AN INTELLECTUAL HISTORY OF THE SCHOOL FOR DESIGNING A SOCIETY

BY

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ABSTRACT

This dissertation traces the roots of an experimental art school for social change called the School for Designing a Society. It focuses on the history of a group of intellectuals, and their ideas, during the latter half of the twentieth century. The composer Herbert Brün (1918-2000) formulated many of the original ideas used by the school in concert with his students and colleagues at the University of Illinois. This study focuses on how their ideas about composition led to the founding of a school. It begins with the turmoil of World War II, which influenced experimental artists such as Brün; the development of cybernetics as an interdisciplinary field; the attempt of Brün and cyberneticians to offer an experimental interdisciplinary course in 1968. As the 1960s faded out, a new crop of music composition students rallied around Brün. They formed an ensemble and renewed the bridge to cybernetics; the ensemble achieved a high level of professionalism and toured internationally. Elements of Marianne Brün's course on Designing Society, and Susan Parenti's skill at organizing an experimental arts ensemble led to a 1992 proposal to start a school. Members of the ensemble needed a discursive context to engage the political and social consequences of experimental art production. Rather than scatter to various university jobs, or wrangle with the local University's structure, the group decided to create their own school, off-campus. The School for Designing a Society thus arose out of a necessity that was generated by desire.

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LIST OF COMMONLY USED ABBREVIATIONS

American Society for Cybernetics.....ASC
Biological Computer Laboratory.....BCL
Black Mountain College.....BMC
Gesundheit Institute.....GI
Performers' Workshop Ensemble.....PWE
School for Designing a Society (general concept) .....SDaS
Summer School for Designing Society (1992-1994) .....SSDS

PREFACE

I first learned of the School for Designing a Society during autumn of 1997, when I was a freshman at a liberal arts college looking for alternative education. I had recently been introduced to experimental music composition and radical social theories, and I was searching for education alternatives emphasizing music and social revolution. The School for Designing a Society was the only project I found with a community of experimental artists putting radical politics into a social practice. I moved to Urbana, Illinois in the autumn of 1998 to join the school. I participated on-and-off during the following years, including during the full 2000–2001 school year when two of the core organizers (Herbert Brün and Stephen Sloan) died.

Later, from 2005 to 2008, I served as one of the core organizers of the school: I made promotional materials, recruited students, taught classes, and pretty much did whatever needed to be done. Though the school took a non-profit approach to education, it was my role to find students and raise money for the project. Insomuch as the current society treats education as a commodity, I had to play the role of salesman. I did not work for the school in 2009 or 2010, and I took some pains in order to get some critical distance from the project. I wanted to use my insider's knowledge to write a book-length work about the ideas of the school, but I didn't want to fall into the language trap of promotion. To those ends, I decided to trace the history of the school up to the 1997-1998 school year, just before I arrived and attended classes.

My research focuses on the history and intellectual foundations of the School for Designing a Society. The process of doing the research has alienated me from its day-to-day operations in the present tense. This may have been an unavoidable consequence of the writing procedure, but lost in the process was the story of that 18-year-old boy from New Jersey, who reached out to the School for Designing a Society in a desperate search for change. In the language struggle I encountered in Urbana, I felt listened to. That is why I chose to work with the School for Designing a Society for so many years. I am glad to have written about the origins of the School for Designing a Society, and I hope my writing challenges the conventional image of potential lying in the word "school."

CHAPTER 1

INTRODUCTION

Sites of cultural production that exist outside of the mainstream are at risk of being overlooked, forgotten, and thus, for all purposes of reference rendered "invisible". The School for Designing a Society (SDaS), in spite of almost two decades of grassroots education in experimental art and social change, has not been the subject of a single scholarly article. Between 1992 and 2010 the SDaS worked with 364 students and generated dozens of projects that extend far beyond the boundaries of the SDaS itself.[1] The SDaS exists in a condition akin to the Highlander Folk School—the influence it has had in the social world is rarely attributed to it.[2] This work responds to this state of "invisibility".

I hope to show that the SDaS merits the attention of scholars who are interested in experiments in education that aspire to bring about freedom and justice. The work of the SDaS touches upon many of the classic questions of educational philosophy, as well as radical proposals of school critics of the twentieth century. However, the SDaS was not initiated by education scholars, and the educational criteria of SDaS organizers were rarely if ever attributed to educational discourses. Thus, another aim of this text is to reveal what the SDaS has to contribute to educational thought, while at the same time documenting those aspects of the SDaS project that were reproductive of existing

educational institutions. I hope this work will help readers understand the innovations of SDaS, and help to situate SDaS in the spectrum of educational thought.

My research on the school was framed by three key questions: (1) How did the currents of social and political thought of the 20th century interact with the formation of the School for Designing a Society? (2) What does the School for Designing a Society contribute to the history of radical education? (3) How does the School for Designing a Society compare to other projects that had similar emphases such as cybernetics, experimental art, and revolutionary Marxism? The triad of emphases in the third question places the SDaS within a 20th century modernist framework.[3] At the same time, the emphases trouble each other: Is the SDaS a school or an art project?

The following sections provide a preview of the discourses I will use to introduce the SDaS as a subject of analysis and critique. These discourses have been my point of comparison in what has been mainly a study of documents in the Herbert Brün Library in Urbana, Illinois. Additionally, my work has been informed by years of exposure to the School for Designing a Society, and (more recently) by interviews with four of its founding members. I use a variety of theoretical lenses to examine the development of the school. For instance, the curriculum of the SDaS is discussed in terms of philosophy and language (and thus, politics), while the evolution of the SDaS from its predecessor projects is discussed in terms of the broader history of schools as a terrain for political struggle. Multiple points-of-view may be found in each section. At the end of this chapter the reader will find a summary of the chapters that follow.

A Note on Intellectual History and the History of Ideas

This work could be considered an "intellectual history" or a "history of ideas" because in fact it is both: a history of intellectuals and ideas. I investigate how changes in the thinking of certain intellectuals affected the formulation of their ideas, and how the formulation of certain ideas affected their thinking. In both cases, the history I construct is chiefly based on the textual traces that today reside in the Herbert Brün House in Urbana, Illinois. My work is held together by a search to uncover the discourses that led to the School for Designing a Society.

Histories of both thinkers and their thoughts are reconstructed through traces of language that was left behind. The project of writing a history of intellectuals and ideas is thus a project of *interpretation*. With interpretation comes contestation: any interpretation of a text is contestable, though it must also be kept in mind that contestations are themselves interpretations. My point is not to create a swirling vortex of interpretations and contestations of historical texts. At the same time, I do not see this document as needing to be anything more than what it is: a text. The construction of text has consequences in social life, and my hope is that this writing will be useful for those in the field who seek to explore alternative pedagogical possibilities.

There are a number of avoidances I would like to stipulate, so that they may be understood as avoidances and not oversights. I have an interpretation of "intellectual history" as a genre of writing and I would like to make a few of my biases explicit. First, I neither intend to add Herbert Brün and the School for Designing a Society to the shelf of celebrated "men and ideas" nor to romanticize the marginality of the milieu. What I wish to contribute, rather, is a look at the interplay of the political economy of language

they explored, while spotlighting the conflicts and contradictions that arose in the pedagogical aspects of their work. I am not concerned with discovering anyone's *actual intentions*, and do not see any particular need to harp on the (im)possibility of such a project.[4] No intellectual history is prior to interpretation itself, nor is there any secret trick to decode the language left behind. I hope to show that the texts of Brün, his associates, and the projects that preceded the SDaS are useful in their own right, for I think that this work promises to further existing research in the domain of art, education, and social change. The work of the School for Designing a Society continues to this day, though I do not discuss the current project in the following pages, excluding those cases where it is necessary to provide context for the origins of the SDaS in the 1990s.[5]

I found that there were several attempts at experimenting with the art of education, in the interest of social change, that led to conflicts at the University of Illinois at Urbana-Champaign. Educational institutions such as Illinois have the potential to allow (if not encourage) the type of educational play described in the following pages; but in more than one instance, Illinois presented barriers and disincentives rather than encouragement. With that said, there will be little discussion of the motivations of University trends or intentions in this text. If the reader is searching for policy recommendations, few will be found. Least of all would I promote any of the structures described here as a sort of "model" to be replicated at the state or national level. The formative years of the School for Designing a Society contained attempts to trigger changes in the University of Illinois, the city of Urbana, and the United States' social system. Let the resources of this text be considered tools for educators who encourage their students to play with the organization of society.

I hasten to say that the following text would likely fall into the category of texts that both fundamentally critique capitalism while simultaneously rejecting the totalitarian command economies that have cynically been called "socialist." I reject the dichotomy between "conservative" intellectual histories that only focus on big names and ideas in the march of civilization, versus "radical" intellectual histories that only focus on peripheral groups in order to shatter the notion of progress (Birken 1994).[6] I decided to include elements of both in my writing, for the fruitfulness of the thinking found in the discourses of the SDaS owe both to the experiences of marginality that triggered the rage of Herbert Brün and his associates, as well as the privileged position of intellectuals in a resource-rich University in the most powerful country in the world. The privilege may have enabled the struggle, but it was also born of it. Attempting to act in a manner consistent with the theories one reads in college can put one in conflict with that college. This is a contributing factor to why the School for Designing a Society has mainly existed outside the space of universities since its founding in 1992. My work aimed to investigate those discourses and projects that seemed to excite these tensions to their highest form.

Method of Selecting Methods

I chose to research the ideas of the School for Designing a Society in terms of the history of the ideas, chiefly by means of reviewing and studying documents that were left behind by its founding members, as I attempted to provide an interpretative account of the history of the school and it's evolution of both ideas and activities. I had permission to use material from the Herbert Brün Library in Urbana, Illinois. I also participated in

organizing the material in the archive: during 2008 and 2009, I digitized 91 video tapes (8mm camcorder videos) donated by Maria Isabel Silva to the archive. I outlined the contents of the 46 tapes of the early School for Designing a Society sessions, each of which contained 2 hours of footage and a total of 90 hours of logged footage. More footage was available for some years than it was for others (see Table 1.1). Finally, I used the tape logs while writing about Brün's fundamentals in Chapter 2, and the first sessions of the SDaS which are described in Chapter 5.

The other major source of information from the Herbert Brün Library, was a collection of three file cabinets: one from Herbert Brün's office at the School of Music, one from Susan Parenti's record-keeping on the Performers' Workshop Ensemble, and a third that incorporated elements of both, including files on the School for Designing a Society, seminars, house theaters, the trip to Germany, finances, the Designing Society course of the 1980s, and the Institute for Global Thinking in the Systems Age. Being roughly the first person to conduct research on the SDaS by using these files as a source, I organized and named the drawers of files before using them. I assigned permanent numbers to 58 folders on Brün's scholarly work with the University of Illinois (cited as "Education Folders" hereafter), 73 folders on Brün's work with other institutions including UNESCO, the Center for Inter-Cultural Documentation (CIDOC), and German writing (cited as "Pre-PWE Folders" hereafter), 68 Folders on the Performers' Workshop Ensemble (cited as "PWE Folders" hereafter), and 43 folders on the Herbert Brün Society itself. I also digitized and logged the contents of Brün's Seminar Reserve Files, which added another 2,498 pages of articles, scores, and even student work from Brün's Seminar for Experimental Composition, which he taught for thirty years at Illinois.

I handled the material on the School for Designing a Society differently, given that I had also collected written traces of the SDaS informally before this study began. I looked at Parenti and Brün's notes on the SDaS in the above-mentioned file cabinets, but I chose not to use them. Instead, I assembled a collection of flyers, brochures, web page descriptions, course descriptions, schedules, maps, student rosters, and budgets for every year from 1992 to 2008, and I combined those with the video footage, interview content, and published output of the organizers from the same period supply content to my discussion of the SDaS.

I had to limit the quantity of material I looked at because the combined output of a community of artists was there in the file cabinets, and most of it was outside the scope of my research questions. I did not listen to Brün's roughly 1,000 reel-to-reel audio tapes, some 300 of which had been digitized at the time of writing. I barely used his 70 opus works for which there are scores, though I found his computer music relevant to a few ideas of the SDaS. I did not study Brün's 1,056 computer graphics, most of which are in the Herbert Brün Library. I did not study or discuss the 20 or 30 House Theater events that were produced largely by Susan Parenti, with scripts, scores, and notes in the Herbert Brün Library. In short I only mention the art in the archive when it is was clearly in the domain of education and ideas that contribute to the development of the SDaS.

I wanted to know how a group of artists and activists came to found their own school, but I discovered gaps in the archival records that left some key questions unanswered. I decided to interview four of the founding members of the SDaS: Marianne Brün, Arun Chandra, Mark Enslin, and Susan Parenti. These interviews succeeded in uncovering connections that were not otherwise documented.

I knew the organizers of the School for Designing a Society because I had worked with the project intermittently since 1998. Over the years, I acquired broad knowledge of its history, including copious detailed notes, most of which were irrelevant to the social questions and pedagogical innovations that became the focus of my writing. In a gesture of disclosure, I will name the organizers of the SDaS whom I consider personal acquaintances: Marianne Brün, Michael Brün, Arun Chandra, Danielle Chynoweth, Mark Enslin, Carol Huang, Judith Lombardi, Susan Parenti, Laurence Richards, Maria Isabel Silva, and Ya'aqov Ziso. All have informed my sense of the history of these projects. I also knew Herbert Brün (1918-2000) and Stephen Sloan (1948-2001) during the final two years of their lives; I considered them my teachers, while I attended the SDaS during the 1998-1999 school year.

To be clear: I do not consider the informal background knowledge I acquired while working with the SDaS, in itself, to be research on the history of its ideas. Rather, this awareness informed my work during 2008-2010 when I finally researched the history of the School. I include the existence of these background discussions not to bolster my claims' accuracy, but to expose that my background on the subject comes from its own history of lived experiences in constructed situations. When one writes the story of a community after living amongst that community for a decade or more, it is irresponsible not to mention who specifically had been spoken to.

Consider the following case. I became interested in the development of Heinz von Foerster's concept of "legitimate questions" (questions that remain unanswered), which is an idea that has been taught at the SDaS.[7] A quick Internet search reveals dozens of sources that discuss the concept, many of them providing stories about where von

Foerster's ideas were coming from. I could have, like many others, started my research with the Internet, exploring the literature around von Foerster. Instead, I started from my experiences at the SDaS, and the archive at the Herbert Brün Library. That wasn't the end of the research, but it was indeed a starting point.

In 1999, Stephen Sloan, a former student of von Foerster handed me a copy of a little booklet that von Foerster *himself* had constructed to disseminate his idea about "legitimate questions". The content of the booklet was the typewritten presentation notes of a talk von Foerster gave at a conference in Italy (von Foerster 1990). Years later, I heard that von Foerster had a friendship with Ivan Illich in the 1960s and 70s and that they had a series of meetings in Cuernavaca, Mexico, with Herbert Brün in attendance. I found a reference to the friendship with Illich in a book about von Foerster (Müller and Müller 2007). Thus when I wanted to look for influences on the development of the idea, I looked in the Herbert Brün Library and searched for notes that lead to the document produced from the meetings in Cuernavaca (von Foerster 1972). Therein I found references to "legitimate problems," which seem a likely predecessor species to the "legitimate questions" that people today attribute to Von Foerster.

The tactic of tracing the roots of an idea by means of speaking with the friends of the intellectual that posited them may be considered suspect. Friends have a way of sentimentalizing their intellectual forbears, and exaggerating their accomplishments. Still, given that the ideas of the SDaS often went unpublished, I found it necessary to use this method to trace the lineage of the thought, and to uncover its sources within its context. I am not interested in converting Heinz von Foerster or Herbert Brün into heroes. The field of history has, since the 1960s, shifted toward a more complex inclusion of multiple

voices, stories, and interests that are oftentimes conflicting. This has changed the role of history in our society, as well as complicated its credibility as can be expected in any terrain of contested "facts" (Hoffer 2004). When discussing an intellectual's contribution to educational theory, I have thus endeavored to avoid Modernism's originator myth, the notion that some geniuses simply stand outside of history and produce knowledge, and are not themselves produced by it. I would like to situate the origins of the SDaS in history.

I have included voices from outside the milieu that I am writing about in order to demystify the originality of their thoughts. Other authors have been swept into the originator mystique associated with, for instance, Heinz von Foerster and Humberto Maturana. Authors have claimed that these two introduced a paradigm shift by showing that communication between two individuals does not involve "transmitting" anything (Rasmussen 2001); John Dewey, writing on the same subject half a century earlier declared that "in the literal sense, any transfer is miraculous and impossible" (Dewey 1916/1997, 67). The alternative view would be one that is grounded in the intellectual autonomy of both parties, and the mutual influencing (not causation) of changes-of-state in the other over time. This paradigm shift, whenever it might occur, would be politically transformative of the relationship between students, teachers, and curriculum. A complex look at its earlier articulation in the era of Progressive Education and its recapitulation in an activist school founded in 1992 may shed some light on the intergenerational suppression of humanizing pedagogies in the twentieth century.

Survey of the Intellectual Roots of the School for Designing a Society

To analyze the School for Designing a Society (SDaS) as a school, one faces a problem of logical types. Is the School for Designing a Society a school? If so, in what sense? In the sense of Lackoff and Johnson (1980) "the school" was the "target domain" for my study, while the "School for Designing a Society" was my "source domain." Stated differently, my research aim was both to better understand the social institution we know as "school" while my research material came from a specific project. The theory of metaphor proposed by Lackoff and Johnson is apropos because the logics of "school" and "School for Designing a Society" were differentially appropriate/inappropriate to describing various aspects of the other. Parts of the concept of "school" (advising, grades, matriculation, syllabi) never fully materialized within the SDaS. And part of the SDaS (emphasis on desiring, aggressive intervention in the way people speak, performativity) cannot be reasonably assumed anytime one invokes the category of "school." Therefore, to use one as a stand-in for the other will both exclude certain aspects of one, while simultaneously adding features not present in the other.

The SDaS was a conceptual misfit, so to provide references I looked to other projects with a similar type of misfit, for comparison. I wanted to find projects that were similar in their dis-similarity, in addition to looking at the overlap of the SDaS with existing schools, namely the University of Illinois. Given that the two institutions were developed in Urbana-Champaign, Illinois, I was in a good position to find resources in their respective libraries, and to compare the two. At the same time, it became clear that the story of the SDaS was a story of distinguishing itself from the University of Illinois. At time of writing, the SDaS continues to operate in downtown Urbana, with scarcely any

activities on Illinois campus. This begs the question what were the ideas and practices that led a group from the University of Illinois to start a separate school in the same town at the University of Illinois?

The school's intellectual roots reach back to atonal music, cybernetics, the politics of language, the Frankfurt School, radical feminism, Marxian political economy, and constructivism. These are radical fields of thought.[8] A combination of any two of these would probably produce interesting results, let alone an attempt to hold them all in balance in a singular discourse. The synthetic play afforded by such rich ingredients logically generated a multiplicity of consequential discourses and counter-discourses. For sake of clarity, I will here focus on atonal music, cybernetics, constructivism, the Frankfurt school, the Situationist International, Paulo Freire, the Highlander Institute, and Black Mountain College.

Atonal Music

The origins of the School for Designing a Society come out of the work of Herbert Brün, and Herbert Brün comes out of interwar Germany—an exiled musician.[9] European traditions of art ruptured along the fault lines of the world wars, and the flight from tradition was accelerated by technological developments throughout the twentieth century. Arnold Schoenberg's compositions from the era of World War I are often cited as the beginning of what was called "atonality".[10] This problematic term has been used to refer to music written in the Western tradition that avoids the use of a tonal center.

There was a backlash against atonal music and thus, its aesthetics are less well known today than that of the Dada Movement, Surrealism, or Existentialism. All were international art movements that radically rearranged the elements of their media, but the

latter used image and text. Hence, the art of the twentieth century is frequently remembered in terms of collages, manifestoes, paintings, poetry, and theater. Today one can point to schools with visual art departments dedicated to non-representationalism, while their schools of music do not teach atonal composition theory.[11]

Herbert Brün was arguably the last professor at the University of Illinois whose training could be traced directly to the atonality movement. Brün was professor of music composition at the University of Illinois from 1964 until his death in 2000, but his experimental composition work goes back at least as far as his studies with Stefan Wolpe from 1936-1938 in Jerusalem.[12] He called his first opus, Five Pieces for Piano (1940-1945) "my first, and, as I now know, successful attempt in meeting the contempt that tonality had for me and its lovers." (H. Brün 2004, 304). Brün also conducted research in electro-acoustics in Europe during the 1950s, when the idea of electronic music was still in its infancy. He was not interested in using computers to reproduce the acoustics of conventional musical instruments (cf. the electric guitar), but rather the exploration of new acoustics. It was in this context that he was invited to be guest lecturer in the electronic music studio at the University of Illinois in 1963.

