it's snowing," this conceptual framework focuses on actions and the context of (metaphysical) reality. Moreover, process ontology and contextual semantics are mutually connected, "like two sides of a coin" (ibid.). The philosophical principles of the dyadic semantico-ontological framework may be organized into an analytic-synthetic schema using

I Contextual Analyticity - what is really going on

II Processual Syntheticity - how is it going on

The analytico-synthetic schema is a self-reflexive methodology and may be used to classify a multi-faceted problem area. That is, analyzing the basic social interactions of community building and salutogenesis, and synthesizing salutogenic community building practices. Using this dyadic framework, I will identify the community building practices, at the most fundamental level and then attempt to synthesize those salutogenic practices with the community building practices. For example, the category of "Information Design" has as a context the purpose of "Designing Information" and as an action "Designing Informatively." Furthermore, "Designing Informatively" may be seen as a complex of several other processes or actions, such as "Designing" and "Informing" which have their own context. Although, this may sound simplistic, some complexes may be indeed very complex. Nonetheless, this form of analyticity is entirely consistent within the process philosophical system, since reality is perceived as nested relations of social nexuses [40].

Chapter 16

Designing Information

”Design is the intermediary between information and understanding.”
(Richard Grefe)

Designing information is more than just visual representations. Creating information requires, unequivocally and unquestionably an understanding of social and cultural processes. A creative vision is also necessary to direct sensible, interactive and appropriate information. At the very least, information designers should possess some insight into the kind of classificatory characteristics common to a given cultural heritage and therefore a culture identity. The capacity to organize and associate information processes is also of the essence. Some of those processes include generating, creating, gathering, storing, organizing, diffusing, using and exploiting information. Such processes are instrumental in turning knowledge into a clear and concise message which can be shared by others or society at large. The design concepts and challenges are thus, central to cultural self-definition the dialogue between the individual and culture. In this chapter, I will elaborate on such design and information processes and discuss what they mean in terms of a cultural heritage and a cultural identity. I will also argue that an action-based design ontology is more inclusive than a simple object-based design as an emancipatory apparatus. In accordance with the design principles of polyscopic modeling, I will discuss the relevance of the three categories of design. See Figure 16).

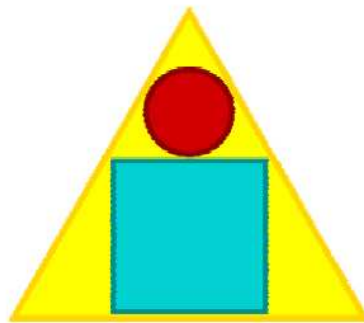


Figure 16.1 Polyscopic Modeling Ideogram [26].

Traditional informing has a information use or passive-recipient view of informa-

tion systems (IS) [48] and information design (ID) [26]. This view of information is inadequate and misleading [26]. Apart from being naive, it also purports a 'paradoxical convenience' [26]. According to Karabeg [26], information creation or design is vital for the emergence of meaning in our dynamic and social reality. This is the antecedent of 'real knowledge' as opposed to 'naive knowledge.' As the "intermediary between information and knowledge," design, *sensu stricto*, offers something closer to knowledge than that without design.

The mereological essentialism of data, information, knowledge and wisdom, shown in the Continuum of Understanding (see Figure 13), is an example of the representational and organizational processes of design which are openly aesthetic, but manages to apprehend meaning and even teleology - its role, meaning and the form that it takes. Correspondingly, the three fundamental categories of design are:

- 1 **Image** - idea or ideal conception,
- 2 **Function** - the job that must be done, (also role of meaning, signing or purposefulness),
- 3 **Morphology** - constitution, structure in accordance with functionality.

To illustrate the mereological essentialism of information to knowledge, let's consider the exact opposite; information without design. What use and purpose it has is beyond that of IS and ID research. It is not just that information without design lacks a role and meaning, it also lacks form. Without this there is no end, no teleology. Let us also consider what information is without philosophy, without ontology. Apart from not being scientific, it is nothing more than mere gossip, rumor, hearsay, tittle-tattle or just unfounded information. As such, information without design will never amount to wisdom in the Continuum of Understanding.