Brün taught a Seminar for Experimental Composition in the School of Music at Illinois for over 30 years. Schools for experimental art are historically rare (see Table 1.2 in Appendix A), but the seminar was a laboratory for Brün, where he could develop his ideas about music, society, and technology amongst graduate students and fellow composers. The significance of his early exposure to atonality was that it was an avoidance-oriented system of composition linked to political struggles. In the 1960s and 1970s, his computer work led to a computer program for generating graphic works of art,

and a program called SAWDUST that could use the spaces in between the conventional pitched notes of the 12-tone octave of western music. In the 1980s, Brün co-founded a touring ensemble of performers with several of his graduate students, who would often give lectures and workshops alongside their compositions. Many of the projects described in the following pages, including the School for Designing a Society itself, were developed from the discourses that emerged in Brün's Seminar for Experimental Composition at Illinois. Equally important, however, was Brün's exposure to cybernetics and the Biological Computer Laboratory where he taught alongside Heinz von Foerster from 1968 to 1974.

Cybernetics

The ideas that launched the School for Designing a Society draw from cybernetics, particularly the last stage of cybernetic research in the United States, before it mutated into other forms in the 1970s. It is impossible to introduce the history of cybernetics in a few pages.[13] Nevertheless, an effort (albeit strained) to introduce some of the main concepts should help in understanding what is to come in the following pages. I hasten to mention that cybernetics has been criticized for providing tools of control and surveillance to the state (Anonymous 2001, Gerovitch 2002). Some background on what cybernetics was and was not may help distinguish different attempts to use cybernetics to modulate power between World War II and the Vietnam era, and how those attempts became input to the SDaS decades later.

The term cybernetics was coined to refer to the mathematical basis for applying biology to electrical engineering. Cybernetics was defined as "the science of control and communication in the animal and the machine" (Wiener 1948). In short, the circularity of

self-regulating systems of the body (body temperature, etc.) was modeled mathematically, and electrical circuits were constructed to regulate machines in similar ways (e.g., the thermostat). The power of servomechanisms, brought forth via the concept of recursive causality, was first realized during World War II. Norbert Wiener (who coined the term "cybernetics") helped develop the first heat-seeking missiles. Alan Turing (known for his "Turing Machine") helped develop the cryptanalytic tools to decipher Nazi messages sent through the German message-coding system Enigma. Though cybernetics found endless applicability after the war, Wiener and Turing ceased to work for the state soon after the war ended.[14]

From 1946 to 1953, a series of conferences chaired by Warren McCullough, which came to be known as the Macy Conferences, further advanced cybernetic theory by focusing on developing a general science of human cognition. Discussions at those meetings drew upon information theory for engineering communication systems (Shannon and Weaver 1949). Notable attendees included cultural anthropologists Margaret Mead and Gregory Bateson, and John von Neumann (of the Manhattan Project) who had just published his seminal *Theory of Games and Economic Behavior* (1944). Pioneering cyberneticians from mathematics, neurophysiology, and engineering were present, as well as a young Austrian electrical engineer named Heinz von Foerster, who was hired as the transcriptionist for the meetings.[15]

After the meetings ceased in the mid-1950s, the vocabulary of cybernetics slowly leaked into all sectors of society. Much of this terminology is now used colloquially: feedback, self-regulation, noise, systems theory, artificial intelligence, interdisciplinarity.

This is due in part to the flourishing of organizations and societies for the study of general systems theory and cybernetics that were established in the following decades.[16]

In 1964, Warren McCullough founded the American Society of Cybernetics (ASC) to continue the work of applying mathematical formalism to multidisciplinary problems. By the late 1960s, however, the political atmosphere in the United States had begun to orient some cyberneticians toward social concerns; one of those was Heinz von Foerster, then professor of engineering at the University of Illinois. He proposed for cybernetics to depart from traditional research and to place stronger emphasis on the role of ethics, uncertainty, and the participation of the observer in the observed (von Foerster 1973). Around the same time there was a shuffling of national research funding priorities, which led to a rise in the stature of Artificial Intelligence as the dominant discipline for synthesizing mechanical and living system research (Umpleby 2003). At the same time, nearby fields such as Systems Dynamics took the applicability of cybernetics to new heights by looking at the entire global ecosystem as a formally-definable system (Meadows, Meadows, et al. 1972). This multiplicity of new directions scattered the formerly unified field of cybernetics, leaving the more epistemologically-focused proposals of von Foerster untouched for the better part of the 1970s while the ASC went on hiatus.

When the ASC was re-constituted in the 1980s, Brün and the Performers' Workshop Ensemble became key participants. Art and education became central concerns for the ASC, and the decades of research from the first wave of cybernetics provided ample material to be applied to the social fields they typically excluded. "Second-order cybernetics" became the main interest of the ASC and a major influence

in the work of the founders of the School for Designing a Society (M. Brün 1985; Parenti 1985; Parenti 1987). After the school was established, associated scholars continued to theorize interdisciplinary connections, including Judith Lombardi's work on composer Herbert Brün and neurobiologist Humberto Maturana (Lombardi 1996), and Laurence Richard's work on Heinz von Foerster, the construction of knowledge, and social change (Richards and Young 1996).

(Radical) Constructivism

Second-order cybernetics, and Heinz von Foerster in particular, have been associated with a strain of philosophical thought known as "constructivism" (Segal 2001). Ernst von Glasersfeld became known amongst cyberneticians for his formulation of a "radical constructivism" that emphasizes the absence of verification, the impossibility of transferring knowledge, and the ultimately individual nature of truth constructions.[17] The foundational texts of the SDaS also rejected the idea of an objective, fixed, external reality. The founders of the SDaS saw language as the element of any system that names the system. Some of their epistemological claims may therefore seem to have been in line with radical constructivism. Their aims, however, were about as close to von Glasersfeld as they were to Dewey.

John Dewey articulated a constructivist concept of education, and many of his ideas were reproduced by constructivists in the 1980s (Hein 1991; Philips 2000)—namely, that there is no knowledge built up in people outside of their experience of the world. Dewey emphasized student experience, in addition to considerations of curriculum (Dewey 1902). He thought technology and psychology could help bring about a more desirable social order, though he did not live long enough to see the development of

cybernetics.[18] Dewey was arguably the first philosopher to use Darwin to pose a theory of morals derived from natural theory (Popper 2008). His often-cited framework of "learning" in terms of "growth" (that a school must allow a student to develop, to discover, to learn) signaled that the school cannot substitute for the student's own growth process. Similarly, cybernetic explanations of Darwin focus on constraints, as opposed to cause-and-effect (Bateson 1967). Cyberneticians agree with Dewey that education does not consist in causing people to learn. Consider the metaphor of a lock: if one wants to open it, one can use the key; but there are also several differently shaped picks that may undo the lock. The lock provides constraints, not a cause. Constructivists simply added an emphasis on the absence of a timeless and objective truth (von Glasersfeld 1981).[19]

The School for Designing a Society co-existed in a milieu that included radical constructivists, but it is not itself a radical constructivist project. The founding ideas of the school fall much more closely in line with social constructionism.[20] Radical constructivists have claimed that any description of the world "cannot be more than one individual interpretation" (von Glasersfeld 1982). The absence of a correspondence between a word and the thing it supposedly refers to is one of the oldest ideas of linguistics, namely that signs are arbitrary (Saussure 1916). By itself, the non-correspondence between an individual's constructions and external objects can only provide a philosophy of individualized contemplation. It leaves the issue of hegemony untouched and lacks sufficient tools to explain why a group would work together for a different society. Ultimately, the site of relevance for human constructions is the social. Constructions in the context of society have a different non-objectivity than the non-objectivity of an individual's calling. Focusing on individual construction supplies no

resources for critiquing regimes of power based on the mass-circulation of language programs in the social domain. Absent a critique of hegemony, constructivism is analysis at the service of whoever uses it.[21] It is the mobilization of constructivist analysis to call out the contingencies of contemporary regimes of power that brings a constructor to a place where "designing a society" may be in play. "While I may be free to express my thoughts in a free society, the words at my disposal may not be free at all. Ignorance of this fact is what turns the thoughts of free people into the thoughts of slaves" (H. Brün 1986, 2). A social constructionism that is loosely associated with second-order cybernetics might occasionally look like "radical constructivism" but it is radically different.

The Frankfurt School

The Frankfurt Institute for Social Research (hereafter "the Frankfurt School"), well known for its analyses of post-War society and revision of Marxist thought, was a source of modern social theory for the School for Designing a Society. Certain experiences of key Frankfurt School thinkers parallel those of Herbert Brün, who knew Theodor Adorno in the 1950 and 1960s (see figure 1.1), and with whom he shared a background in atonal music composition.[22] Today, Adorno is better known for his critique of what he termed "the Culture Industry": the industrial mass-production of art-forms (particularly music) circulated in the commodity form by the capitalist class (Adorno 1938, Adorno 1975). Brün used Walter Benjamin's (1935) *Art in the Age of Mechanical Reproduction* in his Seminar for Experimental Composition.[23] The School for Designing a Society was founded by an ensemble of music composers and performers who shared the sentiment

that music should not be surrendered to commercialism, and that composition could be an input to society.

Some have claimed that Adorno's writing was a sort of literary counterpart to atonal forms of "new music" (Gandesha 2004). His jarring formulations, such as those in *Minimia Moralia* (Adorno 1951) find echoes in the writing style of Herbert Brün (1986)

Figure 1.1 Herbert Brün, Marianne Brün, and Theodor Adorno, circa late 1950s or early 1960s. From the Herbert Brün Library in Urbana, Illinois. Photographer unknown.

and other organizers of the School for Designing a Society (cf. Enslin 1995). Adorno's proposal of a negative dialectics (Adorno 1966) was probably formative of Brün's ideas about the decay of systems, contradictions, and their irresolvability. In the classic Hegelian dialectic, the thesis and antithesis are resolved in synthesis. In the negative dialectics developed by Adorno, the synthesis maintains tension between the two

contradictory theses. In a 1977 lecture on music theory, Brün states that "it does not iron out the contradiction if I know it — it does not put it away — it sits there and it is my subject."[24] The starting point of Brün's lecture was the notion that radical thinkers (including composers of new music) exist in a state of contradiction.

The discourse around contradictions and dialectics goes back, in the European tradition, at least as far back as Kant and Hegel.[25] Karl Marx posed a dialectical conception of history that pointed to an eventual sublation, or synthesis, of contradictory class interests in the historical development of capitalism. In short, he predicted an era of social revolution (Marx 1859). The Frankfurt School, however, was part of a generation that had seen enlightenment ideas at the service of Fascism, Stalinism, mass propaganda, and the Nazi Holocaust. A seminal text of the Frankfurt School begins "the fully enlightened earth radiates disaster triumphant" (Horkheimer and Adorno 1944). The Frankfurt School provided new critiques to "explain mistaken Marxist prognoses, but without breaking Marxist intentions" (Habermas 1987, 116).

To be specific, Marx lived in a time in which Freud, the radio, and mass culture were yet to be invented. The twentieth century had brought forth new forms of ideology and new manifestations of popular belief that had to be theorized and debated, and the Frankfurt School provided ample, if not always agreeing, images of where the path forward might lie. A pressing issue was how to understand the acquiescence to fascism without only blaming the figureheads (Hitler and Mussolini), while simultaneously critiquing America and the Soviet Union, who now dominated the global political economy. A proposed culprit would be the everyday life habit of belief in language.[26] Indeed, people had been instrumentalized by the language of various ideologies. The idea

that language could be seen as speaking through people, rather than assuming only that people speak through language, particularly through the language of advertising and the use of adjectives (Marcuse 1964) finds direct parallels in Brün's writing.[27] Hannah Arendt (1963) contributed, amongst other ideas, the concept of the "banality of evil"—the notion that there was no necessity to find a "monster" to carry out the terrible acts of, say, the Nazi Holocaust. Rather, a banal common-man ready to go with the crowd could be led to do terrible ("evil") things if given the proper context. Banality and boredom became indicators of uncritical compliance with the status quo for another dispersed "school" — the Situtationists — who focused on the role of the arts to provoke people out of complacency.

Situationist International

The Situationist International (SI) emerged in Europe in 1957 out of the dispersed energies of the Bauhaus, the Lettrist International, and various disaffected former surrealists and other young artists in post-war Europe. The Situationists are remembered for their contributions to language, analysis, situation-based art, and reformulations of Marxian theory. They never had a campus or a center, but instead functioned as network of artists. They held meetings, had a concept of membership (or, at least, a strict sense of who was in the SI) and they published the journal *L'Internationale Situationniste* (Knabb 1981). Most famously, the SI is credited with playing a major role in the Paris riots of May 1968, following two years of saturating the non-Stalinist left, workers and students groups, with Situationist ideas (Viénet 1968).

The most outspoken members of the SI, from its founding, were critical of post-WWII society. The following is from a preparatory text for the July 1957 conference at Cosio d'Arroscia, Italy, at which the Situationist International was founded:

> First of all, we think the world must be changed. We want the most liberating change of the society and life in which we find ourselves confined. We know that such a change is possible through appropriate actions. Our specific concern is the use of certain means of action and the discovery of new ones, means which are more easily recognizable in the domain of culture and customs, but which must be applied in interrelation with all revolutionary changes. (*Report on the Construction of Situations and on the International Situationist Tendency's Condition of Organization and Action* by Guy Debord, 1957. Reproduced in Knabb 1981, p. 17)

The name "Situationist International" echoed the International Workingmen's Association (a.k.a. the "First International"), the communist "Second International" which lasted until WWI, and the Communist International (a.k.a. the "Third International") which was organized out of Moscow during the interwar period. The SI was critical of totalitarian societies enforced behind the Iron Curtain as well as so-called capitalist democracies that dominated West Europe and its colonies. The SI concept of revolution ultimately aimed to abolish the capitalist mode of production, the spectacle-commodity, and to establish a classless society in which decisions about production are carried out be workers councils (Situationist International 1967/1981). The SI officially disbanded in 1972; though several groups continued to echo their ideas, such as anarchists in the United States (Black 1997).

What ideas did the Situationist International contribute to critical discourses? Their school of thought was framed by their proposal to compose alternative situations to combat the norms of daily life under capitalism. The SI was to be an international, anti-colonial, revolutionary movement. Echoing Marx (1867), Debord (1967) expanded the

critique of commodity fetishism and alienation to mass media spectacles.[28] In his view, modern production was increasingly oriented toward the manufacture of images, life had become stupid and boring, and people were increasingly experiencing life via representations—the alienation of everyone/everything. Various Situationist responses can be found in *L'Internationale Situationniste* (Knabb 1981), and the key texts of the SI (Debord 1967, Vaneigem 1967). The idea of "detournement" is one of the more well-known Situationist tactics. A French word roughly meaning "diversion," the SI concept of detournement referred to the collision of two or more things that otherwise aren't found together, in such a way that the conventional meaning is subverted. One of the most common examples of this is the Situationist tactic of presenting mainstream comic strips with the original words deleted and replaced with passages from Marx. The Situationists are also remembered for their slogans, many of which were spray painted on the wall of Paris and provincial cities during the spring 1968 uprisings (Lewino 1968).

The Situationist International collaborated with students in their writings, including their pamphlet entitled "On the Poverty of Student Life" (Situationist International 1966).[29] In the pamphlet, they theorize student life as a rehearsal for becoming a conservative element in the society of the commodities spectacle. What about the critique that school life ought to be more like "real life"? The SI calls it a distraction from the task of disrupting the social order itself. They posit that people focus on schools in order to hide from class struggle. For example, when parents bemoan the poor underfunded schools, they are distracting from their own poverty and servitude (1966, 320). Students, furthermore, know that they are being managed such that they have no money, so they stylize their poverty and flaunt elements of it as though it were their

choice. The student is "subservient to the two most powerful systems of social authority: the family and the state," a submissive baby that is the ideological pawn in the game of capitalism (1966, 321). "Hence the ridiculousness of those nostalgic professors, embittered at having lost their former function as guard-dogs serving the future masters for the considerably less noble function of sheep-dogs in charge of herding white-collar flocks to their respective factories and offices in accordance with the needs of the planned economy" (1966, 322). The SI texts on education are distinguished by the fact that they nowhere regard education as a "privilege" or a "good" of any sort.

The Situationists themselves were "well educated" though the expression seems odd to apply to such thinkers.[30] Guy Debord wrote, in 1960, that "the lecture, the exposition of certain intellectual considerations to an audience, being an extremely commonplace form of human relations in a rather large sector of society, itself forms a part of the every day life that must be criticized" (Debord 1961). They self-consciously intervened in the workings of art critics and university functions, philosophical discourses, and urban planning policy. They borrowed from the manifesto form used by Marx and later revolutionary art movements, such as Dada and Surrealism. And, for better or worse, they were torn apart by infighting, after the 1968 coalition of students and workers councils failed to bring the French government to collapse. Vaneigem quit the SI in 1970, and Debord disbanded the remaining members in 1972. He and Gianfranco Sanguinetti co-authored a notorious farce letter to heads of state proposing to save capitalism in Italy, which is cited as an early text of the Autonomist movement in Italy (Sanguinetti 1975). Debord committed suicide in 1994.

Situationist ideas persisted after the 1960s and influenced activists, particularly those drifting into urban psychological themes of late capitalism and media studies.[31] Their openness to plagiarism has been taken up by various promoters of open source, anti-copyright, and anarchist pamphleteers. The SI was Marxist, though they rejected "isms" and they never established a school building or a planned program per se. The one organizing structure they consistently advocated was the formation of workers' councils to make decisions about production. But the main image one gets of the SI is one of a group of avant-gardist men in Europe, who formulated slanderous critiques of modern alienation, played with the structures of their cities, pamphleteered and sabotaged meetings, while trying to organize broader revolutionary actions primarily through literary means, meetings, and occupations. Their art consisted chiefly in blurring the line between their preferred mode of struggle and existing social life, constructing revolutionary texts and situations rather than producing paintings or songs.

Paulo Freire

Interesting parallels may be found between the School for Designing a Society and the ideas of Paulo Freire. This was probably due to the fact that some SDaS organizers encountered his work (Freire's writings are included in the Reserve Files for Brün's *Seminar for Experimental Composition*).[32] It also likely owes to the fact that Herbert Brün and Heinz von Foerster encountered Ivan Illich around the time of his collaboration with Freire, in the early 1970s. Freire himself met and spoke with a very wide variety of groups, including Illich's Center for Interculture Documentation in Cuernavaca, Mexico. He never encountered the School for Designing a Society, but his

influence can be felt in relation to his concepts of conscientization, and the formation of cultural circles.

Freire's pedagogical work began in the early 1960s; his campaign to spread literacy to Brazil's impoverished communities led the government to initiate hundreds of cultural circles around the country. There was a coup d'état in 1964, Freire was exiled, though he would continue to reflect on his dialogical methods of education, working briefly in Chile with agricultural workers before publishing some of his most important works: Pedagogy of the Oppressed (1972) and Education for Critical Consciousness (1973). He taught at Harvard University in the United States, the World Council of Churches in Switzerland, Guinea Bissau during the end of Portuguese colonialism, São Paulo where he became Secretary of Education in 1988, and El Salvador in 1992 at the end of the civil war (Freire 1992; Freire 1993). In all cases, his pedagogy tended to fuse Marxist class struggle, liberation theology, and dialogic practice as embodied in the cultural circles.

Parallels with the School for Designing a Society are found in Freire's ideas about language, dialogue, and consciousness. Freire's cultural circles used "generative words" to provide component parts of larger words and the political meanings to generate dialogue and attach significance to the whole process (Freire 1973). They also used images to provoke critical self-reflection upon the learning context itself. Freire described his work as "dialogical and problem-posing education" (Freire 1970, 19) and he described his literacy education in terms of learning to "read the word" by means of "reading the world" (Freire 1992). Brün once remarked that "as long as you don't learn the language, [it] speaks louder than you" (H. Brün 1986, 34). The generative words

technique involved taking the parts of a word (a common example is the word "favela" which is Portuguese for "slum") and then using its constituent parts ("fa" "ve" "la") to do what is known as repetition and variation in the arts to generate the parts of many other words that have similar syllables. At the same time, a political discussion about the social significance of the words could accompany the lesson, especially if the words were themselves tied to policies that one could affect in elections in which literacy would be a precondition for voting rights. "Everybody's words played with me until I learned to play with everybody's words" (H. Brün 1986, 31). In the appendix to one of his earliest works, Freire presented ten drawings used to represent "situations" discussed in the cultural circles launched in Brazil when he was working in Adult Education in that country. The final scene is a representation of a cultural circle itself, paradoxically placing the cultural circle in the context of itself, as a way of showing that literacy makes sense "as the consequence of [people] beginning to reflect about their own capacity for reflection" (Freire 1973, 81). This concept of critical self-consciousness was so important to Freire that he coined the word conscientization to refer to it.

The power of Freire's ideas, in part, rested on their applicability to other educational scenarios that do not involve literacy education or cultural circles. Freire fundamentally theorized power dynamics in human relations. He rejected the dynamic of one party or class giving monologues and speeches, pouring education into the heads of the passive others. He saw the potential to approach revolution via dialogue, and he opposed the vanguardism that only used education as indoctrination. His point was not to posit a solution so much as a process in which people could encounter their own

incompleteness. He wanted democratic processes in the schools, and was not afraid to speak and write about the importance of love (Freire 1997).

So, while he indeed advocated revolution, Freire's was an image of revolution by means of people organizing themselves via dialogue, not that of a savior revolutionary who paves over the preceding culture with propaganda and slogans. He wanted the creative minds of the people, their hopes and dreams, to be a resource for social revolution, and he saw the realm of education as the place where creative visioning of alternative social realities could be engaged in theory and practice. In many ways, this was precisely the spirit of the School for Designing a Society. And, as with any educational project trying to exist in a realization of Freire's ideas, it is imperative to develop the work according to the specific context.

Myles Horton and the Highlander Folk School

It is impossible to disentangle the educational theories of Myles Horton from the Highlander Folk School, which he co-founded in 1932 in Monteagle, Tennessee. Highlander was involved in organizing the labor movement during the 1930s and 1940s; in the 1950s and 1960s, it focused its attention on civil rights activism. The school was founded on the notion that people could confront reality and change their circumstances, whether they were poor farmers in Appalachia, or African Americans fighting Jim Crow laws. Horton had a stronger emphasis on practice than theory, as the title to his co-written book "We Make the Road by Walking" suggests (Horton and Freire 1990). It could be said that, unlike Dewey and Freire, Horton developed his major ideas about education in the later part of his own educational practice, not at the beginning. Horton's only book on Highlander was completed in the final years of his life (Horton, Kohl, and Kohl 1990).

Horton co-founded Highlander with two friends in the early 1930s, after he spent a year in Denmark observing collectives—he decided to return to Tennessee to start a social organization for working with adults in Appalachia. Horton described several mistakes made in the early years as they erroneously thought they had answers to peoples' problems, independent of the experiences of the people. Eventually Highlander would come to an educational practice that assumes that people have the experiences necessary to solve their own problems (Horton and Moyers 1981).

In the 1940s, Highlander was the educational training center Congress of Industrial Organizations (CIO) for the entire south. They started by unionizing mine workers in Appalachia, with Highlander insisting that the rank and file had to sign *themselves* up, so that the union would be theirs from the start. When a union had both black and white members, Horton insisted that they meet together as one union, not separately. Highlander also opposed the decision of CIO leadership to exclude communists from holding union office—a decision that led to a break with the CIO in the early 1950s. These were not only organizational strategies but also political attitudes: people should organize themselves, racial segregation is wrong, and unions should choose their own leadership regardless of McCarthyist scare tactics.

In the 1950s, Horton and Highlander shifted focus towards civil rights organizing. As in Freire's work, and also common to the suppression of voting rights throughout the global south, there was an activism to be found in educating literacy which was a pre-condition for the right to vote in the Southern United States. Along with Esau Jenkins and Septima Clark, Horton helped launch what came to be known as the "Citizenship Schools" on John's Island, South Carolina. The majority population in the area was

African-American, the schools were decrepit, and state money was going unspent. The aspiration to educate literacy had to confront the fact that educational conditions could easily be seen by adult students as insulting. Horton, Jenkins and Clark came up with two rules for their pedagogy: (1) no certified teachers, (2) no white teachers. Clark's niece (who had been to Highlander) was the first teacher. Horton described the group as more of a community than a literacy class. He pointed out that they talked about what they would do once they could vote. "They were talking about using their citizenship to do something, and they named it the Citizenship School, not a literacy school" (Horton and Freire 1990).

The final exam for the class was registering to vote, an act that required a person to stand up to the literacy requirement for voter registration. After the first class Robinson continued teaching and apprenticing new teachers, eventually doing so at Highlander Folk School itself. The program started in January 1957, and by 1961, four hundred teachers had been trained. Horton's ideas about education again seem to have been distilled after the fact: self-organizing groups were key, people were invited to learn at Highlander, then return to their own community and make it their own. He boasted that Highlander staff never taught a single one of the literacy classes (since they had been taught by graduates themselves) (Horton and Freire 1990, 74). Another important issue was respect for the participants in the Citizenship Schools—the prohibition on teachers who are credentialed or have white skin respected where the students were at: they were illiterate adults who deserved the dignity of respectful teachers who could understand their experiences. Another important element is that the education itself was connected to

the desires of the participants who wanted to use it to further their own social change, in this case by voting in elections.

A final note to mention that Freire and Horton's work in particular involved a lot of risk. Both had their life threatened, faced incarceration, red-baiting, and in the case of Freire more than a decade of exile from his home country. In 1959, Highlander was branded as a "subversive" organization by the state of Tennessee. Police padlocked Highlander's main building, the state confiscated Highlander's land, and Highlander's charter was revoked two years later in 1961. This context just showed all the more why Horton's insistence that people take the Citizenship Schools to their own community was so powerful. While Highlander was losing its land and its charter, the Citizenship Schools continued to grow, eventually being handed off to the Southern Christian Leadership Conference (SCLC), which made it one of their official projects. Highlander re-grouped and started a new center in New Market, Tennessee where Horton continued to work until 1972. The similarities with the School for Designing a Society are dynamical more than curricular: the focus on participants' self-described desires, facilitating their self-organization, and the lack of institutional support to the extent of having to go years on end without a stable facility. Projects such as Highlander show that schooling is in the social dynamics, not the building itself.

Black Mountain College

The Black Mountain College provides more parallels in terms of curriculum, owing to the fact that it was staffed by exiled European artists who were trying to run a school. The Black Mountain College started after the dismissal of John Rice, a professor of literature, from Rollins College over charges that stemmed from his style of placing

the importance of learning via free-thinking above protocol. His trial divided Rollins College, and after his dismissal some loyal students and faculty helped him look for a school site and start up funding (which eventually came from the Forbes Family). Together they started a college in the Blue Ridge Mountains in North Carolina in 1933. Early teachers were recruited from the fallout of World War II, a handful of students looking for an alternative college experience enrolled, and a small experimental college with an emphasis on the fine arts was born.

The values of the Black Mountain College (BMC), and its experimental approach, are important to inform the wider discussion of experimental artists starting pedagogical projects. The BMC would become a renowned progressive endeavor in higher education. It took on practical issues such as "community spirit" and the exercise of student freedom. It employed tiny class-size and rigorous senior examinations. It deliberately blurred the line between curricular and extra-curricular study. Students were involved in the running of the campus, including cooking, cleaning, and construction, though this was at least in part done out of economic necessity (Zommer and House 2007). The BMC positioned art as central to the study of all other fields, and treated the teaching of democracy as fundamental. It made experiments with co-educational housing and integration of African-American students on an otherwise all-white campus in the segregated Southern United States.

Amongst artists, Black Mountain College is known for the list of famous names that passed through its campus during its later period. During the early period, the BMC had connections with the Bauhaus Movement in Germany; in fact, Walter Gropius drew designs for a building complex at BMC in 1937 (Duberman 1972, 153). Buckminster

Fuller and Kenneth Snelson are said to have created their first geodesic dome at BMC in 1948 (modeled out of scrap aluminum venetian blinds); John Cage staged his first "happening" at BMC in 1952; Merce Cunningham formed his dance company at BMC in 1953 (Duberman 1972, 370-380). In spite of the later fame of some of its faculty, BMC closed its doors in 1957, having spent many of its final years predominantly as a summer institute, without sufficient funds to offer a year-round curriculum. While the financial challenges that faced the BMC parallels the absence of funding for the School for Designing a Society, many such problems were circumvented by the willingness of SDaS organizers to host classes in people's living rooms, and to work without pay.

The Development of the School for Designing a Society

Herbert Brün and the Performers' Workshop Ensemble launched the School for Designing a Society (SDaS) in 1992. By that point they were building on more than a decade of collaboration. The phrase "designing society" can be traced to an experimental University course taught by Marianne Brün at an alternative residence hall at the University of Illinois (M. Brün 1985). Members of the ensemble felt an urgent need to experiment with communication formats in order to trigger social change (Parenti, Enslin, and Brün 1995). They wanted to move beyond teaching composition and giving performances, to applying their ideas about art to social structures themselves. There have historically been few schools for experimental arts in this sense (see Table 1.1 in Appendix A).

In many ways, the School for Designing a Society was an outgrowth of Brün's Seminar on Experimental Composition, which he had taught continuously for decades.

The seminar was where ideas about music composition, cybernetics, and the politics of language mixed together into a singular discourse. It may seem as though it was Brün's ideas that framed much of the original proposal for the School, but many of these ideas were developed in dialogue with the students he worked with in the 1970s and 1980s. Several will appear in the pages that follow, including Susan Parenti, Mark Sullivan, Arun Chandra, Lesley Olson, Keith Johnson, Sarah Wiseman, Mark Enslin, Lori Blewett, and Rick Burkhardt. Many of these students participated in the early "design groups" of the "designing society" class, where graduate students from the performing arts worked with undergraduates to formulate their desires for a different society while confronting the inherited language of the existing social system.

The chapters that follow will outline a series of projects that explore similar themes, constructing statements of desirability while simultaneously confronting the language that is inherited from an undesired society. A Situationist element of *detournement* is often present: Brün asks people to formulate their desires in terms of saying something wrong, false, anticommunicative.[33] I think this is a contribution to social change education: to not only educate people to say something different, but also to say something incomprehensible to the current society. This was certainly not a step in the direction of schooling for social efficiency. It is counter-pragmatic education: learning to do something not-yet-comprehensible.

The following chapters will further develop this and other ideas of radical education, including their historical context, in the evolution of the SDaS. Chapter two focuses on the foundational ideas of the SDaS, in an attempt to sketch what would be the "canon" of lessons taught there in its early years. I describe the ideas, their origins, and

my criteria for their inclusion. Chapter three briefly sketches the early life of Herbert Brün and provides a broader introduction to the subject of cybernetics, which Brün encountered in Heinz von Foerster at Illinois. Chapter four will focus on Brün's collaboration with von Foerster, their seminars with Ivan Illich, and the suspension of the American Society for Cybernetics in the mid-1970s. Chapter five turns to the formation of the Performers' Workshop Ensemble by Brün's students in the late-1970s, and their political projects in performance art and pedagogy. Finally, Chapter six describes the early years of the School for Designing a Society (1992-1997) and the challenges faced in converting a performance ensemble with iconoclastic ideas into a school.

CHAPTER 2

FOUNDATIONAL IDEAS OF THE SCHOOL FOR DESIGNING A SOCIETY

In this chapter I describe what I call the "foundational ideas of the School for Designing a Society." Several caveats are necessary: while the School for Designing a Society (SDaS) indeed has had several recurrent themes, they neither were ever declared to be the "main ideas" of the school, nor has there been any declaration of a "whole set" of SDaS concepts to my knowledge. By definition, the SDaS points to an incomplete project.[34] Incompletion, as a feature of humanizing education, was articulated by Freire (1972, 20) and it is also spotlighted in the literature of the SDaS, when it points to the moment in which a critical discussion is interrupted by the demanding question, "Do you have a better idea?"[35] With this chapter, I am trying to outline the tools that the SDaS provides to people trying to answer that question.

This construction of the foundational ideas of the SDaS is meant as a means to introduce what the SDaS is about. Any perception of misrepresentations are my responsibility. I provide an exposition, not an argument, for what I perceive to have been curricular constants during the brief history of the project. Of course, constancy is not equivalent to value. Nor does repeat ensure that and idea will be remembered, or used. The words of Herbert Brün, for instance, were used at every session of the SDaS, but what people did with Brün's words was wide-ranging. The themes and topics I selected come from my history with the project and my understanding of the central ideas of the SDaS. I will describe my criteria calling these ideas "foundational," and the problems of

doing so, in the attendant endnotes. Hopefully this provides for an unimpeded-upon reading of the explication, though I worry it may come off as overly neat and tidy.

The foregrounding of Herbert Brün's texts is itself problematic.[36] The SDaS was started by a performance ensemble that included Brün, but his indispensible input must not be misconstrued as Brün having been the SDaS itself. Further, Brün himself did not want to be honored: "Once, during the summer of 1996, Herbert said loudly 'After I'm dead, I don't want a tombstone where people can come and leave flowers,' almost spitting out the word 'flowers'" (Chandra 2005). Brün deserves a lot of credit, which the quotes attributed to him in the following pages will illustrate, but he does not deserve all of the credit. Susan Parenti addressed the issue of attribution in the preface to her (2000) book of plays:

> In the prefaces to specific plays sometimes I've written "I/we" when talking about the making of a play. This little pronoun blip ("I/we") marks a place where we need a new word added to the English language; a word that means "Yes, *I*, myself wrote this piece, but in the company of a *we*. Either I/we were working on a common assignment, or I/we were talking about ideas, or one of us did something that intrigued me/us so much that I/we all wrote a response to it". So yes, I, Susan, did the actual writing of these plays, but *desire* came with the "we". (*The Politics of the Adjective 'Political' and other plays*, 3.)

My desire to write this dissertation had its germ in that same "we," and in the community of individuals that have continued the SDaS for the past decade, since Brün's death.

To decide what to include as "foundational" to the SDaS, I considered three criteria: (1) topics that were repeatedly taught at the SDaS; (2) the course proposals and activities described in the literature of the SDaS; and (3) written and verbal statements of SDaS organizers. When these three criteria were met all at once, the idea was likely to

infiltrate discussions throughout the SDaS schedule. In this way, an idea or even a question could become a "foundation" of a person's school experience. In the hope of capturing what is distinctive of the SDaS, I have excluded several themes that exist in other schools. For instance, while a critique of capitalism may be foundational to the SDaS, it is also commonly found in schools around the world and so *the critique itself* is not included in the discussion below. The foundations that distinguish the SDaS include: the "design groups" assignment, the fundamentals course proposed by Herbert Brün, the discipline of second-order cybernetics, and a set of ideas about language captured in Susan Parenti's (unpublished) booklet "Playing Attention to Language" (2003).

Design Groups

One of the foundational ideas of the School for Designing a Society was to work in "design groups" to formulate desires, discuss them, and to generate projects that move the groups' desires into a mode of design. The design groups can be traced back to a 1968 course entitled "Heuristics," organized by Heinz von Foerster and Herbert Brün at the University of Illinois (von Foerster and Brün 1970, 13). The assignment appeared again, with some modification, in a 1980 course entitled "Designing Society" (M. Brün 1985, 14). It has also been used, in various forms, repeatedly since the first session of the SDaS in 1993.[37] In the mid-1990s, Mark Enslin's "proposal for design groups" became the preferred formulation of the project:

> Proposal for design groups (from Sloan 1999, 50-51):
>
> 1. Make a list of statements about which you would say that they are currently false and you wish they would become true. Take care that the statements are, to

the best of your knowledge, false. (Avoid beginning a statement with such phrases as "I wish that...", which would be taken as a true statement.) At this stage in the assignment, the falseness of the statements is to be emphasized.

2. Order the statements in such a way that statements earlier in the list, if they were to become true, might imply that statements later in the list would, as a consequence, also have become true.

3. Form groups: "design groups". The design groups are to:

READ members' statements: examine the formulation of the statements;

COMPILE a single list of false statements that all members of your group would like to become true;

SPECULATE on actions, practices, strategies, structures that might create a context in which the false statements would become true;

ASSIGN each other reading, writing, drawing, composition, and research that might follow up on the speculations;

HOST a long term project that could be a container for the traces of your group's designs (and the work of other groups), for example:

a book
an installation
a video
a circus
a teach-in

The assignment, in its first step, set the SDaS apart as perhaps the only school for social change that premised itself upon the legitimization of "false statements." Students' false statements were treated as legitimate so long as they wished the statements were true. They were treated as false so long as there was no evidence to the contrary. Truth was thus being treated as a time-based concept.[38] This was meant to lead people away from what were seen as problematic patterns of speaking truthfully, honestly, reciting beliefs or principles, or limiting one's speech to evidence-supported claims. These patterns were taken to inhibit the generation of new ideas. When introducing the

assignment in 1993, Herbert Brün added "the concept of feasibility is excluded, you are not supposed to judge whether what you want can be met or cannot be met - you want it, period."[39] He goes on, "evidence should not be quoted; you are invited once and for all to speak out what you want, and not to hide behind logical consistency and other fraudulent exercises."[40]

The second step of the assignment invites participants to begin to organize their lists of false statements into sequences of imagined causality. Put another way: it is an exercise in connecting desires and consequences. This is achieved by asking respondents to consider how some of their false statements might be realized if other false statements became true. For instance, if a student desires both "No one has to go hungry due to their inherited economic status" and that "Food is not a commodity" then one could decide how one might be a potential consequence of another. If one decides that "no one has to go hungry *because* food is not a commodity" makes more sense than "food is not a commodity *because* no one has to go hungry due to their economic status," then "food is not a commodity" should appear earlier on the list, and vice versa. This is, in a sense, building a logical consistency without invoking the established truths of the current society. At the same time it avoids becoming a utopian fiction exercise.[41]

The next step, which consists of forming small groups and creating projects based on the false statements, completes the pedagogical proposal by returning participants to the real world to start an actual project. Now inviting respondent groups to give themselves assignments and host a long term project, the proposal achieves a sort of educational coup; the assignments and long-term projects are being generated by the students who began by formulating their statements as false. Rather than resort to an

evaluation of the false statements by external authorities, Enslin's proposal invites the design group itself to decide upon next steps. This subtle move allows that false statements function as an evaluation of the "real world" itself, as texts that resist a society in which schools have used the "real world" to evaluate their subjects.

Fundamentals: Course Proposal by Herbert Brün

In the build-up to the first session of the SDaS, Lori Blewett asked Herbert Brün and others what they considered fundamental to designing society.[42] Brün's response was to write a course proposal entitled "Fundamentals (or, 'Premises')" that included nine ideas distilled by Brün over years of conversations, formulating language to teach composition, while challenging existing society. Brün taught these fundamentals from 1993 until his death in 2000. I include the full text below, followed by an explanation of each of the fundamentals.

> Fundamentals
> (or, "Premises")
>
> – A course proposal
>
> 1. My 'inner' committee of criteria:
>
> a. those I inherited and have to respect.
> b. those I appointed and thus can fire.
>
> The committee meets spontaneously when I need help making a decision, a choice, a change.
>
> 2. The 'main interest' threat:
>
> Find a secondary interest large enough to host and nest your main interest, so that the host can protect the guest from the guest's mistakes and errors.
>
> 3. Choice

a. A condition for the generation of ‘significance’
b. Manifests your freedom as the number of alternatives you have for choice
c. If ‘best choice’ and ‘best alternative’ are not the same, then ‘best choice’ is preferable.

4. The Art of Instantaneous Remembering

Try and project an event you care for, while it happens to you, into an imagined past, so that you can experience the event simultaneously ‘now’ and ‘once upon a time’.

5. The Establishment of connections
and
The establishment of Connections

You find the first waiting
for you when you are born;
you see the second waving
bye-bye to you when you die.
You are done by, and for,
the first;
you do, for and in
spite of the first, the second.

6. Performance

Sharing your presence; conveying your thought and attention;
Carrying your messages so that they reach out the way you want.

7. Truth–Honesty–Lies:

truth = the time of consistency.
honesty = whether time or not: neither more nor less than you know.
lies = everything and anything believed.