Nevertheless, traditional ID focuses on the design of information graphics and more generally the design of visual displays of data [52]. Although the IS approach is structured*, it is metaphysically inconsistent. Much of the inconsistency is due to the misunderstanding of "ontology" which causes conflicts in content, structure and therefore, implementation. Not surprisingly, the notion of 'ontological mismatches' is widespread. Even though computational ontologies are hierarchical data structures containing some of the relevant entities and their relationships and rules, they remain interpretive propositions based on a particularistic epistemology and is therefore an 'ontological commitment.' According to Gruber [25], ontological commitments "communicate a domain of discourse without necessarily operating on a globally shared

*It has morphology.

theory.” Thus, the acquisition of a domain ontology is somewhat equivocal since it is not based on ontological theory. Nonetheless, computational ontologies are conventional and well-organized even though they fail to specify what does or does not exist at a fundamental ontological level. That is, computational ontologies do not describe the true *nature of being*, they merely describe the *being* they interpret and nurture. Insofar as we are ontologically committed to a substance ontology, ‘a world of objects,’ we presuppose that information is an objective (mind-independent) entity since it can be generated or carried by words (words and sentences) or other products of cognizers (*Cambridge Dictionary of Philosophy*, pp.435). It is precisely the mind-independent nature of information which gives it such flexibility and versatility in its representation. The resultant ontological mismatches necessarily imply pluralism[†].

16.1 Information Designing

At this point, I list below the qualities required of information designers in accordance with the International Institute for Information Design (IIID).

- 1 be able to think both innovatively and systematically
- 2 be as well informed as is necessary about the subject area they are working in
- 3 be knowledgeable about both the communicative features of the components of visual messages and their interrelationships
- 4 know the relevant customs, conventions, standards, regulations and their underlying theories
- 5 be familiar with the technical requirements of the communications media, specifically visual ones
- 6 be familiar with human communication capabilities with regard to perceiving, cognitive processing and responding to information using all senses
- 7 be able to consider the possible benefits of the communicated information to the users
- 8 be knowledgeable about the creation of pictures and text, static and animated, as well as information other than visual one for the facilitation of task related activities and how they can be balanced to achieve optimal effects
- 9 be able to design information in a formal interesting and attractive way to conjure attention highly adequate to the communicative purpose of the message

[†]No single explanatory system or view of reality can account for all the phenomena of life.

- 10 understand to make information and information systems interactive in such a way that adjustments governed by changing requirements can be made, should this be desirable to safeguard the continuing use of the information
- 11 be able to communicate effectively in both their mother tongue and English
- 12 understand the capabilities of support sciences and such as cognitive psychology, linguistics, social and political sciences, computer science, statistics and be able to co-operate with specialists to evaluate and improve the design of messages with due regard of different cultural sensitivities of the user
- 13 have a detailed knowledge of the cost factors relating to the various design stages and their implementation
- 14 render their services in a format that corresponds both with the value they represent to the clients and the conventions required by them
- 15 behave in a responsible manner with regard to the needs of the target users and society as a whole.

In many motivating ways design processes make information and its communication more sensitive and sensible. However, design is not only a scheme of lines and shapes forming a decoration, it is more. Design is also an intention or purpose whose materialization is a visual representation of knowledge. Perhaps the most important part of the purposive processes is the emergent meaning as it represents creative aspects inclusive of design.

I now turn my attention to some of the design principles for online communities. According to Kollock [31], these principles are the key aspects of community design.

- Group boundaries are clearly defined
- Rules governing the use of collective goods are well matched to local needs and conditions
- Most individuals affected by these rules can participate in modifying the rules
- The right of community members to devise their own rules is respected by external authorities
- A system for monitoring members' behavior exists; this monitoring is undertaken by the community members themselves
- A graduated system of sanctions is used

- Community members have access to low-cost conflict resolution mechanisms

I object to some of these principles as there is too much of a focus on structure and order. These two qualities are ones that should emerge from any self-organizing system. According to Kollock, Godwin's (1994) principles for making virtual communities work are:

- Use software that promotes good discussion
- Don't impose a length limitation on postings
- Front-load your system with talkative, diverse people
- Let the users resolve their own disputes
- Provide institutional memory
- Promote continuity
- Be host to a particular interest group
- Provide places for children
- Confront the users with a crisis

Once again, there is too much of a focus on purely aesthetic aspects of community, as well as being too many. As such these community building principles neglect two key aspects of community building; self-reflexivity and purposefulness.