8. Utopia, Chaos, False Statements

a. utopia = the dream which in your mental and social universe will be but a dream.
b. chaos = full of information and doomed to decay: communication!

9. Ethics, Morals, Manners, Principles

a. ethics: dilute power – increase freedom.
b. morals: unwritten, maybe, but laws!

c. manners: conduct, convenient for interpersonal relations, of trivial acts.
d. principles: appointed barriers against changes of mind.

Brün presented each of these concepts at great length in a course that was offered each semester at the SDaS entitled "Fundamentals." Though the above outline was fairly short,[43] he would expand greatly upon each idea, and connect them to other concepts from his book of formulations (H. Brün 1986). In the following section I discuss each of Brün's fundamentals.

My 'Inner' Committee of Criteria

Brün began his course by asking people to consider the criteria they use to make choices. He had an image of a person facing a decision, and turning to his or her court of criteria to consider how to proceed.[44] Brün's idea was not the cliché "people have voices in their heads" but went further to provoke his students to reflect upon the internalized narratives they act upon. He invited his students to make works of art that would illustrate the contentions between one's criteria.[45] Brün formulated the idea of the "inner committee of criteria" in the early 1980s (Chandra 2004). Susan Parenti, at that time a graduate student of Brün's, wrote a theater piece in 1982 entitled "The Doors of Criteria" (Parenti 2000, 24-42). In it, a person considers advice from co-workers and friends, while trying to decide how to respond to a difficult situation at work.

Brün's emphasis in this fundamental was the personal nature of listening to one's criteria rather than the social situation of listening to people in one's social environment.[46] According to Brün's image, a person sits alone in a room lined with doors from which criteria emerge to influence the person's choices. This was a metaphor, not a literal room. It was the image of an "inner committee of criteria" that Brün was after (H. Brün 2003b, 25). Not the actual voices in one's present environment but the language that

one accommodated in one's own thinking—sentences that influence a person's actions long after their speakers are gone.

Brün listed two categories of criteria: "those I inherited and have to respect" and "those I appointed and thus can fire". His conjecture was that there are some criteria, in each person, that they cannot help but maintain. Be it their mother-tongue (language), or their culture, whatever criteria could be found in one's "court" that could not be removed by simple choice. These criteria could not be silenced, but that did not mean that a person had to listen to their inherited criteria. Each person also had appointed criteria that were acquired in such a manner that they could be forgotten. This distinction was likely added to make more difficult the (implied) assignment of asking oneself "do I choose this way because of my upbringing, or do I choose this way because of my history of choices?"

The "inner committee of criteria" was an image of reflection, but it was not aimed at reflection for reflection's sake. Brün was not one to orbit around his students' conditioning, nor was the mere fact that people have different criteria, by itself, of interest to him. The "inner committee of criteria" was a sort of prelude to the other fundamentals, and—more generally—to making choices together as participants in a School for Designing a Society. One must learn how to self-consciously articulate one's own criteria for decision-making, if one is to have a curiosity and engagement of others, who make decisions differently according to their criteria.

The 'Main Interest' Threat

"Find a secondary interest large enough to host and nest your main interest, so that the host can protect the guest from the guest's mistakes and errors" (H. Brün 2003a, 118). Brün appreciated brevity,[47] and thus there is much to "unpack" from his second

fundamental. His statement assumed a respondent, a student, with a "main interest" and a "secondary interest." The latter was to "host" the former such that the main interest would be protected, just as a bird builds a nest to protect its all-important egg, whereas the nest is of secondary importance.[48] Thus, the implied assignment to the student was to "find" an interest in designing or constructing something that was slightly less-important than one's main interest, and build it up with the image of the main interest inside.

One can see Brün's preference for parallel linguistic structures manifest in parallel interest structures. "Nesting" is politically close, but not identical, to his use of analogy in the arts. Brün encouraged artists to make compositions that were structurally analogous to systems desired by the composer. Brün's statement about his computer graphics makes clear his point that "an analogy is not that to which it is analog" (H. Brün 1986, 96).[49] Hence, a rebuke of Brün's graphics does not constitute a rebuke of his social theory. So too could any person's desire for social change be nested in a work of art. They need not be analogous, but according to Brün there has to be "some other interest which is equally heavy, but not so vulnerable" as one's main interest.[50]

Choice

When Brün stated that choice is the "condition for the generation of 'significance'" he did not do it in a gesture of advice, or in the syntactic structure of an argument (H. Brün 2003a, 118). Brün told his students "I'm not asking you, I'm telling you."[51] It was a matter of declaration: without choice, no significance. "Things don't have significance in themselves; significance is not an inherent property of anything except a choice."[52] The implication is that un-chosen events (breathing, compulsory work, even death) are not "significant," unless one can manifest alternatives to them. If

one must carry out a repetitive task all day long at a job, without the option of leaving, according to Brün, the fulfillment of that task is "insignificant." That doesn't mean that un-chosen events are unimportant, or that describing their occurrence is irrelevant, but rather that the unchosen events themselves are not considered the significant part of human activity. "If you say 'it is', then it's as good as is; in the social world, the validity of the assertion is of no consequence" (Enslin 1995, 1). What is significant is that a person chooses to say how it is, and thus participate in constructing of the field of how things are, and thus (dialectically) how things could be otherwise.

Choice requires alternatives, and "the number of alternatives you have" is a manifestation of your "freedom" (H. Brün 2003a, 118). In order to have an alternative there must be at least two. "One alternative is produced by drawing a distinction between two" (H. Brün 2003b, 318). Drawing a distinction entails making two things different from each other.[53] So, any argument, where things are declared to be following the only possible course or the rhetorical flourish "there is no alternative," is tantamount to saying that one's actions are insignificant. "Given a choice, you are invited to generate significance."[54] Again, this is not an argument based on evidence, but simply a matter of definition. "Freedom consists in the kind and number of alternatives open for choice" (H. Brün 1986, 50) such that "seven alternatives is more freedom than six."[55] Brün meant this literally. A person with fewer alternatives was strictly speaking less free than a person with more (given that the alternatives were of the same quality), and for Brün this was the extent of his interest in the topic of freedom. "Freedom is the number of alternatives—very simple—let's not philosophize about it at all."[56] Given that information, one could

respond to the situation of (always limited) freedom: "the one who has less alternatives should be listened to, not the one who has more."[57]

Brün's emphasis, however, was on a person's action in the moment of making a choice. At that moment, a person consults one's internal committee of criteria, in order to choose between an external set of alternatives. At this point, Brün inserted another thought: making the "best choice" is sometimes more important than finding the "best alternative". Brün claimed "if they are not the same, then 'best choice' is preferable" (H. Brun 2003a, 118). The proposed difference between "best alternative" and "best choice" was already by itself a provocation. Brün was hesitant to set up one "best" above the other in a stable hierarchy; once, after distinguishing between "best choice" and "best alternative", he explained:

> I have not said "do the one and not the other." I rarely teach substitution... usually I prefer to make additions, so that by taking one of the alternatives I try to add one at the other end so that I land finally with one alternative more than I started. In contradistinction to most situations in our society where when you make a choice, and it is significant, you lose at least three or four other alternatives for the time being. (Herbert Brün in teaching his "Fundamentals" August 3rd, 1993)[58]

Brün's advocated that people maintain or increase the number of alternatives whenever possible. His claim was that if one wants to design a society, they must learn to act in such a way that leads to more alternatives (thus increasing freedom). The notion that one could make a "best decision" that would maintain or increase the supply of alternatives was a provocation to learn this way of acting. It could be considered fundamental for a group that wishes to "design a society" without limiting other peoples' freedom.

The Art of Instantaneous Remembering

"Remembering is an act!" declared Brün at the first session of the School for Designing a Society,[59] whereas having memories is inevitable. The idea of instantaneous remembering was to change one's relationship to remembering, so that memory become something that one does, rather than something that happens to a person. Specifically, Brün proposed that active remembering be achieved by imagining oneself in the past of an imagined future, such that while living in the present, one can remember the present. Thus, at the moment something important begins to occur, one can instantly treat it as something he or she will remember. Thus, instead of the passive "that reminds me..." memories would instead be articulated in the active voice, "I remember..." It was not meant as a hypnosis or trance, but as a chosen action aimed at remembering.[60] Brün also had a notion that there was some editing involved: one could choose which elements of the present to remember, and thus, dialectically, circumscribe the forgettable "everything else" that is excluded from memory.

The Establishment of connections and The establishment of Connections

In the first case "establishment" is capitalized and in the second case "connections" is capitalized—Brün was making a distinction between connections that pre-exist a person, and the connections they create and leave for others. Brün acknowledged that he borrowed the 1960s usage of "the Establishment" which was critical of the existing bureaucracy.[61] The juxtaposition was meant to set up the difference between the one's tacit coordination with the existing establishment, as opposed to the explicit opportunity that one has to respond by generating new connections. "It is necessary for the grammar, that we understand that there is an establishment—I want to

establish connections that are not in this establishment."[62] Put another way, for Brün it was fundamental to designing a society to bring about that which otherwise would not happen.[63]

Performance (in Everyday Life)

Brün's notion of "performance" was elaborated upon by Susan Parenti and Mark Enslin. Herbert's formulation was extremely brief: "sharing your presence; conveying your thought and attention; carrying your messages so that they reach out the way you want" (H. Brün 2003a, 118). Mark Enslin explained that at the School for Designing a Society,

> "unusual stress is placed on performance; but, performance understood in a particular way... ...performances, including the daily seemingly natural ones, are treated as changeable and choosable. There will be many opportunities in this school to have fun with, to play with, to experiment with ways of presenting intent." (School for Designing a Society brochure 1997, p. 4)[64]

While Brün and Enslin are found articulating the basic idea, Parenti taught full classes at the SDaS under the title "performance in everyday life."[65] In this context, she developed a more systematic approach to describing the concept.

In Parenti's construction, there were three basic "steps" involved in performance: (1) having an intention, (2) choosing amongst alternative ways of showing that intention, and (3) paying attention to the consequences of the chosen way of showing one's intention.[66] Observed consequences can change how one sees their intentions or how they make choices (in other words 3 can affect 1 and 2), so this was not a linear model for re-fashioning the "self". Parenti sharpened Brün's distinction and explicitly named a process by which one could interfere with their inherited identity, in a similar manner to contemporaneous post-structuralist feminists, who analyzed gender and sex as

performative (Butler 1990). Parenti's proposal stands apart in her insistence that one's performance is a choice.[67] In this, Parenti sets her proposal square at odds with all claims to "authenticity": "performance is not a mask, not a way of hiding a 'true self,' rather it is a way of showing that self I chooses".[68]

Truth–Honesty–Lies

According to Brün, we do not have access to a timeless Truth—however, we have access to finite periods in which speakers and sentences are consistent with each other:

> Truth is a time word, not a report of facts. Truth is a temporary relationship between what you did say and what you could say. If this relationship is easy and seems to you agreeable, then you think you're telling the truth. And I could say 'sure, he's telling the truth, he's trying his best, he's even honest.' (Herbert Brün in "Social Transformations" 1994)

Brün's concept of "honesty" is different from his concept of "truth." Truth, in Brün's sense is the time in which one cannot willingly or accidentally contradict oneself (H. Brün 1986, 47).[69] This time of consistency has a beginning and an end. During his fundamentals class in 1995, Brün stated, "it is a duration."[70] Brün also clarified that the intention of his brief declaration was "that it does not begin a discussion, but it stops it."[71] He wasn't interested in whether sentences were true, but rather was interested in their social consequences.

Brün's declaration of "honesty" seemed to have a similar aim: "neither more nor less than you know" (H. Brün 2003a, 218). In other words, "honesty" is when someone says what they know, regardless of its truth. Brün didn't see honesty as a unique moment when someone says something that otherwise couldn't be said, but rather, it is when "you say something that you can't help saying."[72]

For Brün, if one believes in something, it becomes a "lie". If one hears the same statements or reports without believing them, it is a "story". Rather than decry the deceitful "liars" of our society, Brün was taking a pass at the believers.[73] Brün conceded the fact that some people intend to be deceptive, but insisted that "even the best intentions and the finest diction can not turn a statement into a lie unless a believer can be found" (H. Brün 1986, 15). This was one of Brün's most audacious declarations, to make lies contingent on the lied-to; and he in fact acknowledged that he was in a sense going "too far."[74] Brün could be said to have taken the analyses of "the authoritarian personality" found in the German Exilliteratur and applied it to his students.[75] At the same time, he can be seen as trying to dissuade any inclination to turn him into a prophet.[76]

Utopia, Chaos, False Statements

For Brün, utopia was "the dream which in your mental and social universe will be but a dream" (H. Brün 2003a, 118). To be clear: his emphasis was that the implementation of someone's dream scenario should not be called "utopian." Rather, "utopian" is the treatment of a dream such that it remains a dream. Utopia is "not available in that society which uses the word [utopia] correctly" (H. Brün 1986, 151). "No society can say 'we reached our utopia' this is [nonsense]—only 'we reached the society in which what was called utopia is now a possibility."[77] For Brün, utopia is a time that is never "now." Thus, in a discussion of the design of society, calling one's desired reality "utopian" is effectively calling it never-to-be.

Brün's inclusion of the term "chaos" in the second half of the ninth fundamental seems a bit strange, given that it received much larger treatment in other areas of the SDaS. The subject of Brün's information theory is taken up at length in later chapters.

Briefly, when he says chaos is "full of information and doomed to decay," Brün is referencing a concept of information theory that he formulated in the 1960s (H. Brün 1970). According to this view, information is a quality of disorder which is converted into more orderly or "communicative" forms via human action. Brün refers to this organizational process as one of "decay," because he sees no way to retrieve the information potential of earlier stages in which the system was considered chaotic. He thus advocated "the retardation of decay" (H. Brün 1986, 49). He was, indeed, encouraging his students to drop the "naïve audacity" of assuming that communication was universally beneficial.

> We think that when we understand one another we have gotten a step forward. It is unfortunately often the case, as you can observe this morning, that to understand one another for some of us may be a step backwards. Or, not to understand one another might be the step forward. (Herbert Brün in teaching his "Fundamentals" June 16th, 1995)[78]

There was an implicit hope in the critique of communication and the valorization of chaos that there might be something left in human affairs that is not-yet-organized, which could be a source of new potential directions for society. Presumably he included the term "false statements" in this fundamental because he saw them as a means to postpone the impending "doom."[79]

Ethics, Morals, Manners, Principles

Brün's formulation of "ethics" was simply to "dilute power while increasing freedom". Given Brün's concept of freedom as the number of alternatives, ethics involved diluting power while increasing the number of alternatives for choice. He wanted to distinguish ethics from morals, given their conflation in everyday usage. "I'm not attacking at the moment a philosophical subject, rather a certain dilemma of usage."[80]

Brün's formulation of ethics stipulated the possibility of decreasing differences of power, without removing anyone's freedom.[81] Brün called this a "double standard" and suggested that any ethical judge should have at least double and more likely triple or quadruple standards.[82] Morals, by contrast, require that all people be treated according to the same (singular) rule. The point was that Brün didn't want to undermine power by force of removing the alternatives, nor did he want to increase the number of alternatives while concentrating power. He considered these actions unethical. "So it depends, for instance, whose money you steal. That is an ethical consideration."[83]

Brün's formulation of "morals" as "unwritten, maybe, but laws" pointed to the invocation of the system that one is living in to substitute for one's decisions. "The word 'laws' is used here in order to show the power of it."[84] That is, the power of invoking a moral code external to the situation one is in. By invoking an externally-provided code, one becomes an agent of its agenda regarding power conflicts, whereas the politics of freedom involved merit an individual's ethical consideration. Moral decisions may overlap with ethical decisions in some cases, but it is a coincidence.

Brün referred to "manners" as "conduct, convenient for interpersonal relations, of trivial acts" (H. Brün 2003a, 118). But in fact, these "trivial acts" were a smokescreen for the moral code that one believes in:

> "The trouble is... when there is a moral issue, and someone is embarrassed to be a moralist... and switches from morals to manners. So, 'it is bad manners to interrupt somebody' is an idle metaphor. The moral is 'the speaker is in the priority'."[85]

That is to say that one who is participating in a live discourse frequently interrupts the other people speaking in order to participate. Or, frequently, when a speaker is blatantly interrupted and slandered in a room full of people, it is according to that person's ethics.

Another person, preferring the current moral ideology of the day, may choose to dispute the interrupter's manners, rather than confront the issues of power and freedom that are at play. "Manners, if they do make any difference, then they make the difference only for convenience."[86]

Similar with morals and manners (according to Brün), "principles" are beholden to the stability mechanisms of the current system: "appointed barriers against changes of mind" (H. Brün 2003a, 118). The difference between principles and morals was that principles were to be understood as the private property of the speaker.[87] "The most trivial form is the one where you want to escape discussion, you simply say [wipes hands] 'that's a principle of mine' and then consider [it] from there on interference with your privacy and an insult if somebody wants to dispute them."[88] Brün was not talking about all usages of the word "principle" (for instance, he was not talking about groups of environmental scientists collaborating to formulate principles of ecosystem dynamics). Rather, he was attacking the conversational maneuver of removing an issue from language and choice by shielding it with the word "principle." So that there be a school with the potential of designing a society together, Brün attempted to disarm his students of linguistic maneuvers such as the invocation of principles, or at least alert people that when a person announces their principles, they aren't announcing their openness to second opinions.

So much for Brün's fundamentals. In the following chapters, I will say more about where these ideas came from and where they were headed. They will appear in different forms. When Brün first laid out his fundamentals as a sequence, he was 75 years old.[89] They represent the culmination of countless experiences, choices, attempts and

errors, in a set of statements that fit on one page. It is one of my tasks in this document to create a large web of connections around the oftentimes cryptically brief formulations that were recorded during the founding of the School for Designing a Society. If one pays close attention, one can detect mutual influence shared with the other foundational notions described below.

Second-order Cybernetics

One might start by asking why cybernetics deserved a spot in the curriculum of a school that is ethically committed to increasing freedom while decreasing differences of power. On the one hand, cybernetics seemed to be intertwined with the Cold War, in that the impetus for starting the American Society for Cybernetics came in part from the Central Intelligence Agency (Conway and Siegelman 2005, 329-332). On the other hand, however, there are stories such as the attempted cybernetic socialism of Salvador Allende in Chile, with the help of Fernando Flores and Stafford Beer circa 1971-1973 (Medina 2011). That project was truncated by a coup d'etat, and it remains unanswered whether such projects inevitably lead toward a Soviet-style notion of cybernetic control (Gerovitch 2002). The foundational ideas of the SDaS do not reference these projects in any direct way. Rather, it is the SDaS that deserves a nomination to be considered another branch on the eclectic tree of cybernetics experiments, with its own selection of questions and emphases.

The School for Designing a Society has emphasized what Heinz von Foerster (1974) called "second-order cybernetics". The latter assumes the concepts of classically defined cybernetics (information theory, feedback, regulation, etc.) but shifts the focus

back upon the cyberneticist who is constructing the system. Whereas von Foerster's (1974) formulation was that first-order cybernetics was the cybernetics of the "observed system", second-order cybernetics was the cybernetics of the "observing system." This shift mirrors what was occurring in several other areas of research: a shift to a paradigm of non-objectivity, that emphasizes the pivotal role of language in the formation of (always contestable) social narratives, played out in the experiences of historical agents. These ideas will not sound foreign to any up-to-date student of late 20th century philosophy, but it will seem odd that the SDaS approached these ideas almost exclusively as the "second-order" of the science of cybernetics.

Information and Communication

Information theory belongs to early days of cybernetics (Shannon and Weaver 1949).[90] The notion was that one could quantify the potential for different messages or signals to be sent in a sender-receiver communication model. That is: information was defined as a calculable quantity of potential. For instance: when a person plays hangman with a three letter word "_ _ _" using a 26-letter alphabet, there are 26^3 or 17,576 possible three letter combinations. This definition of information (as a quantity) explains why a Chinese character (selected amongst tens of thousands) seems to carry more information than a Roman alphabet letter (selected amongst twenty-six). Quantity of information carried is equivalent to the quantity of potential events, amongst which one event actually occurred. Accordingly, an event with two possible outcomes will carry the smallest amount of information, as in the case of flipping a coin, or the binary model used in computers. Computers achieve amazing things from binary operations by relying on an enormous amount of redundancy. With enough ones and zeros, you can produce the

potential for all 17, 576 possible combinations to account for the 3-letter combinations mentioned above. In other words, redundancy can substitute for variety.

The second-order considerations become obvious when one spends a moment pondering the simple sender-receiver model that was assumed by information theory (Saussure 1916, Shannon and Weaver 1949). The idea is that a "sender" simply puts a message into a signal that is transmitted and received by a "receiver" that then decodes the message. Clearly, human linguistic intercourse is not that simple. Gordon Pask (1976) concerned himself with constructing a "conversation theory" that would account for the manifold loops and exceptions, and cul-de-sacs that one could append to the sender-receiver model. His models became so complex that von Foerster couldn't keep up with it (von Foerster 1993). Pask's work belongs to the "second-order" of cybernetics and work on his "conversation theory" was continued by Laurence Richards (2001), who helped found the SDaS and who continues to teach cybernetics up to present. The concepts of "information" and "communication" were engaged at the SDaS within the understanding of "freedom" in a particular domain such as language or conversational dynamics.

Systems

Much of the work of cybernetics hinges on a rigorous and technical definition of systems. Definitions of particular systems (say, a computer system, or an ecosystem) were abstracted to formulate generalized concepts of "system" that could apply to various domains. In fact, one of the first break-away fields from cybernetics was general systems theory (von Bertalanffy 1968).[91] Ross Ashby (1956) laid out a procedure for describing a system by explaining a phenomenon (say, "the swing of a pendulum"), by means of naming the elements necessary to explain it (say, a plum bob, pivot, momentum, gravity,

equilibrium, etc.) If one wanted to describe "the swing of a pendulum" as a linguistic system, one might name elements such as alphabet, grammar, etymology, etc. That is to say, the interest of the observer was already understood, in 1956, to circumscribe any "system".[92]

Herbert Brün took the concept a step further, making the term "system" contingent upon proper naming of elements that were dynamically interdependent:

> I use the term "system" when I mean to speak of a collection of elements wherein each element can be in one or at least two different states and where the change of state in one element results in a change of state of the whole collection. I use the term 'element' when referring to something as a whole that I do not consider as made up of a set of elements. [It] depends on observers and their particular purpose at a given time whether an object is regarded as being a system or an element." (H. Brün [1973] 2004, 193)

Brün's declaration of "system" connected well with his agenda to be able to speak about composition not only of music, but also of social systems, language, projects, etc.[93]

This formulation was taken to another level in 1997, when Stephen Sloan was hired to teach cybernetics at the SDaS. At that time, he and Brün came to the following formulation:

> I look a system whenever I look at a collection of elements and supply a framework for the relations between the elements that permit me to say that a change in the state of one of the elements is a change in the state of elements as a whole. (Sloan 1999, 46)

This version of the formulation made the language do the work that previously had to be done by several additional sentences. By using the verb "to look" as a transitive verb with respect to the direct object "a system" the formulation emphasizes the "dependency of a system on the relation between the observer and the collection" (Sloan 1999, 46). Put another way, Brün and Sloan proposed to shift from a syntax of "I look at systems"

which assumes that system pre-exists the look, to a syntax of "I look systems" which suggests that the system is generated by the way of looking.

Drawing Distinctions

Early cybernetic concerns with understanding mechanisms of sensory perception led to a distinct emphasis on the contingency of perceived distinctions. If one does not have cones in the retina, color is not perceived. When turning attention to the mechanisms of language, a similar phenomenon is found: if one does not have descriptions or names for different things, then they are just "things". In the same way that a color-vision-capable human can distinguish red, green and blue, a botanist can discern between Fescue, Aragrostis, and Kentucky Bluegrass, where others would just see "grass". Contrasted with the passivity of biological mechanism, the latter are considered the result of human action that could be called "drawing a distinction." This shift, from the physical and physiological realm to the realm of social constructs, epitomized the difference between the early cybernetics and what Heinz von Foerster called "second-order cybernetics". Recursivity was no longer limited to feedback processes found in material systems, but also in language itself.[94]

It isn't immediately obvious what a School for Designing a Society can do with the concept of "drawing a distinction." At its base, the notion of drawing a distinction is an explanation of human experience. Why is "Wednesday" considered different from "Saturday?" The basis of the difference is the distinction drawn in language and institutionalized in the different names for days. This suggests that we are seriously tooled by our language and that things could be named in a very different way. Such was the proposal of G. Spencer Brown's *Laws of Form* (1969), which provided a new

calculus based upon the operation of distinctions. In this book, Brown was capable of developing a fully-operational calculus without using numbers. The outcome is a calculus that does not assume the base-10 or binary counting systems that dominate today's mathematical landscape.

While mathematical in nature, Brown's work inspired many attempts by latter-day cyberneticists to formulate abstractions of the operation of language.[95] In his polemic against objectivity, Heinz von Foerster (1974a) offers a three word abstract: "Draw a distinction!" He goes on to propose a meta-cybernetics, a "cybernetics of cybernetics" (1974b), by drawing a distinction between "first-order cybernetics" and "second-order cybernetics". Arguably first proposed by Margaret Mead (1968), writers such as Brown and von Foerster moved beyond the level of system to the level of meta-system in order to formulate new systems. It was this aspect of formulating new systems that was conserved in the discussions of the School for Designing a Society.

Self-Reference and Self-Description

Though it was not entirely clear what was to come of the proposals of later cyberneticians, they seemed intent on making descriptions that accounted for the properties of the observer making the descriptions (Maturana 1988). They were fascinated by the phenomena that emerged from self-reference and recursive forms (Kauffman 1987). Susan Parenti dedicated half of her dissertation to the subject of "self-reference and the language about new music" which she posited as a "dialogue within monologue" (Parenti 1987). The construction of half of a dissertation in dialogue format is in and of itself an unusual phenomenon—Brün's students wrote unprecedented dissertations: Arun Chandra's (1989) was a satire; Mark Enslin's (1995) was extremely

brief. What unites these pieces is the fact that they all entailed doing a "double-take" in looking at oneself in the act of producing these texts.

In 1997, Stephen Sloan moved to Urbana to teach cybernetics at the School for Designing a Society and he ended up producing several "self-descriptions," as means of working through his personal battle with mental illness. Stephen had been class president as an undergraduate at the University of Illinois in 1969-1970, during the period of student movements on the Urbana campus. He had worked with Heinz von Foerster in the production of the Cybernetics of Cybernetics book that epitomized the shift to second-order cybernetics (von Foerster 1974).[96] Sometime in the later 1970s, he suffered a nervous breakdown, following which he spent the 1980s and early 1990s struggling with mental illness, diabetes, divorce, institutionalization, and unemployment.

For those who knew him in Urbana, he had basically disappeared until he re-appeared at the 1993 Conference of the American Society of Cybernetics (ASC), where he taught a workshop on Tai Chi.[97] He attended the final performances of the Summer School for Designing a Society in 1994. He co-organized the 1995 ASC conference in Chicago, where he presented a paper on his experiences treating his mental illness by means of Tai Chi and writing self-descriptions. The writing of self-descriptions became a core component of his cybernetics class at the SDaS and a key piece of the cybernetics emphasis there.

In all, Sloan composed approximately 30 texts between 1995 and his death in 2001, all with titles roughly approximating "My Current Self-Description of Manic Depression in a System."[98] Thus, they are distinguished from one another by dates and differing contents. Sloan circulated the texts in his community (namely, the SDaS).

Toward the end of a class or one of the manifold moments for "announcements," he would raise his hand and say "I have a new self-description" and would offer copies to people and then invite their responses. Often times, the responses appeared in later versions of the self-description which he was revising. Sloan's self-descriptions became a model for social change, which both included the self and the community; they focused on language choices, were organized in a cycle of conversations, changed over time, and touched upon all the other aspects of the political projects at the SDaS.

Language as a Dynamic Force

The final category of foundational ideas is wooly in that the only thing that holds this category together is an emphasis on language (a property of many of the ideas that have been listed in the earlier sections). Nevertheless, to exclude them would be to omit a serious collection of SDaS standards. These were issues that were raised at every session of the School for Designing a Society in the 1990s. They can be seen in the videos of the SDaS sessions, written on butcher paper and whiteboards on the walls. They were also collected, a few years after Herbert Brün's death, in a booklet edited by Susan Parenti and Willy May entitled *Playing Attention to Language* (2003).[99] Though the first session of the SDaS was in 1993, many of these ideas were articulated years earlier, by Herbert Brün and by members of the Performers Workshop Ensemble in the Seminar for Experimental Composition.[100] Most of these thoughts were not professionally published, which makes Parenti and May's document an invaluable resource.

The Social Role of Language

One cannot begin to understand or get involved with the School for Designing a Society without encountering the fact that its organizers claim to have something to offer in their analysis of language.

> We want to address language: how we speak and how language speaks us. Inherited linguistic patterns form one of the strong arms of a social system, often hiding and justifying oppressive structures while ruling out the creation of alternatives to these. This strong arm is frequently left unexamined or considered to be of minor importance. In this school, while studying a subject, discussing an event, making a decision, we will squint nervously at the language used, prodding each other into moments of created eloquence. (School for Designing a Society 1997 brochure, page 4)[101]

This quote from the promotional materials for the SDaS is an understatement. From the initiation of the SDaS onwards, the subject of language use permeated almost all discussions initiated by organizers of the school. Even the fact that I am referring to them as "organizers" comes from a point frequently made by organizers that the language of "student" and "teacher" has undesirable consequences.[102]

While I claim that attention to language is foundational to the SDaS, the founders of the SDaS claim that language is foundational to human social affairs (M. Brün 1980 [2004]). Thus, the project was taken up to make visible the social role of language and thus, to expose the sloppy relationship that most people have to the terminology they employ to make decisions. This was a political project, for "we adjust our thinking to the available language" (H. Brün 2003b, 7). Organizers of the SDaS articulated a world in this language, while a problematic medium for articulating desires for a different society, which was also necessary for any non-violent pathway to a different society.[103] This transformation of something wanted into something needed was posited as a

distinguishing trait of humans. Parenti articulated the circular interdependence of language and thought that underlie the notion.[104]

The cliché "think before you speak" epitomizes the everyday notion of language as a passive vehicle that comes after thinking. The linear paradigm of thinking-before-speaking is illustrated by Parenti and May (2003, 3) who imagine a sort of "step 1" in which there is thinking happening (but not in words), followed by a separate and distinct "step 2" in which the person can say "I put my thoughts into words." However, noting that language "not only carries thoughts, it shapes them" the authors suggest an alternative paradigm involving a "rapidly-moving circularity between thinking and speaking" (Parenti and May 2003, 3). Thus, thinking influences language, language influences thinking, thinking influences language, and so on. This cyclical dynamic between a subject and his or her language is susceptible to being infected by language that, thus, shapes the person's thinking. Mark Enslin, taking inspiration from Carter G. Woodson's "if you can control a man's thinking you do not have to worry about his action" (1933 [1990], iii) once wrote a song with a circular round that elaborated the dynamic: "If you control a person's thinking you don't have to worry about their actions, if you control a person's language you don't have to worry about their thinking."[105] Putting the conjectures together, one gets a rather grim portrait of the human relationship to language. Humans relate to language as a necessity. Their thoughts are, at the same time, shaped by it. When one attempts to say something new, one's language comes up against the tendencies of the system that it came from, irrespective of the tendencies of the speaker (M. Brün 1980/2004). To put it bluntly, "the language which you don't speak will speak you" (H. Brün 1986, 30). The fact that "language will speak you" is not proper

English was illustrative of the constructive learning action Brün was proposing: saying what one wants, rather than language's (accumulated) rules. Such sentences do what they talk about, suggesting that one indication of a person's ability to bring about change is their ability to construct language that does not follow the inherited rules.

The SDaS seems to have been organized in part to problematize the assumption that language should be viewed primarily as a tool for mutual understanding.[106] This and the preceding conjectures invite the question: understanding of what? Brün's formulation of "drummage" helps illustrate the dilemma:

> Language: when I hear what you say, and understand what it means...
> Message: [when I hear what you say, but understand what you mean]...
> Drummage: when I hear what you say, but understand what I mean...
> (H. Brün 1998)

The SDaS critique of language was not a critique of speakers. In fact, the agenda was often simply to stop focusing on understanding a person (including oneself) and to focus on understanding what the language was doing. New words (such as "drummage") would be necessary given the inflexibility of existing vocabulary. Thus, the proposal of the SDaS was not only to expose the social role of language, but to make language have a social function in bringing about change.

Formulation

In accordance to this view of language, one of the invitations made to students at the SDaS was to become masters of their language rather than let language master them (to speak language rather than be spoken by it, to use Brün's phrase from earlier). So that there would be language, Brün and the SDaS proposed that people make a project of formulation. As Susan Parenti (2003) put it:

> Our community has an appreciation of formulation...

> When do I formulate? —when WHAT I'm saying and HOW I'm saying it, require one another. Formulation shows the sense of choice.
>
> When do I formulate? —when I take the time to compose a sentence where the language is as committed to the thought as the thought is to the language. Where the way a thought is worded cannot be left out....
>
> When do I NOT formulate? —when I don't take the time to construct sentences whose language I am committed to, but rather say something that more or less expresses what I have in mind. To the sentences that I do not formulate, I also do not feel committed. (*Playing Attention to Language*, p. 7)[107]

Formulations, in Parenti's sense, do not invite paraphrase. They are sentences or phrases so constructed that each word and ordering show the choice preferences of the speaker. A formulation should make it clear that the precise wording is needed for the thought, such that a respondent would more likely ask a speaker to repeat the formulation, rather than "re-word" it.

The concept of formulation is distinct from the idea of a cliché, or idiom, or catchphrase, which are "high on communication, low on information" (Parenti and May 2003, 8). To be sure, formulation was taught at the SDaS as something that a person had to work in order to bring about. This work upon language made it so that the formulation itself would do the work in the future. Put another way, the sentence itself would make new things become possible. Again, the action of the language was emphasized, not the speakers. Consider again the formulation of "system" from an earlier section:

> I look a system whenever I look at a collection of elements and supply a framework for the relations between the elements that permit me to say that a change in the state of one of the elements is a change in the state of elements as a whole. (Sloan 1999, 46)

Note that the stipulated framework itself permits the speaker to say that a change in the state of one of the elements is a change in the state of elements as a whole. So, if I supply

a collection of numbers 2173283228 and supply a framework of numeric value, a change of the "1" to a "6" permits me to say that the value of the number is now 500 million greater. If I supply a framework of a telephone number, a change of the "1" to a "6" would appear to be a change in the area code. Equivalently, when observing a collection of elements in the social world, the formulation frames the potential for change.

An example can be found in the "Capitalism Explained" assignment that was part of the first trial run of the SDaS in 1992.[108] The assignment was to describe the capitalist system to a person who doesn't think there is anything wrong with the capitalist system. An added twist was to emphasize that one's formulation should be brief and memorable, that the description of capitalism should fit within the time that it takes someone to eat a chocolate mousse (Parenti and May 2003, 8). The result was an hour during which a handful of participants described, to the best of their ability, capitalism and what they deemed undesirable about it.[109] The assignment, thus, generated brief committed statements (3 to 5 minutes each) that members of the group could use in the presence of people who lack a critique of capitalism.

Specific Linguistic Structures

Three areas that were looked at year after year at the SDaS were conjunctions, adjectives, and metaphors. Here were some of the quickest routes to linguistic self-awareness, but they were also fraught with another linguistic trap: the example upstaging the idea. I will provide a brief description of these structures, as well as some examples; however, the emphasis is on awareness of the tendencies of language in general. These specific structures are but a few places where one can expose the difference between what a person means to say in contrast to what the language seems to say.

Conjunctions

Grammatically, a conjunction such as "but" "and" "or" is a word that makes a connection between two clauses. Conjunctions, or something analogous to conjunctions, are eminently necessary in human language to say the most basic things. "Beans and rice" "similar but different" "yes or no"—it is almost impossible to flow through human interactions without constantly connecting or disconnecting things, and any nearby paragraph can be found as an example. Conjunctions are so prevalent that people can become unconscious of them. Consider the ellipsis of the following example: "Rob is political, but he is interesting." The word "but" connects the two clauses as an exception, as if to say that political people generally aren't interesting, but he's interesting. One's linguistic self-awareness is raised when one begins to carefully consider the conjunctions used. To say "Rob is political and he is interesting" doesn't draw an oppositionality between politics and interesting.[110] "Jerry is in college, but works in the community" or "Jerry is in college and works in the community"—the point is to be aware of which sentence carries the intended message that was meant by the speaker.

Adjectives

Grammatically, an adjective qualifies a noun. Parenti writes "the use of the adjective drives attention away from the noun it modifies."[111]This idea was articulated years earlier by Brün.[112] Both used the same two examples: "violent war" and "brutal rape." The construction "violent war" confusingly seems to suggest that there are non-violent wars, though this one requires a qualifier so that we understand that this one is one of the violent ones. Put another way, isn't "rape" itself "brutal"? Does the adjective "brutal" add something that was not included in the concept of rape? Politically, the

adjective weakens the power of the noun, but that doesn't mean that it's never useful. The point is to notice the role of the adjective in sending unintended messages. It could be that sometimes people use adjectives mainly to give a particular rhythm to their sentences.[113] Similar to the use of the word "uh," but more pernicious, adjectives litter the language with distracting meanings. Many others, such as Wittgenstein, have attacked the issue of adjectives particularly in their habit-forming aspect.[114] Thus, the implied assignment of asking oneself which adjectives are necessary to make a point and which adjectives are distractions inserted out of habit.

Metaphors

Though Brün's interest in metaphors seems to go back as far as his interest in analogies,[115] the treatment of metaphors at the SDaS largely draws from the work of George Lakoff and Mark Johnson (1980). Again the issue is chiefly one of awareness and not an issue of prohibition. Metaphors are constantly invoked in everyday speech, and sometimes illuminate complex circumstances; however, they often obscure as well. Lakoff and Johnson choose some common examples, such as the war metaphor used for describing and explaining arguments. According to this metaphor, people "attack" each others' points, "defend" theirs, "shoot down" one another's statements, "win" or "lose" etc. (Lakoff and Johnson 1980, 4). While the "argument is war," metaphor illustrates how arguments can be competitive, it also hides the social potential in argument that is not war-like: people learn in arguments, no one has to get hurt, there need not be winners and losers. Other metaphors including "time is money" and "ideas are containers" are linguistic construction that bias the path of human interactions, and obscure the aspects of our time and ideas that do not fit the metaphor system. These can have serious

consequences, as the 1991 article "Metaphor and War: The Metaphor System Used to Justify War in the Gulf" (Lakoff 1991) contends.

Interdependence and Incompleteness

This collection, which I have termed the "foundational ideas of the School for Designing a Society," comprises the *de facto* canon of the SDaS. These ideas contain theories of humans and society, as well as unanswered questions and proposals. While they may seem to hold many strong points of contrast, they are also deeply interdependent. The design groups could appear very open ended, even apolitical, if the school did not provide some fundamental political orientation. Brün's concept of chaos and information came from cybernetics.[116] Second-order cybernetics was influenced by the language emphases of Herbert Brün and his entourage (more on that subject in later chapters).

There are some definite parallels between the core ideas of the SDaS and the proposals of Paulo Freire and Augusto Boal. The design groups could be compared to Freire's culture circles of which operated fundamentally on the level of dialogue, language, critical thinking, labor, humanization, and society (Freire 1973). The design groups focus on the desire for change, within and without the limitations of the current social order. Marianne Brün's design groups in the 1980s read *The Capitalist System: A Radical Analysis of American Society* (Edwards, Reich & Weisskopf 1972). While sharing this reading of the world as a point of departure, the desire statements serve to begin a process of writing the world. The "performers workshops" of the ensemble started in the late 1970s consisted in subjecting a composition to multiple proposed

performances that were tried out on-the-spot in workshops. The closest equivalent to such work might be from Augusto Boal (1979). The virtual simultaneity of the two performance techniques in the late 1970s seem to be independent of one another. What distinguishes the SDaS is that an element of the performers' workshop ended up in the education itself. The "workshopping" of performances led to the workshopping of people, and eventually the ensemble workshopped itself into founding a school for rethinking the whole society.