16.1.1 Informing

Designing information makes it easier to co-ordinate different aspects of the developmental processes, including documentation, implementation and analysis. In many interesting ways design processes make information and communication sensible by way of easier storing and easier access to empirical material. The challenge for ID is the classification of action rather than the representation of objects. ID methods are central to this type of categorization. Information processes include the creation of information, its documentation and representation. All these processes occur in the environment of information systems (software and hardware) for management purposes. The most prominent knowledgeable informing processes are (Arntzen):

Developing : acquiring, capturing, creating, discovering, etc

Applying : using, enacting, exploiting, executing, etc

Assessing : appraising, evaluating, validating, verifying, etc

Preserving : storing, securing, conserving, retaining, etc

Updating : evolving, improving, maintaining, refreshing, etc

Transferring : communicating, deploying, disseminating, sharing, etc

Transforming : compiling, formalizing, standardizing, explicating, etc

16.2 Knowledge Processes

Information Management (IM) is the harnessing of the information resources and information capabilities of the organization in order to add and create value both for itself and for its clients or customers [65]. Knowledge Management (KM) is a framework for designing an organizations goals, structures, and processes so that the organization can use what it knows to learn and to create value for its customers and community [65]. IM provides the foundation for KM, but the two are focused differently. IM is concerned with processing and adding value to information, and the basic issues here include access, control, coordination, timeliness, accuracy, and usability [65]. KM is concerned with using the knowledge to take action, and the basic issues here include codification, diffusion, practice, learning, innovation, and community building. KM is a framework for designing an organization's goals, structures, and processes so that the organization can use what it knows to learn and to create value for its customers and community[65]. A KM framework involves designing and working with the following elements [65]:

- Categories of organizational knowledge (tacit knowledge, explicit knowledge, cultural knowledge)
- Knowledge processes (knowledge creation, knowledge sharing, knowledge utilization)
- Organizational enablers (vision and strategy; roles and skills; policies and processes; tools and platforms)

Technology is common in the domain of knowledge distribution, but it rarely enhances the process of knowledge use. Distribution delivers knowledge to the potential user's desktop but cannot dictate what he or she does with it thereafter. It would be interesting to envision technologies that help to manage personal knowledge as it applies to decisions and actions. [15].

There are many community building and development strategies and organizations whose achievement varies greatly. These organizations include government and non-government initiatives where the procedures are projects based on comprehensive, community building principles and strategies. Needless to say, there is an extensive wealth of knowledge and documentation on the challenges of a community building. Some of this will be presented in the following chapters.

Chapter 17

Ethnography

In order to get rich insight into the area of community building and salutogenesis, I have chosen ethnography. Ethnographic research stems from social and cultural anthropology. It is a research method where the researcher is obligated to use the main part of the research period in the field collected primary ethnographic material about people in their social and cultural context [36]. This is because the ethnographer is supposed to engage in every respect into the social and cultural context [36]. However, there are two main problems associated with this type of research. Firstly, the researcher may become too involved such that the data collected is subjective. Secondly, due to the nature of participatory observation, field notes are not immediately taken down but written up afterwards. Although I was a participant observer, I maintained my objectivity by not becoming too actively involved in the practices I was meant to be studying. This implied openly stating my intentions in a manner which would not detract too much from the immediate activity. Other sources of primary data include emails and informal meetings and conversations. Due to the nature of the observations, I had to write-up the field notes the evening after the event. Secondary data was collected from an array of internal documents and literature related to salutogenesis and community building.

I spent the most part of 9 months in the field (from February to November, 2005) in a Norwegian-based non-government organization involved in community health promotion and prevention. My decision to leave the field was mainly influenced by the need to finish my thesis and the desire to start on another. Action research may have also been an effective technique for this study, as it evaluates changes from a critical perspective. However, due to the immature phase of the organization, no action was taken beyond the Board - the core of the community. In the next section, I will briefly summarize the organization, the research setting.

Since NaCuHeal International does not have a visiting address the annual meetings, seminars and workshops were arranged at several different settings. The first research setting takes place at the NaKuHel Foundation Centre by Sem Lake, just west of Oslo. It is the setting for NaCuHeal International Focus Group and was arranged to define the goals and objectives beyond that which was established by the co-founders of NaCuHeal International. The second setting is the caf by Frogner-steren. The purpose of this meeting was to define the use technology; a web-based approach to salutogenic community which was identified as the most cost-effective

way of implementing social change. The last field study is the business model proposal and update. The object of this meeting was to collectively organize efforts of community health workers, information technologists and others into one organized business plan.