These foundations are unified by their incompleteness or their pointing to an incomplete project, as did Freire so many years earlier (Freire 1970). Certainly the assignment to write lists of desire statements and organize them in groups is fairly open-ended. Brün's fundamentals sit on the tension point of a conversation, the point at which people get stuck. By supplying language to navigate those difficult moments, he was providing a starting point more than an answer or solution to any particular social problem. The alternative title for the fundamentals was "premises" not conclusions. The shift of cyberneticians to "second-order cybernetics" could be viewed in terms of asking new questions that perhaps would never be answered. The cover of Parenti's *Playing Attention to Language* calls for its readers to add to it. What was proposed by the School for Designing a Society, then, was neither conclusive nor neutral in its incompleteness. While there is the constant suggestion of an invitation to create new things (even new language) on the basis of desire for a different society, there is also ample suggestion of how the organizers intended for participants to proceed (even in their speaking). The following chapters will explore the social circumstances in which these projects arose,

congealed, evolved, and eventually became so important to the group in Urbana that a school was started.

CHAPTER 3

ROOTS OF THE SCHOOL FOR DESIGNING A SOCIETY: HERBERT BRÜN, HEINZ VON FOERSTER, AND CYBERNETICS AT THE UNIVERSITY OF ILLINOIS (1960s-1975)

In 1948, Herbert Brün departed Jerusalem which was in the midst of the Arab-Israeli War; it had been 12 years since his exodus from Nazi Germany. Across the Atlantic, the field of cybernetics was being born (Weiner 1948). In many respects, Brün and cybernetics were the mother and father of the School for Designing a Society. Cybernetics was a transdisciplinary systems science that reached across departmental boundaries using mathematical and linguistic formalism. Brün was a musician who became interested in the social function of art (Brün 1952/2004). This section describes the pathways by which Brün and cybernetics came to the University of Illinois and how that contributed to the eventual formation of the School for Designing a Society.

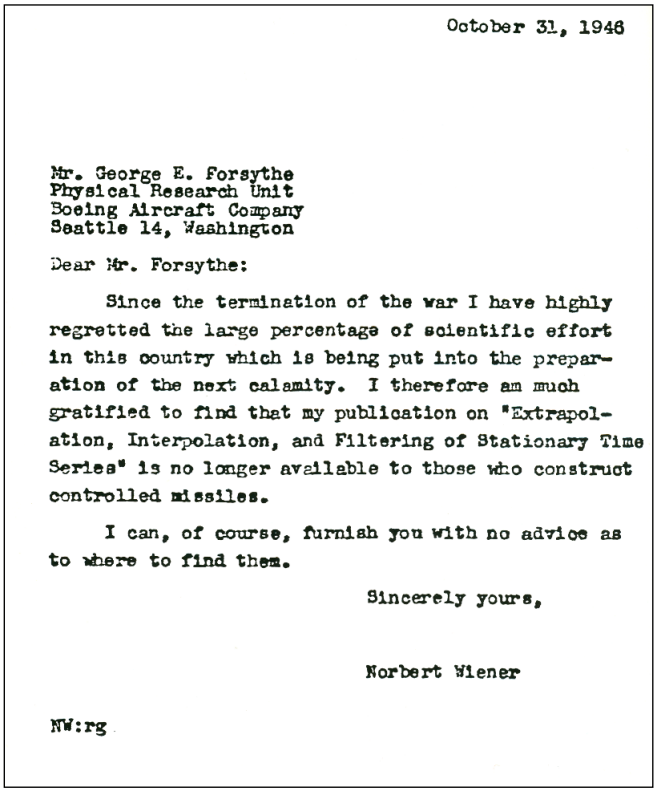
Cybernetics

The field of cybernetics grew out of a set of discussions between faculty at the Massachusetts Institute of Technology (MIT), the University of Illinois, and other academic institutions during the postwar era. The establishment of Cybernetics as a distinct field was announced by the publication of *Cybernetics: Control and Communication in the Animal and the Machine* (1948) by Norbert Wiener, a math professor at MIT. In the introductory chapter of this volume, Wiener describes a decade

of collaborative work in developing an interdisciplinary methodology, first amongst scientists at Harvard Medical School, and later in concert with the U.S. Department of War (as it was then called) in the development of anti-aircraft artillery guided by negative feedback. After the war, Wiener rejected weapons research (see figure 3.1). He and his colleagues made plans for an "interscientific institute," where scholars would apply advances in the study of self-regulation in fields such as engineering, physiology, and information science. They had "become aware of the essential unity of the set of problems centering about communication, control, and statistical mechanics, whether in the machine or in living tissue" (Wiener 1948, 19). They had discovered the central role of communication (defined broadly to include chemical signaling in the body, electronic impulses sent across a wire, as well as human language spoken acoustically) in the regulation of biological, mechanical, and linguistic systems. They proposed that there exists a set of communication problems that could be abstracted from the specific disciplines.

This unified set of problems was, itself, without a discipline, lacking a body of literature, searching for common terminology, including even a title. "We have decided to call the entire field of control and communication theory, whether in the machine or in the animal, by the name *Cybernetics*, which we form from the Greek κυβερνήτης or *steersman*" (Wiener 1948, 19). The history of Cybernetics begins as an application of mathematical formalism to divergent fields that stood to benefit from scientific treatment of the study of self-regulation. While Wiener's first book provided an exceedingly complex exposition of the mathematical substrate of servomechanisms, it was soon followed by the more accessible *Human Use of Human Beings* (Wiener 1950), which

contained no mathematical proofs. Ross Ashby's *Introduction to Cybernetics* (1956) later became the classic cybernetics text for beginners by providing a multitude of simple problems in all areas of life, cleverly presenting cybernetics with the easiest math possible. Early cybernetic concepts such as "harmonic oscillation" "transmission of variety" "feedback" "black box" "error-controlled regulation" and "determinate machines" are explained in this book.



October 31, 1946

Mr. George E. Forsythe
Physical Research Unit
Boeing Aircraft Company
Seattle 14, Washington

Dear Mr. Forsythe:

Since the termination of the war I have highly regretted the large percentage of scientific effort in this country which is being put into the preparation of the next calamity. I therefore am much gratified to find that my publication on "Extrapolation, Interpolation, and Filtering of Stationary Time Series" is no longer available to those who construct controlled missiles.

I can, of course, furnish you with no advice as to where to find them.

Sincerely yours,

Norbert Wiener

NW:rg

Figure 3.1: A letter from Norbert Wiener to a researcher at Boeing Aircraft Company (Wiener 1946). Wiener refused to share his research with weapons manufacturers after World War II.

These basic concepts would provide the foundation for a peculiar revolt amongst a collection of scientists and engineers in the 1960s, who focused on the epistemological contributions of cybernetics as a science that applied to the very process of its own production. This issue will be taken up in chapter 4.

The University of Illinois employed many of the important thinkers of the first wave of cybernetics (see Table 3.1 in Appendix A). Warren McCulloch chaired the Macy Conferences on Cybernetics (1946-51) and published many of the foundational ideas of cybernetics (McCulloch 1965) while he was Director of the Laboratory for Basic Research in the Department of Psychiatry at Illinois (1941-52). He finished his career at MIT where he worked with a graduate student named Humberto Maturana (Lettvin, Maturana, McCulloch, & Pitts 1959) who would later work at Illinois. Heinz von Foerster was hired by the Electron Tube Laboratory at Illinois, and was promoted to Professor of

Figure 3.2: From an Illinois conference entitled "Principles of Self-Organization" at Allerton House, June 1960. Front row includes Gordon Pask (bottom, second from left), Ross Ashby (bottom, third from right), and Heinz von Foerster (bottom, full right). Warren McCullough is in the middle of the top row, with a white beard.

Electrical Engineering in 1951 (Müller & Müller 2007). Von Foerster had attended the Macy Conferences in the late 1940s and was rumored to have perfected his English while transcribing the conference proceedings. In 1958, von Foerster founded the Biological Computer Laboratory (BCL) at Illinois, which would help maintain Illinois' status as a crossroads of the cybernetics movement (see figure 3.2). In 1960 von Foerster and Stafford Beer offered Ross Ashby a chair at the University in the Department of Electrical Engineering, who accepted the offer and worked in the BCL at Illinois from 1961 to 1970. Logician Gotthard Günther and Gordon Pask (who constructed an early "conversation theory") also worked at Illinois in the sixties and seventies. All of these thinkers would influence the thinking of Herbert Brün, a composer hired by the Department of Music in 1963 (Brün 2004).

Herbert Brün

Herbert Brün was born in 1918 in Berlin, the year of Germany's surrender at the end of World War I. His family was Jewish; in 1936 he fled to British-controlled Palestine to escape the Nazis. His parents were killed in the Holocaust. While in Palestine, Brün "studied piano and composition first at the Jerusalem Conservatory and then with Stefan Wolpe, Eli Friedman, and Frank Pelleg" (Brün 2004, 285).[117] He also worked with choreographer Noa Eshkol, who developed one of the first notation systems for dance compositions, and largely based her career out of Israel.[118] During the establishment of the State of Israel, Brün was increasingly dismayed by the violence he witnessed. From 1948 to 1955 he traveled between Israel, the United States and Europe where he continued to study music composition, language and theater. He married

Marianne Kortner after meeting her in 1955. He studied at Tanglewood and Columbia University in the United States. In Europe, Brün toured as a pianist and as a composer, and he began conducting music for the theater and researching electro-acoustics in Paris, Cologne, and Munich. He left Israel in 1955 to relocate in Munich, West Germany.[119] For seven years he composed theater music for Munich theater productions directed by his father-in-law Fritz Kortner.

Brün's early work in music composition was self-consciously critical of the society he came from. Reflecting on his first atonal works for piano, *Five Pieces for Piano, op. 1* (1940-1945), Brün wrote the liner note "My first, and, as I now know, successful attempt in meeting the contempt that tonality had for me and its lovers" (Brün 2004, 304). Later reflecting on his first re-entry to Germany after World War II, on occasion of the acceptance and premiere of his *String Quartet no.1* (1952) by a music festival in Baden-Baden in 1955, Brün said "I was not yet ready, in all respects, to visit that country, that language, but under this circumstance I thought at least 'alright, at least I come back with a vengeance".[120] Brün's *Mobile for Orchestra* (1958) re-arranged the otherwise hierarchically organized ranking of the seats of the players—for example, second chair clarinetist might be sitting next to third chair bassoonist in front of first chair violin. It was an interference with the power structure of the orchestral arrangement, foreshadowing later transgressions of power. Brün came from a now almost-forgotten world of radical composition using orchestral instruments; the commercial music industry recuperated the image of the radical musician by marketing artists who used electric guitars and drum sets (Adorno 1975).

In 1962, Brün toured the United States on a lecture tour. Subsequently, "he was invited by Lejaren Hiller to join the University of Illinois Center for Advanced Computation for 1963-4, at the conclusion of which he was asked to stay on as a member of the faculty" (Brün 2004, 285). Brün had distinguished himself as a composer that used computer-generated sound. Brün also wrote for traditional arrangements such as string quartet and chamber ensemble, though he rarely if ever wrote traditional music. Though his music rarely contained lyrics or voice parts, Brün's primary pedagogical interest was language, choice of words.[121] Brün's emphases (computers, composition, language) set him up to engage cybernetics and move it's agenda in new directions (see Table 3.2 in Appendix A for a list of Brün's early publications).

Brün and Cybernetics

The first year Brün was at the University of Illinois, he didn't encounter cybernetics, and mainly focused on clarifying his research agenda in the electronic music studio.[122] Insofar as Heinz von Foerster's Biological Computer Laboratory was the largest unit of cybernetics research on campus, it could be said that cybernetics didn't take notice of Brün, either. Their eventual encounter was ensured by the confluence of their computer work (computers were rarified monstrous machines in scarce supply during the 1960s).

Brün encountered Heinz von Foerster sometime during Brün's second year at Illinois, and they developed a lasting relationship. By the end of the 1960s, Brün and von Foerster were co-teaching interdisciplinary courses that combined their expertise in electronics, engineering, art, and their growing social concern in the period of unrest.

Within a few years of meeting von Foerster, one can detect the influence of cybernetics in Brün's writing. Perhaps the clearest synthesis of Brün's early thoughts about music composition (especially his focus on the function of time in art) with the early cybernetics concepts (such as variety, information theory, and feedback) is found in "From Musical Ideas to Computers and Back". It was published in *The Computer and Music* (1970, Cornell) though it was written in early 1967.[123]

In the late 1960s Brün took over Lejaren Hiller's "Seminar for Experimental Music" which he would rename the "Seminar for Experimental Composition" and teach continuously for thirty years (this includes the period in which he and the Performers Workshop Ensemble started the School for Designing a Society). The renaming of the seminar was significant; Brün's concept of composition would not be limited to music[124] and he treated composition as a political act.[125] The 1960s were a time of social movements in the US, and this was reflected in Brün and von Foerster's experimental seminars. To understand these projects, however, one must understand how Brün formulated his ideas about cybernetics vis-à-vis information theory.

Information Theories

In the 1960s, the United States experienced the rise of an Anti-War Movement and a Civil Rights Movement, particularly on college campuses (Anderson 1995). The social unrest of the 1960s led to theories of knowledge that challenged the legitimacy of the status quo. In this section I look at how Herbert Brün and Heinz von Foerster, two professors at the University of Illinois, responded. Brün was a Professor of Music Composition conducting early research on electronic music, and von Foerster was a

Professor of Engineering conducting cybernetic research. Brün participated in anti-war activism (see Figure 3) and in fact had more life experience with war and racism than the young protesters, owing to his childhood in Nazi Germany, and his young adult life as an exile caught in the First Arab-Israeli War. In 1968, when youthful rebellion was at a peak in the United States and around the world, Brün was 50 years old.[126] His theory of composition would reflect his desire for social change.

Figure 3.3. Brün at an anti-war protest. Detail from a poster-sized photo from Urbana, circa 1970. Brün is seen on the left, wearing glasses. On the right, Jeff Glassman of the United Mimeworkers can be seen looking in his direction. Courtesy of the University of Illinois Archives; "Silent March in Protest of The Vietnam War" digital content ID #0002750.

> When one is speaking about nature and natural laws, then the word *chaos* denotes the end of everything. In talking about the human mind and its efforts, the same word denotes the beginning of the world.
>
> —Herbert Brün in 1964[127]

Defining "chaos" as a field of information, Brün described all human activity in terms of increasing organization or reducing the amount of disorder in that field[128] (Brün 1970). This is one of Brün's most basic ideas—it underlies his thinking about art, language, and pedagogy. As illustrated in the above quote, Brün juxtaposes natural

systems, where everything tends toward entropy (first law of thermodynamics), to a human cognitive system in which order increases over time. In his initial expository lecture on the subject, Brün focused on illustrating this concept in music, noting that the "end" of a piece of music never seems to be able to provide the sense of chaos that can be perceived at the beginning. "Unlike the beginning, where nothing is supposed to have yet happened, the end will be simultaneously embraced and pervaded by the organizing inertia of its past."[129] In other words, it is difficult to cognize *anything* that comes in the later part of a sequence of events as being "chaotic" or "out of nowhere". "While nature has no memory, we do. For us, chaos is a potential and not an end."[130]

Brün had further developed his theory of information by 1967.[131] Brün's rhetorical move was to take the second law of thermodynamics (roughly: in an isolated system, entropy always increases) and propose an antithesis (roughly: in a human system, disorder always decreases). This parallel to thermodynamics, however, is only a metaphor.[132] Thermodynamic entropy is physical heat. Brün's "chaos" is social disorder, which he considers a source of information in that one hasn't submitted it to organization (yet). Entropy (heat) dissipates, and in a similar sense Brün saw chaos (information) decay. According to Brün, humans increase orderliness, and this is a loss of the potential for things to be organized differently. That is, for a time-based system constructed by humans (such as a song, a human life, a society) the passing of time is conceived of as a loss of potential. This owning to the fact that its temporality implies sequence: one doesn't get a second chance to play the first verse *for the first time*, nor a second at childhood, and so forth.[133]

Brün's information theory was qualitative rather than quantitative. Shannon and

Weaver (1949) had formulated a mathematical theory wherein "information" was designated as the logarithm of the inverse probability something will happen. Or, put another way, a measurement of the potential for things to happen differently. This was a technical definition of information distinct from the colloquial usage whereby information is a synonym for "message" or "content" or even "communication". Using the Shannon-Weaver Index, communication could be considered the inverse of information. Communication refers to the transference of a signal (or a message) across a channel, and information refers to the *measured* potential that other signals (or messages) could be sent. This is the "sender-receiver" model that has since been problematized (Bakhtin 1981) and critiqued by cultural studies as ignoring the surrounding context of power relations (Hall 1973). Critics of sender-receiver, however, focus on an appropriated use of the sender-receiver model for reductionist mass-communications research, whereas Brün (and many Cyberneticians) were interested in the "information", the un-realized potential for new signals, not a determinate equation for linear communication. Brün was trying to propose a vocabulary that one could use to describe the potential for a system to change. Rather than use the Shannon-Weaver Index to calculate uncertainty or propose a linear schema of communication, Brün wrote about the "quality of disorder" and the reduction of that disorder into organized forms of communication and administration in older and more stable human systems (Brün 1970).

Brün described his information theory in *From Musical Ideas to Computers and Back* in a section entitled "The Speculative Tendency of the Project" (Brün 1970). The essay focused on the image of a composer attempting to convey "musical ideas" using computers. In one section of the essay, Brün explained his information theory in terms of

how a not-yet-organized system (computer music, circa 1970) could eventually yield new means for communication. He described five stages on a sequential path from chaos to order: 1- disorder; 2- experimental; 3- speculative; 4- reflective; 5- administrative. At each stage in the organization of a system, communication increases, while the potential for the system to take on new and untried forms is reduced. By the final stage, administration, there is hardly any sense of potential for change left in the system, and the only way to organize something new is via another system that still has a higher level of disorder. For example: the potential for an "experimental stage" remains in the various computer languages that may be used to generate computer sounds today, which could be used to compose new music—there is much potential for disorder in computer programming, and there is also the potential to generate new acoustics using the computer. By contrast, a video game such as "Guitar Hero" on Xbox could be considered to belong to the "administrative stage" in that one can not compose new music using it—it consists of pre-programmed songs which players replicate on guitar-shaped game controllers that can only be used to simulate the "playing" of music which is pre-programmed into video games sold by the manufacturer. Thus, to organize new systems of music, one must look to systems other than Xbox.

Brün's ideas could be considered a contribution to theories of politics of the late 1960s. The wider themes of *From Musical Ideas to Computers and Back* focused on how a composer's work is constrained by computer programs and how the composer's thoughts (and compositional criteria in particular) are shaped by ideology. In Brün's critical analyses of ideology, he did not use sectarian rhetoric. He produced a political theory of communication, approached dialectically *vis a vis* a theory of information.

While "On the Speculative Tendency of the Project" is only two pages long, it outlines Brün's conceptual framework for analyzing the politics of inherited systems, as well as generating systems that have not yet existed. The emphasis on systems also links Brün's work to cybernetics in general and provides a level of abstraction that allowed Brün to hypothesize, if not test, his ideas about art and language in other domains such as politics, education, and computer programming. Having begun the 1960s with a tour of the United States in which he spoke about *The Function of Time in Art* (1962), by the late 1960s Brün was situated as a Professor of Composition with a theory of the function of time in the construction of the social world. Experimental composition was now to apply to the entire world of human constructs, not only music.

The Biological Computing Laboratory

The interdisciplinary work of the Biological Computer Laboratory (BCL) is worthy an article of its own, if not a book (Hutchinson 2008; Müller and Müller 2007). The following is a general introduction to the BCL, to provide some background for the radical work that was done there toward the end of the 1960s. The BCL was founded by Heinz von Foerster in 1958 as a laboratory for interdisciplinary study under the banner of cybernetics. Research there, under the direction of von Foerster, led to some very dramatic shifts of emphasis that would re-define cybernetics. Several of his key concepts were synthesized in the experimental courses, which he orchestrated with Herbert Brün between 1968 and 1971.

From 1958 to 1968, BCL research focused on electrical circuitry and sensory perception, looking for parallels between the two that could inform one another. The

research often found applications in communications or computer science. Von Foerster was trained as an engineer, but his exposure to cybernetics had put him in touch with neurophysiologists, mathematicians, and logicians who were researching the mechanisms by which systems regulate themselves and communicate with each other and the environment. They brought their work to the BCL, studied living systems and machines there, and published papers. During this first decade, there was no teaching or pedagogy associated with the BCL.

During the final six years of the BCL, there were several radical courses orchestrated through the BCL, which paralleled a shift in research priorities and a decline in funding. Almost all BCL funding came from federal agencies (especially the National Institute of Health, Office of Naval Research, and the US Air Force) and most of it went toward cybernetics research in circuitry, neurophysiology, and language (BCL 1975). After 1968, however, the BCL produced markedly different research proposals, including a project to construct a notation system for choreography of dance, an exploration of epistemology and decision-making, and a textbook on "second-order cybernetics."

Second-order cybernetics was the most lasting legacy of the BCL, and the American Society of Cybernetics (ASC) became its promulgator, with von Foerster, and his Chilean colleague Humberto Maturana leading the way (Müller and Müller 2007, 84-5). Second-order cybernetics was a rejection of logical positivism in empirical research.[134] It was the natural outgrowth of von Foerster and Maturana's decision to move away from notions of causality, objectivity, and neutrality. While many social theorists have taken similar positions, second-order cybernetics was distinguished by the fact that it grew out of empirical studies on the nervous system, perception, computers, and human

language. The first-order cybernetics of the preceding decade was distinguished by a proliferation of research on "systems" in a general sense, which were observed and described by researchers looking at systems from the outside, who described them in terms of components and relationships, such that there was a developed a general vocabulary of systems to be shared: networks, feedback, self-regulation, signals, messages, information, boundaries, homeostasis, and so on (Ashby 1956). That was first-order cybernetics: a vocabulary for describing systems that allowed people observing different types of systems to collaborate.

Second-order cybernetics was more of a method of accounting for the properties of the observers who were describing these systems. Second-order cybernetics emphasized uncertainty (Pask 1975), recursivity (Kauffman 1987), the absence of universal truth, time (Kaufmann 2002), logical paradox (Luhmann 1996), multi-valued logics (Günther 1969). Rather than focus on traditional fields such as engineering or biology, it tended to focus on interdisciplinary issues such as social constructs (von Glasersfeld 1976), ethics (von Foerster 1995), decision-making (Richards 1996), perception (Maturana et. al. 1972b), epistemology (von Foerster 1981), language, and education (Sloan 1974). The BCL's shift from first-order to second-order cybernetics was concurrent with the BCL's shift from focusing solely on experimental research to inclusion of experimental educational practices.

The Heuristics Courses, Fall 1968 – Spring 1970

In 1968 and 1969, Herbert Brün and Heinz Von Foerster offered three semesters of a course called "Heuristics" through the Department of Engineering at the University

of Illinois. It was a discussion-based course with graduate and undergraduate sections, and a cross-listing in the English Department in 1969 (see Table 3.3 in Appendix A). Students enrolled from several colleges, but mainly the College of Liberal Arts & Sciences; the Fall 1968 course roster lists only one undergraduate from the College of Engineering, out of 49 class participants[135]. "Heuristics", as Von Foerster used the term, referred to "the teaching and learning of the faculty to perceive and to discover" or "the development of cognitive processes" and problem solving in general.[136] The course was an attempt at radically interdisciplinary inquiry during a period of social upheaval on campus.[137]

Von Foerster was developing a reputation for his increasingly experimental teaching methods, perhaps owing to the wider social and political changes in the United States in the late 1960s, and the Heuristics course would be no exception. Von Foerster's former students reported that at one point he went so far as to use different color cards hanging from his neck to distinguish different levels of analysis he was speaking about (Müller and Müller 2007, 205). While he was permitted to experiment in the classroom, a "Senate Committee in Illinois demanded [von] Foerster to defend his didactic principles in a hearing in 1970 after one of his interdisciplinary heuristic courses, which took place in the climate of student revolts, created an uproar from concerned parents" (Müller and Müller 2007, 11).

Von Foerster's attitude toward the social movements that were shaping campus life at Illinois is evidenced in his "Note on Causes of Campus Disorder" from the Heuristics course.[138] The text is undated, but it links the disruption of "business as usual" on campus to the subject matter and methods of the Heuristics course.[139] The stated aim

of the course was to explore problem solving in general, but what did that mean? Was it a smokescreen for sympathetic professors to have discussions with students who were demanding change? Would their collision inspire new and interesting work?

The Heuristics course proposed to investigate human cognition, introduce texts selected by the instructors, while simultaneously allowing the students to shape the semester by organizing responses, discussions, groups, documents. A summary of the Fall 1968 course shows that during the first meeting on September 17, 1968, the students were given the assignment to write a paper on the topic "Right or Wrong, My Desires."[140] The first two meetings of the course were in fact led by John White, who was enrolled in the course as a graduate student and probably had a Teaching Assistantship, followed by a third meeting in which von Foerster tried to give a lecture on logic that was rejected by the students.[141] That this fact was included in a final write-up of the course suggests that it was indeed a turbulent discussion.

The Fall 1968 Heuristics course devolved power to the students via the creation of groups that researched the formation of problems, plus a "creativity group" that was to present on what it deemed to be creative action and later several "desire paper groups" were formed out of themes distilled from the students' desire papers.[142] A later variation on this theme would be the "design groups" that were later organized in Marianne Brün's course entitled "Designing Society" which led to the School for Designing a Society (Brün 1985). Herbert Brün originated the idea and made several variations himself. "Desire paper groups" started with a list of statements entitled "Right or Wrong, My Desires", which were then used to discover or construct affinities or links between the individuals' desires statements, then forming groups to discuss and make presentations of

what relevance the desires have to the discussion of problem solving. The Fall 1968 class produced four desire paper groups, with the following themes: "1. Power, love. 2. Communicate, understand. 3. Security, freedom, fulfillment. First two may produce a paradox. 4. [...]Could not find a common desire."[143] The themes of the problem groups included: "1. Relevance, 2. Creativity, 3. University, 4. To know people, 5. Evaluation (Engineers), 6. Thought to Action."[144]

The results of the first desire-paper groups are somewhat shocking given the radical politics sweeping university campuses in 1968. Six "problem groups" convened but none of them focused on the Vietnam War or Civil Rights, this in a time when the Tet Offensive, the assassination of Martin Luther King, and the riots at the Democratic National Convention in Chicago were daily headlines. While "The Whole University Catalog" produced at the end of the Heuristics course in 1969 clearly articulated the student frustration with the war and the state of Civil Rights at Illinois, the first semester of Heuristics mainly revealed the paucity of organized desire behind student frustration, at least amongst students enrolled in the course. As one can see, the desire paper groups roughly clustered around the now-cliché triumvirate of peace, love, and understanding.

Anticommunication: an Attempt, Not a Refusal

Perhaps in response to the quaintness of the desire paper themes, the Fall 1968 Heuristics course was when Herbert Brün first introduced his concept of "anticommunication". The notion was that if one wants to communicate something new, one has to first concern themselves with generating a way of speaking that doesn't communicate the old. He presented entire programs of music compositions in an envelope of formulations about anticommunication.[145] Anticommunication is then

referenced (or used) in much of the work done by Brün for the rest of his life. Many of these ideas were published in an essay entitled *On Anticommunication* twenty years later (Brün 1989) and in the brochure for the School for Designing a Society starting in 1997.[146]

The idea of anticommunication echoed Brün's idea that systems organized by people become more communicative, as well as more rigid, over time. He saw potential in language beyond communication. If communicative language could limit a new idea, then it might be hopeful to generate language that is not-yet-communicative, that will eventually become communicative. Brün wrote, in 1968, "anticommunication is an attempt, not a refusal."[147] A neologism (a new word), or a new phrase, doesn't make sense when spoken for the first time. The linguistic elements seem out-of-order. The word "anticommunication" is an example of anticommunication. When first encountering the word, it is hard to imagine anyone advocating anticommunication precisely because the language is unfamiliar. Other examples include simple neologisms such as "unschooling" "womanism" or "permaculture" or word pairings such as "sexual liberation" "black power" "natural capitalism" or whole phrases or sentences including "beauty is a power failure" or "I'm searching for a better version of wrongness."[148] In short, language constructed to interfere with the established language. In terms of Brün's information theory such constructions are more chaotic, in that they have not arrived at their final communicative value or role in the linguistic system. Anticommunication is a time of rebellion in language, marking a moment of non-conformity. Over time, things become more communicative by dint of repeat, or they are co-opted, fossilized, or forgotten.

Anticommunication points to change in a gesture similar to Paulo Freire's "untested

feasibility" (Freire 1992). Before someone coined the word "unschooling" or "permaculture," it was as though people were in a language trap in which the concept could be discussed, but it was difficult to communicate. Thus, Brün said, sometimes it would be necessary for a person to anticommunicate to generate new starting points that could then be ordered into new communication systems (Brün 1986). This was the idea behind the desire paper groups as well, though they developed desire themes such as "power" "love" and "understanding" that were very communicative. Brün wanted the desires to go further, so he coined the word anticommunication to communicate his sense that the desire being expressed by the students was being done disservice by the accumulated communicative value of the words they were using to express their desires.

Outcomes of the Heuristics Class

James Hutchinson, of the University of Illinois College of Engineering, writes about the Heuristics course on the Biological Computer Laboratory website.[149]

> The capstone publication of the 1968–69 heuristics seminar, which students entitled *The Whole University Catalog,* left no doubt as to its inspiration. A popular periodical out of California called The Whole Earth Catalog had first appeared in 1968. Founder Stewart Brand conceived the twice-yearly catalog as a sort of heuristic for the counterculture, or as he described it, a tool for "the individual to conduct his own education, find his own inspiration, shape his own environment, and share in his adventure with whoever is interested." Accordingly, *The Whole University Catalog* served as an unauthorized guide to the U of I. Emulating the oversized format and densely graphic appeal of *The Whole Earth Catalog,* the students' production contained information about local food, housing, and culture; academic and social resources; and essays, poetry, graphic art, and photography, all informed by a playful cybernetic outlook. Copies were sold for a dollar apiece, with profits going to the university's Special Educational Opportunities Program. Much of the collection was irreverent toward the academic establishment and dismissive of traditional academic publishing standards, earning *The Whole University Catalog* the scorn of certain campus administrators and even one Springfield legislator, who hauled von Foerster before a special hearing to answer for his students' work. (Hutchinson 2008)

The Special Educational Opportunities Program (SEOP) funded by the catalog was the mechanism by which African-American enrollment at the University of Illinois finally started to go up during the 1968-69 school year (Williamson 2003). The report from the senate hearing (Illinois General Assembly 1970) reveals little more than that von Foerster was present, and that the committee might not have had enough money to hire a transcriptionist. Von Foerster kept his job, and he continued to experiment with course format.

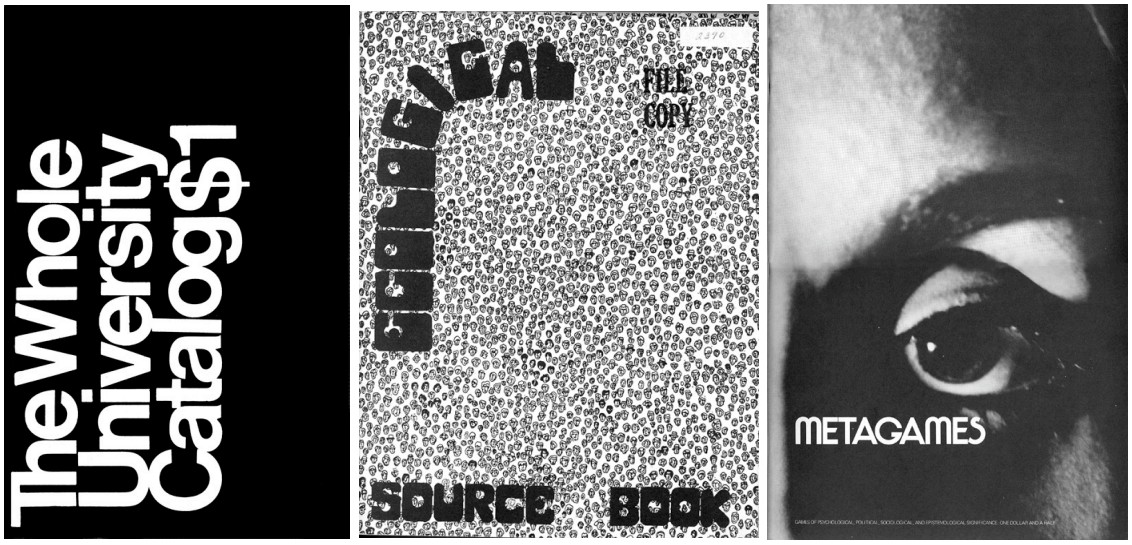


Figure 3.4 The covers of publications produced in seminars at the Biological Computer Laboratory. From left to right: The Whole University Catalog (1969), The Ecological Source Book (1970), Metagames (1972). The largest book would be Cybernetics of Cybernetics (1974), discussed later.

During the final Heuristics course (taught in Spring 1970 as a chemistry course) the "desire statements" were reformulated as something resembling "false statements" as they later came to be known.[150] Graduate student Charles Bull's "Heuristics 1970 Desires Paper" included a list entitled "Statements I would like to be true statements irrespective of proofs of their truth."[151] The archival folder that produced this paper also contained

student writings that attacked Brün's anticommunication as being a reincarnation of truth and professorial power hidden in indecipherability. This suggests that Brün encouraged students to anticommunicate their desires so much that they begin to sound false, rather than true. Years later, Brün stated that he indeed thought of false statements as instances of anticommunication. [152]

The Meetings with Ivan Illich in Cuernavaca

In the summer of 1971, Illich and von Foerster arranged for a series of meetings at the Center for Intercultural Documentation (CIDOC) in Cuernavaca, Mexico with Herbert Brün, Humberto Maturana, Gordon Pask, and students. Illich had just published *Deschooling Society* (1970) and Paulo Freire (who had recently visited CIDOC, himself) also publish *Pedagogy of the Oppressed* (1970) the same year. These books converted Illich and Freire into central spokespersons for educational theories opposed to indoctrination, economic exploitation, and cultural imperialism. Heinz von Foerster and Ivan Illich were friends (Müller and Müller 2007, 138-9). The 1971 discussions contained traces of Illich and Freire's ideas, as well as Brün and Von Foerster's reflections on their Heuristics Class, Maturana's recent theory of "autopoiesis" (Maturana 1970), and Pask's interjections from his nascent "conversation theory" (Pask 1975).

Though all of the men present for these discussions had critiques of the educational system, the purpose of their meetings seemed largely to create some interaction between the ideas at CIDOC and the ideas of second-order cybernetics, for which Von Foerster and Maturana were emerging as the central thinkers. They had seminars focused on specific topics, and each of the men took turns facilitating their particular subject. They also met in groups with the students and wrote desire statements about their preferred

society.[153] The discussions seem to have been fruitful, and a few of the ideas that crystallized in Cuernavaca would stick for decades to come in the milieu around Herbert Brün.[154]

The "Seminar on Interpersonal Relations" of July 1971 gives a glimpse of one such crystallization. The discussion was typewritten in the form of a manuscript for publication, with much of the give-and-take of dialogue roughly transcribed and edited.[155] The discussion focused on trying to call forth a different system while using the language of the current system.[156] At some point, the discussants drifted into a quandary about what is "necessary" when Brün asked (roughly) when to use the word "necessity"; a student present responded "necessity is something which you can not survive without." Brün responded "Yes, that's unbeatable." Years later, Brün maintained the distinction between need and necessity: needs are conditions of the body (needs can not be chosen) such as the need to rest or the need to breathe; desires are outside of what's needed, even outside of what can be argued for with existing facts—necessities, then, become a synthesis of need and desire: necessities are those things which satisfy needs and are socially constructed under the influence of desire (Brün 1986). In Cuernavaca, Brün provoked people with the word necessity in close proximity to Humberto Maturana who had just developed his theory of autopoiesis and structural coupling—the idea that autonomous living beings are linked to their environment via the satisfaction of their needs on the molecular level (Maturana and Varela 1987).[157]

On September 3, 1970, Heinz von Foerster wrote that "learning is usually, and correctly, understood as the sum total of the processes by which knowledge is acquired."[158] Furthermore, during times of "socio-cultural continuity it appears as if

'knowledge' were a commodity" and learning is conceived of as "acquisition and maintenance (memorization) of that commodity."[159] In times of "socio-cultural discontinuity" knowledge "is contested" and learning becomes concerned with "processes of perception and discovery (the cognitive processes) rather than memorization."[160] Von Foerster's wording echoes Illich, who wrote that "schools reproduce society" and asked "will people continue to treat learning as a commodity?" (Illich 1970; Illich 1971) Unlike Illich, von Foerster never went so far as to advocate educational *deinstitutionalization*, but instead proposed that education be oriented by unanswered questions (von Foerster 1990).

Von Foerster singled out the United States' education system as overly focused on memorization, which he considered a form of trivialization. He proposed that "legitimate questions" be the term for questions for which there are still unknown answers, as distinct from "illegitimate questions" (the norm in the United States), which already answered and are used by teachers to test memorization skills (Von Foerster 1990). Von Foerster's 1970 "comment on heuristics" was tame compared to later epistemological proclamations. Within a few years the contestation and the de-trivialization of knowledge acquisition would become one of his main points (von Foerster 1981). The Cuernavaca meetings with Illich may have been a turning point in von Foerster's thinking about education.

There is a fine distinction to be made between the Heuristics course emphasis on "problem solving" and the nearby discussion of Freire's notion of "problem-posing" education. The shift from emphasizing solutions (and the *transfer* of knowledge) to emphasizing problems (and *dialogical* inquiry) is a subtle but tectonic shift. Freire

positioned "problem-posing education" in contradistinction to "the banking method" of education (Freire 1970). Brün took the position that problem-creating was part of composing (Brün 1962/2004).[161] Freire and Brün came at "problems" from different perspectives, but their distinctions carry a similar sense that education must engage problems, not proffer immutable realities, correct answers, or timeless truth. Freire's problem-posing is in contradistinction to answer-posing, in that problems create a context for dialogue. Brün had a formulation of "six questions to ask a problem" that he used to trigger conversation, generating questions from unsolved problems (Brün 2003a, 207).

How then to treat the desire-statements of the Heuristics course: were they solutions? Brün grappled with the question of implementation in Cuernavaca. According to Brün's theory of information, submitting the desires to "order" would only hasten their decay (Brün 1970). Brün had proposed "rank-ordering" lists of desires, but he also criticized the stabilities of hierarchies (in 1984 he proposed an alternative he called "floating hierarchies") (Brün 2004, 318). In Cuernavaca, Brün wrote about the implementation of finally articulated desires.

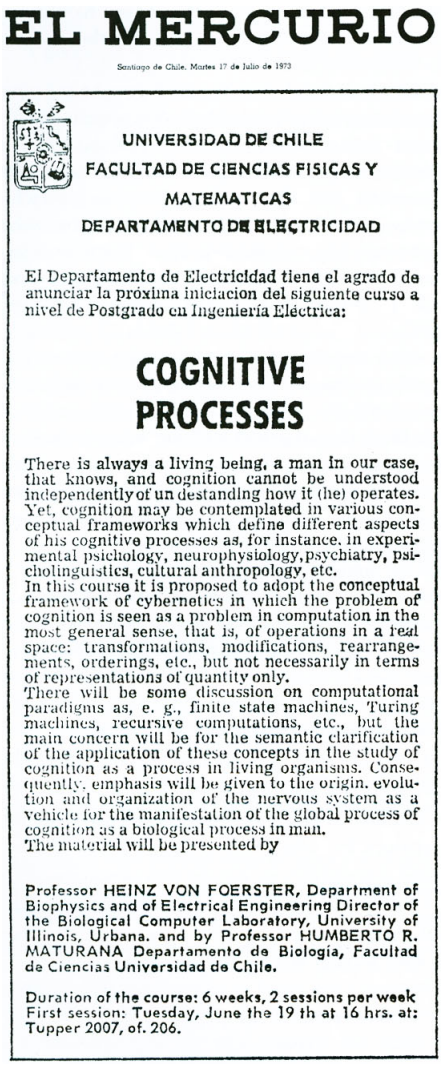
> That the implementation of a finally articulated desire be initiated according to a list of priorities reflecting the degree of intersection between the set of consequences associated with all other desires.
>
> That the priority given to the implementation of a finally articulated desire reflect the degree of intersection between the set of consequences associated with this desire and all sets of consequences associated with all other desires.
>
> That the priority index given to the implementation of a finally articulated desire reflect the degree to which the set of its consequences intersects with all other sets of consequences associated with all other articulated desires.
>
> –Herbert Brün in 1971[162]

Many ideas seem to have crystallized at the meetings with Ivan Illich in 1971, as well as in the years immediately preceding and following the meeting. These ideas include the importance of discussing unsolved problems, the distinction between need and necessity, confronting the issue of implementation of desire statements, and potentially organizing desires according to priority, while avoiding unproblematized hierarchical forms. This pedagogy would still be radical today, in any department. Unsurprisingly, then, while Brün and von Foerster persisted with their methods and ideas, their institutional support eroded.