Gaining access into an open community, was not difficult. I had access to most of NaCuHeal International internal documents, as well as contact with the central figures of the Board. I was also given access to the Board meetings and other organizational activities, such as the focus groups and seminars. Using my position, as a researcher, I developed a good rapport with the rest of the Board by actively contributing. I maintained my involvement over the study period by contributing with my own research ideas and participating in other planning and organizational activities.

Being immersed in the field for such a long period, there was a danger of me bringing my own subjectivity to bear on the research material. I tried to maintain my objectivity by reasoning and rationalizing, as well as switching roles between participant and observer. The ethnographic study extended over a period of 9 months, starting with the NCH International Board Meeting and Focus Group at the NKH Centre in Asker (by Sem Lake), 4th February, 2005 and ending with a board meeting at Frederikk Holts Hus, Ullevål University Hospital, 24th November, 2005. Field notes were taken on-site and written up the following evening. Since I was actively participating, most of the dialogue is paraphrased or in point form. The nature of my fieldwork meant that I was reflexively making sense of salutogenic community development. That is, participating in salutogenic community development and reflecting about it.

Part VII
Research Results

Chapter 18

Research Results

I have been fortunate enough to have been involved with NaCuHeal International over the past year. It turned out to be a very insightful research period where I had the opportunity to explore people's ideas and attitudes about one particular type of community. At the very outset, NaCuHeal International was born out of a dialogue between Professor Dino Karabeg and Professor Gunnar Tellnes. Both had the vision of globalizing a new approach to community health and building community using salutogenesis. The past year has been used to organize a greater collective effort. These efforts led to the European Union Public Health Association (EUPHA) Conference. At that point in time, Professor Gunnar Tellnes was still President of EUPHA. As mentioned previously, the research results will be presented in chronological order. A summary of those identified self-reflexive community building practices is found in Table 18.1.

CONCEPTS	CATEGORIES	DATA
Meaningfulness	Defining vision/purpose	Defining
Manageability	Planning and Organizing	SManaging
Comprehensibility	Collaboration	Collaborating

Table 18.1 A summary of the salutogenic concepts and community building practices.

18.1 NaCuHeal Focus Group

The NaCuHeal Focus Group was arranged at the NaKuHel Center by Sem Lake, on 4th February, 2005. It was a cold February day but the setting created a warmth felt by each individual. The focus group started in the conference room on the first floor and was moved out to the natural setting of Sem Lake which was frozen over. Some walked across the lake whilst some walked back, following the track around the lake. The focus was led by Professor Dino Karabeg. It was a group of 10 people. Professor Dino Karabeg guided and moderated the meeting, and I was a participatory observer. Professor Dino Karabeg also led the group's discussion and kept the focus on the areas he wanted to explore.

The issues explored in the focus groups raised several important questions. Some of them were forthcoming as clues and indicators. Some of the more prominent issues

were the:

- defining a common purpose of the community
- defining the roles of the participants
- developing the relationships in the community
- activities in the online community
- deontological participation

What became apparent was that NaCuHeal differs from most culture in society. The focus groups cultures are complexes of preventative behavioural patterns and perceptions, whereas societies are inconsequential behaviour. That is, in terms of mainstream society's traditions and expectations. However, society and culture are inextricably connected because culture is created and transmitted to others in a society [38]. Cultures are not the product of lone individuals; cultures are the constantly growing products of human interaction. Cultural patterns only have meaning in terms of the interaction of people.

The processes of community building practiced by NaCuHeal International is depicted in Table 18.1. The table shows the categories and concepts that surfaced from the data collected. These are the very basic actions and social interactions between the people and the organization but obviously transcend onto higher levels by virtue of the complex processual view of cultural systems and subsystems. However, this is by no means an exhaustive classification. It is general and generic to this community.

The first thing which struck me was the community building principles of Kollock and Potapchuk; all communities exist for a reason. We all acknowledged that there is a deficiency in when it comes to community health prevention and promotion. Although Gunnar Tellnes managed to influence many in the public health services, the movement remained parochial. Having realized the parochial nature of NaKuHel, Gunnar Tellnes and Dino founded the international body of NaCuHeal to put into effect a more generalized movement for developing social capital using salutogenesis. The result was the focusing of the need to develop community health together with the need for a coherent and organized and manageable means of doing so. Social capitalism was identified as a possibility and was explored in the focus group. My field notes include this example from the NaCuHeal Focus Group:

After having presented a review of Putnam's book on the decline of social capital, Dino produced another slide where he had sketched just how

social capitalism may be modelled; Dino explained synergistic business using a diagrammatic representation of the meeting point between ethical-moral goals, and the economic goal; Dino then followed this by giving an anecdotal account of synergistic business in the United States of America; Dino then explained how technology, in particular virtual community may be used as a portal between the various groups and as a knowledge base. (Field notes, 04.02.2005)

The focus group also facilitated the defining of a vision and a common purpose for the new members of the community and the Board. Since the community was growing it was important to familiarize the new members with the vision and develop a common purpose which included them. Providing such a perspective for the community is salutogenic because it offers meaningfulness. A meaning which is written as an objective of the NaCuHeal constitution:

NaCuHeal International is an association that has as its objectives to promote the public's health and safety, sustainable environments, well-being, vitality and peace. (Internal Document: NaCuHeal By-Laws)

The workshops and seminars were themselves salutogenic, being held in beautiful and peaceful settings. It mirrors the self-reflexive nature of salutogenesis and community development. Technology is the easiest cultural dimension to implement change in. The other pertinent issue was the use of virtual community. Since technology is an instrumental tool for sharing information, creating knowledge and the most accessible cultural dimension for instigating social change.

18.2 NaCuHeal Board Meeting

Whereas most community health initiatives are short lived, the NaCuHeal International Foundation has shown a real conviction and commitment to planning and organizing all of the plausible aspects of prevention and promotion. At the outset of my research, I established that NaCuHeal International comprehensively managed the organizational and salutogenic plans and goals. Not the least, the development of the salutogenic infrastructure by Sem Lake. Due to the limited nature of NaCuHel resources, the growing community would require a more extensive network and activity centers. The culmination of all the organizing and planning was the drafting of a 'Proposed Business Plan.' It was a business model which would provide continuity in the planning process, in addition to salutogenesis and community building. My field notes include this example from the NaCuHeal Board meeting:

After planning and preparing for the future meetings and as well as welcoming new members to the board. Frank gave an emphatic proposal for a business model and plan. The proposal included plans for marketing, training, management, support, as well as an arsenal of organizational overview over each organ. All member of the board applauded his work but Gunnar Tellnes was skeptical to the business approach. Afterwards the board started to plan the financial side of their work. Where to get funding, etc. (Field notes, 24.11.2005)

It was obvious. With all the plans and different organs of the community, their goals seemed to be achievable. It means that planning and organizing is salutogenic because it offers the notion of being manageable.

18.3 NaCuHeal Business Planning

It was clear from the outset that working cooperatively was the most equitable way of doing things. The community is socially organized such that there is a more equality in terms of roles and relationships. Planning and organizing allows for more to be achieved, working cooperatively not only allows more but it also facilitates learning and bonding. These two aspects are crucial in any growing community. From the outset, the cooperating members of NaCuHeal International directed much of the organizing to develop community leaders, in the private and public sector. Collaboration is a critical measure, since it delegates the power and decision-making authority. Collaboration is also a salutogenic criterion since it is a comprehensive way of approaching social problems. That is, including public and private resources. My field notes include this example from the NaCuHeal Board meeting:

[After an intensive and very productive meeting] Anne was given the opportunity to allocate the human resources for the next phase of the business plan. Instead of dictating who does what, Anne cleverly requested that each board member volunteer to do the tasks they wanted to do, accompanied with the person they wanted to work with. The plan was a smashing success, although Dino was skeptical of one minor detail. (Field notes, 24.11.2005)

Acknowledging the inherent difficulties of collaboration is as important as acknowledging its worth. Sharing power and decision-making authority is risky but it is also an emancipatory mechanism which should not be underestimated.

Part VIII

Discussion and Conclusion

Chapter 19

Discussion

This research has managed to organize in to a coherent classification scheme the salutogenic and community building practices using the contextual analyticity. As such, I have identified the three generic community building principles; defining a vision for the community, planning and organizing and collaboration. I have also discussed in brief, the key salutogenic criteria; comprehensibility, manageability and meaningfulness. In doing so, I have managed to synthesize them. Consequently, the community building principles are in fact, commensurable with the salutogenic criteria. As these are self-reflexive processes, I used the processual syntheticity to identify the fundamental process in each context. A summary of my findings is tabulated below (see table 19.1). This table will be discussed in the following section.

CONTEXTUALITY	CATEGORY	PROCESS
Meaningfulness	Defining vision/purpose	Defining
Manageability	Planning and Organizing	Managing
Comprehensibility	Collaboration	Collaborating

Table 19.1 A summary of salutogenic community building practices.

19.1 Salutogenic Community Building Principles

19.1.1 Meaningfulness: Defining

All communities exist for a reason. Defining a vision for the community not only gives it meaning, it also gives the members of the community a sense of purpose. Such a purpose makes membership and participation desirable. Moreover, if community life makes sense emotionally, then well-being is achieved. Well-being and meaning (and the vision of a healthy, vibrant community) sustains commitment to the community which is reciprocated in social cohesion and develops social capital. In this research, it was found that the promotion of the principles of salutogenesis in community health prevents ill-health culture. Since ill-health is harsh to an economy, anyone interested in a healthy workforce should participate.

19.1.2 Manageability: Planning and Organizing

Planning and organizing are critical to the success of any organization. It is particularly important to organizations where resources are scarce. Salutogenesis is also important aspects in this sense since the stronger the SOC, the more capable and better we are at coping. In this research, it was found that a strategic approach to community building maintained equality as well as coherence within the community. This made the heavy workload much more manageable, even though it was very demanding. Virtual communities are vital to this process, not only in terms of management but also in terms of support and reciprocation. That is, trust and social cohesion which increases social capital, activates social change, develops human resources, as well as improving economic performance.

19.1.3 Comprehensibility: Collaborating

Building community means working together; with governments, with the private sector and other organizations. Sharing power and decision-making authority is inherent in collaboration. Even though it is risky, time and energy consuming, it is also understood as an essential feature of community building. In this research, collaboration was practice at all levels. Even though some of the stakeholders disputed, they were able to maintain a more holistic view of what they were doing and how they were going to achieve those goals (in the short and long term). In addition, by focusing on collaboration, trust and the reciprocation of trust in social cohesion was achieved. Once again, collaboration is a self-reflexive way of increasing social capital.

19.2 Designing Salutogenesis

In no uncertain terms, salutogenic design is the opposite of pathogenic design. That is, design with a SOC as opposed to information overload. In this sense, it is more appropriate to have few page items and thereby maintain an overview. Similarly, using icons instead of text is a closer representation of knowledge and less stress-inducing. Below is a brief discussion about the principle areas of design and salutogenesis.

At the most fundamental level, the design category of Ideal Conception is commensurable with the SOC notion of Meaningfulness. Since all communities exist for a reason, designing meaning which defines the community makes membership and participation desirable. The design must be consistent emotionally for well-being to be achieved. Well-being and meaning are ideal conceptions of a vibrant community. Secondly, the design category of Function is commensurable with the SOC criterion of Manageability. Maintaining an overview also implies that design functionality is

iconographic. Icons are much more easily manageable both in terms of use and designing. Lastly, but not least, the design category of Morphology is commensurable with the SOC criterion of Comprehensibility. As the intermediary between information and knowledge, the design structure must be comprehensible in order to be knowable. Thus the design morphology has an important role as an agency to knowledge. These coarse correlations are made in hindsight and are not critically constructed. Nonetheless, they represent definitive design principles; principles which should be tried and evaluated, in terms of salutogenesis.

Chapter 20

Conclusion

This paper has presented the findings of a short online survey about online communities and tools, and an ethnographic study into the community building practices of an organization involved in community health promotion using salutogenesis. A theoretical framework for conceptualizing the community building practices was developed along with the basis of an analytico-synthetic methodology. The theoretical framework was developed to achieve ontological objectivity which is the antecedent of epistemological objectivity (the objective of all scientific research). It is based on process philosophy; process ontology and contextual semantics.

This research makes a contribution to the understanding of salutogenic community building practices for online communities. These were synthesized into three generic principles; defining a vision for meaningfulness, planning and organizing for manageability, and collaborating for comprehensibility. This research also highlights the fact that technology is the most accessible cultural dimension for instigating social change via acculturation. As such, virtual community is an important tool as a knowledge base and for accessing other cultural dimensions and practices.

Process ontology is relatively unexplored IS and ID. This research is also a methodological contribution to IS and ID. It embodies a process ontological scheme of context and action into a coherent semantico-ontological framework and methodology. This thesis has also shown that salutogenesis is an important concept in community health promotion since it focuses on those processes which foster good health and well-being. Process ontology and contextual semantics has the prospect of providing a suitable and coherent framework IS practices (by providing an ontologically objective action-based world view) and has therefore important implications for future IS and ID research. While the theoretical framework needs more work (fleshing out), an understanding that research methodologies should be based on a proper ontological theory is a good starting point.

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