Cognitive Technology: A Citizen-Society Problem Solving Interface

In February 1972 Herbert Brün, Heinz von Foerster, and four other men submitted a funding proposal entitled "Cognitive Technology: A Citizen-Society Problem Solving Interface" to the National Science Foundation Research Applied to National Needs (RANN).[163] It was the biggest research proposal the BCL ever produced, requesting almost $1 million to be spent over four years.[164] The proposal definitely contains echoes of the Cuernavaca meeting (the emphasis on "needs") as well as the Heuristics course (with its emphasis on general methods of problem-solving). The proposal resembles Stafford Beer's project in Allende's Chile: a national network of computers organized to facilitate participation in large-scale decisions about the political and economic system.[165] Maturana was perhaps a conduit of information between Beer's cybernetic experiments in Chile and Brün and von Foerster in Urbana. Beer's work took off in late 1971, in the months following Maturana's participation in the Cuernavaca meetings, which was concurrent with the final years of Allende's rule in Chile.[166]

The year of 1972 did not to bring good news for the Biological Computer Laboratory: Ross Ashby died and the Cognitive Technology proposal was rejected. The collaboration and research continued, and a course under the same title (though different subject matter) was taught by Von Foerster and Maturana at the University of Santiago the following summer (see Figure 4.3). Some of the language from the proposal was later published in an article attributed to Brün (1974b), after the intervening circumstances of 1973 would further deteriorate the BCL in the US and life in general in Chile.[167] While



EL MERCURIO

Santiago de Chile, Martes 17 de Julio de 1973

UNIVERSIDAD DE CHILE
FACULTAD DE CIENCIAS FISICAS Y MATEMATICAS
DEPARTAMENTO DE ELECTRICIDAD

El Departamento de Electricidad tiene el agrado de anunciar la próxima iniciacion del siguiente curso a nivel de Postgrado en Ingeniería Eléctrica:

COGNITIVE PROCESSES

There is always a living being, a man in our case, that knows, and cognition cannot be understood independently of un destanding how it (he) operates. Yet, cognition may be contemplated in various conceptual frameworks which define different aspects of his cognitive processes as, for instance. in experimental psichology, neurophysiology, psychiatry, psicholinguistics, cultural anthropology, etc.
In this course it is proposed to adopt the conceptual framework of cybernetics in which the problem of cognition is seen as a problem in computation in the most general sense, that is, of operations in a real space: transformations, modifications, rearrangements, orderings, etc., but not necessarily in terms of representations of quantity only.
There will be some discussion on computational paradigms as, e. g., finite state machines, Turing machines, recursive computations, etc., but the main concern will be for the semantic clarification of the application of these concepts in the study of cognition as a process in living organisms. Consequently, emphasis will be given to the origin. evolution and organization of the nervous system as a vehicle for the manifestation of the global process of cognition as a biological process in man.
The material will be presented by

Professor HEINZ VON FOERSTER, Department of Biophysics and of Electrical Engineering Director of the Biological Computer Laboratory, University of Illinois, Urbana. and by Professor HUMBERTO R. MATURANA Departamento de Biologia, Facultad de Ciencias Universidad de Chile.

Duration of the course: 6 weeks, 2 sessions per week
First session: Tuesday, June the 19 th at 16 hrs. at: Tupper 2007, of. 206.

Figure 3.5 Heinz Von Foerster and Humberto Maturana's course announcement at the University of Chile (Santiago) in the summer of 1973.

contemporaneous social theorists plunged in the direction of non-objectivity and open access information, the BCL's move to pursue this direction in "hard science" and engineering contexts came up against institutional barriers.

Heinz von Foerster and Humberto Maturana Discontinue Work at the University of Illinois

The Fall of 1968 to the Summer of 1973 marked the height of collaboration between Brün, von Foerster, and Maturana. Regressive societal changes interrupted their ability to work together in the following years. The 1973 *coup d'etat* in Chile, the Mansfield Amendment in the United States, and the subsequent retirement of Heinz Von Foerster, led to a situation where by the late 1970s Herbert Brün was one of the only remaining faculty voices for cybernetics at Illinois.

On September 11, 1973 Chilean president Salvador Allende was killed in a *coup d'etat* that resulted in a military dictatorship under the command of Augusto Pinochet. Stafford Beer and Fernando Flores were driven out of Chile for having introduced a system to control the economy.[168] Maturana called von Foerster in an attempt to find work in the United States, but ultimately Maturana chose to stay in Chile and continue teaching in Santiago.[169] He turned down the positions that von Foerster had found for him and opted instead to live under the military dictatorship, keeping the memory of democracy alive.[170]

In 1970, Senator Mike Mansfield introduced legislation to restrict funding from the Advanced Research Projects Agency (ARPA) only to projects with explicit military applications (Umpleby 2003). ARPA had been established as a branch of the Department of Defense in 1958 after the Soviet launch of Sputnik in 1957, and its purpose was to

fund US research institutions in science and technology. Microwaves, anti-gravity machines, and cybernetics were amongst the research projects that were affected. After World War II engineers could easily get money for experimental projects by claiming their research was related to defense, but the Mansfield Amendment required demonstrations of direct military relevance. Cyberneticians grumbled as several funding streams were diverted to IBM and the discipline of artificial intelligence (AI) which had systems scientists who were the most ready to make weapons.[171] To this day AI produces robots for war, such as unmanned drones, and it is not uncommon to find the word "cybernetics" mixed in with the reportage.

Several sources suggest the shift in federal funding priorities effectively killed the BCL (Müller 2000, Hutchinson 2008). Stuart Umpleby, who was one of von Foerster's graduate students toward the end of the BCL, saw the Mansfield Amendment as a response to anti-war protesters bombing an Army Math Research Center in Wisconsin (Müller and Müller 2007, 80). Umpleby' sense was that the National Academy of Science's Research Applied on National Needs (RANN) was supposed to pick up the research that the military had dropped, but their lack of interest in epistemology made it impossible for the BCL to get RANN funding (Müller and Müller 2007, 81). During the final four years of the BCL there were only two successful grants that listed von Foerster as the principal investigator, one in 1970 to support "Direct Access Intelligence Systems" and another in 1973 in support of von Foerster's final college course.

During his final two semesters at the University of Illinois, von Foerster facilitated a course that was oriented around the production of a book on second-order cybernetics, entitled *Cybernetics of Cybernetics* (1974). The book contains classic first-

order cybernetics texts (Wiener 1945, McCullough 1945, Ashby 1962) a few political pieces (Habermas 1971), and several essays and short communications written by cyberneticians to problematize the role of the observer in research. The latter comprised the lengthiest exposition of second-order cybernetics to be published in long form. Still, *Cybernetics of Cybernetics* cannot be described as a textbook on second-order cybernetics, and it does not claim to be one. The introductory pages describe it as an output of a university course, an accompanying "parabook" includes the course description, and abstracts of each of the sessions of the course (von Foerster 1974). Also included are various illustrations, photographs, games, experimental writings from the students in the course, and multiple overlapping organizational systems by which a reader may choose to explore the book.

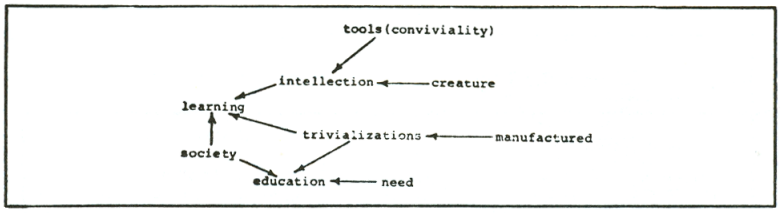
Cybernetics of Cybernetics was designed to reveal the processes by which it was constructed. Given that a central feature of the "second-order cybernetics" proposed by von Foerster was to incorporate the observer in the observed system, several alternative orderings of the book were included in its production. One was an elaborate system of circles printed in the margins of the pages. When the open circles were hole-punched, one could trace an alternate set of routes between the parts of the book (see Figure 6). There were also two small books included, the parabook (mentioned above) and a "metabook" that contained entailment diagrams that provided alternative sets of links between the concepts in the book (see Figure 4.5), as well as the correlations between authors and subject matter, and an analysis of the redundancy of authors' selection of concepts using information theory (von Foerster 1974, 522). The entailment diagrams seen in Figure 7 were also reproduced in miniature and printed next to the author's text in the main body

Should it be desired to establish connections between concepts whose links lie in dimensions different from the one suggested by the sequential arrangement of topics in this collection, punch holes into pages according to the schedule (small, open circles ◯) indicated on the right outer margin of each page.

Large, solid black circles ● indicate target pages. These circles should not be punched. To reach a target page, insert a stylus (pencil, pen, etc.) into holes, flip pages until target page is reached.

Figure 3.6 From the bottom of title page of *Cybernetics of Cybernetics*. The open and solid circles provided one of the alternative means of organizing the contents of the book.

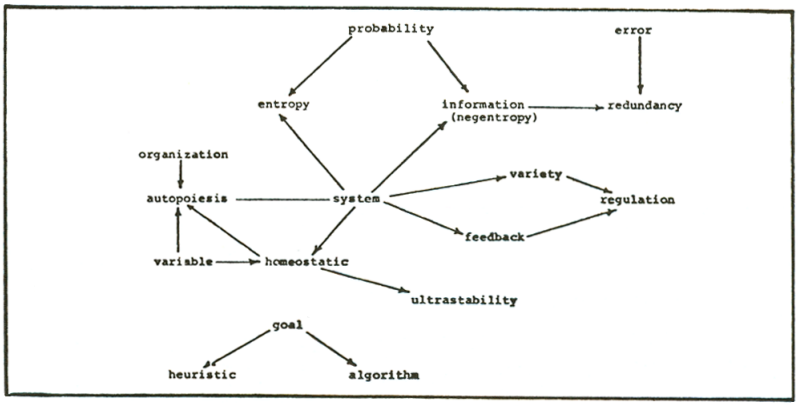
I.I. [Ivan Illich]



creature, education, intellection, manufactured, trivializations.

298

S.B. [Stafford Beer]



homeostatic, regulation, variety, ultrastability.

2, 32, 33, 46, 53, 80, 86, 102, 111, 134, 182, 219, 449

Figure 3.7 Some entailment diagrams from the metabook, which represent mappings of key concepts according to contributors, in this case Ivan Illich and Stafford Beer. Under the diagram is a list of terms that only appear in their entailment diagram, and page numbers where the author's entries and essays may be found.

of *Cybernetics of Cybernetics*, so that when the reader views one of the entries or essays in the book, they also see an accompanying entailment diagram of what that author considers key concepts. In these ways the reader was invited to participate in the construction of the reading experience, as well.

The multiplicity of organizational schemes for the book echoes the unresolved issues with hierarchy that arose in the BCL and in the decline of the movements of the 1960s more generally. From within cybernetics, there was the classic paper from McCullough describing neuronal networks with parallel circuits as a "heterarchy" (McCullough 1945). Maturana's early work had displaced the ultimate apex of western epistemology, the objective "external reality," by showing how visual perception of said "reality" had more to do with an organism's internal circularities (i.e. the visual cortex) rather than an external "objective world" (Lettvin et. al. 1959). The sequential arrangement of a bound book is itself a hierarchy, wherein part B follows part A, an idea that Brün would later expound upon and attribute to Theodor Adorno (Brün 2003a, 17; Adorno 1970). The project of organizing *Cybernetics of Cybernetics* was an early attempt at organizing a book without a hierarchical main point or conclusion that was proven in the text, instead laying out multiple conflicting expositions of cybernetics, as well as problematizations of cybernetics vis-à-vis "second-order cybernetics".

After this eclectic and incomplete book was sent to the publishers, von Foerster retired in the summer of 1974. He remained active. While his graduate students completed their work, he hosted seminars in the BCL in 1975, and the BCL files were compiled in an edited micro-fiche collection which was completed in 1976.[172] In 1977 von Foerster and his wife moved permanently to California. The building that housed the

BCL was demolished in 1992. Von Foerster continued to work on articulating his epistemological ideas, his critique of American educational structures, and second-order cybernetics. Once, when asked about unsolved problems in his work in Illinois, Von Foerster said "the unsolved problems consisted above all in the lack of a final formulation of a theory of the insolvability of problems" (Müller 2000). Unfortunately, there was no other laboratory to pick up the loose ends of von Foerster's work, and no other faculty left on campus with comparable cybernetics credentials.

What is the Consequence? Critically Reading the Period

There is no neutral text. Furthermore, it is necessary to critique the non-neutrality of a text, and the subjects of history we write about. The "facts" I have presented regarding Heinz von Foerster, the Biological Computing Laboratory, Herbert Brün and others are contestable. Just as these thinkers and their sentences called for scrutiny of status quo assumptions and rejection of the "Objective World" and "Truth," so too must the story of their work be treated as construct that has been biased by its constructors. Below, I will briefly try to move beyond mere exposition to critique the ideas presented above.

Brün's Information Theory

The idea that humans are a contradiction of nature has many precedents, back to the book of *Genesis*, and earlier. Brün's information theory was not the first strand of post-enlightenment thought to use science to demonstrate the violation of natural law. Erwin Schrödinger's *What is Life?* (1944) made the claim that living things are defined by their resistance to the second law of thermodynamics, because living systems remove

molecules from Brownian motion (entropic), and subject them to their control (negentropic). To put it another way: life contradicts the movement of everything toward unity in entropy.[173] Schrödinger's idea was popular amongst early Cybernetics because he moved an insight from the domain of physics to the domain of biology. Brün applied a formulation of physical law (in the sense that physics is an "objective science") to the social world (wherein things are whatever is said about them). This dramatic shift from empirical physical science, to constructivist epistemology was what distinguished the BCL, but it was not without precedents. Nor did Brün claim it was; he cited composers in Europe already using information theory in 1963.[174]

Anticommunication

Brün didn't think communicative text/art from the current society could provide an alternative to the current society, so he called for more chaotic work that is not-yet-communicative. He wanted people to speak the potential from which new means of communication could be developed; he called this "anticommunication" (Brün 1989). The word itself is an instance of the phenomenon it names, in that it is not presently communicative to say that what is necessary to generate communication is "anticommunication". But Brün was not the first person to use the word. An editorial note printed in the *Internationale Situationniste* journal #7 in April 1962, critiques the "simple anticommunication" of dadaism (McDonough 2004, 133). It is logical to use this word to describe the "anti-art" of the Dada movement. But does the piece in fact call for something similar to what Brün calls "anticommunication"?

> For us, any use of permitted modes of communication must therefore be the refusal of this communication and at the same time not: a communication containing its refusal; a refusal containing communication, that is to say the reversal of this refusal into a positive project. All this has to lead somewhere. Communication will now contain *its own critique*.
>
> —Internationale Situationniste #7, p. 24

The Situationist editorial finished there. Brün however, did not: he used the term for decades. He also emphasized in 1969 lecture notes, in the 1989 essay, and his teaching in the 1990s that "anticommunication is an attempt, not a refusal."[175] The work of the Dada movement was to communicate "anti-". The work of the Situationist International saturated language with negations. Brün' anticommunication was a negation of present constructs, but also an invitation to construct something new. It was an activity that he practiced.

Brün anticommunicated and turning to his anticommunicative texts (and others') leads to finer distinctions between distinct works of anticommunication. To critique anticommunication without reading specific works of anticommunication would be like critiquing communication itself without having read anything communicative. Clearly there will be discrimination between different things which have been communicated or anticommunicated, as well as elements of one within the other. One example of an anticommunicative essay is Brün's *Drawing Distinctions Links Contradictions* (1974b), which also addresses anticommunication itself in an anticommunicative mode.[176] Brün's book *my words and where i want them* (1986) contains many short anticommunicative statements. In fact, he described the book as having been started in 1968 (Brün 2003b) perhaps concurrently with the original formulation of anticommunication. Years after it's publication, Brün (2003b) describes it's function,

> …the unusual sequencing of the statements as well as the blatant inconsistencies

> between them and, not least, the unpolished syntactically self-reliant rhetoric in which the statements like themselves, the words they carry, and the reader they crave, provoked various comments, several of which taught me one or the other of reader's attitudes (94).

For educators interested in social change, "anticommunication" runs flat up against an already problematic world of communication in a world divided by race, class, and gender. Does anticommunication share power with people who have been excluded from communication? That was never Brün's point; he was investigating the abilities of language itself, not the abilities of people. It was a "blind spot" for Brün and others of his time that in a multicultural society, the avoidance of communicative language would re-enforce patterns of discourse that exclude the culture, experience, and history of anyone "other". In reflecting on the language of feminism, bell hooks (1989) reflected that communicative speech patterns that represent distinctive aspects of a person's racial heritage and identity are "one of the ways we become estranged and alienated from our past." (80) To put it bluntly: "if I do not speak a language that can be understood, then there is little chance for dialogue" (78). Is there subversive potential in popular form and communication? The field of Cultural Studies has argued (in opposition to, say, Adorno and Brün) that mass media, popular arts, and communication are channels of resistance. When Cornel West released a commercial audio CD "Sketches of My Culture" (2001), he ignited a firestorm of controversy, ultimately leading to his departure from Harvard. It was perceived as a transgression of his role as an elite intellectual. The political issue could be put thusly, from an educational perspective, *more communicative* forms of expression can include people who have been excluded from discussion via a rejection of the language that is communicative to them. Brün doesn't address this issue. It could be called non-communication, which is prior to communication proper. Brün's proposal

focuses on the surfeit of which necessitates anticommunication according to Brün.

There were other turns that one may make with regard to communication issues, in the name of social change. Cultural studies took an avowedly different route than the Frankfurt School theorists in embracing cultural work that is decidedly close to popular culture. Punk rock music, for instance, may use conventions of mainstream music while combining them with alien elements and, thus, enhance the subversive potential of both (Hebdige 1979). There is also the critique of communication as a component part of violent and oppressive systems. Non-violent communication is one direction that has been developed to focus more on honesty and empathy, for instance (Rosenberg 1999). Though Brün did not leave any explicit comments on these alternatives, they still may cast his proposal for anticommunication in relief.

The Heuristics Course

A brief description of the demographics of the course might elucidate *to whom* the Heuristics courses were worthwhile. There was a preponderance of white men in the course: female registrants were 4 of the 36 enrollees (Fall 1968), then 10 of 57 (Spring 1969), growing to 38 of the 147 student enrolled (Fall 1969).[177] Students in the College of Engineering were almost exclusively men in the 1960s, and (unsurprisingly) none of the women who enrolled in the Heuristics course had a declared major of Engineering. The College of Engineering did not hire a single tenure-track female faculty member until 1972 (Haveric 2010). Thus, one may say that the Heuristics course likely increased the number of female students von Foerster was working with and, in general, served to break down the barriers between departments.[178] The students may also be assumed to be predominantly white students, as scarcely any students of color attended the University of

Illinois up to 1968 (Williamson 2003). The description of the course proceedings further suggest that the teaching was being frequently disrupted by the students who saw their lectures as a reification of the status quo; in contrast to the African-American community, especially from Chicago, for whom sitting in Illinois courses *itself* disrupted the status quo.[179] All this is to say that the Heuristics course was coming from, and given to, a particular segment of the population. This is ironic given that the contestation of the existence of a neutral objective "truth" was later taken up by those who favored a diversification of participants in academic constructions of epistemologies.[180]

Von Foerster's short text on campus activism is an intermediate species between the objectivist first-order cybernetics and the constructivist second-order cybernetics.[181] The note was probably written for the Heuristics class, in response to concurrent campus turbulence. In it von Foerster yearned for engagement with the younger generation, while at the same time he re-inscribed the older generation in the position of knowledge-providers, used the word "men" as the universal pronoun, and referred to "knowledge" being like a "commodity" that can be acquired and learned (or memorized). He problematized the latter: "learning must be foremost concerned with the acquisition process of any knowledge—that is learning of learning—rather than with the memorization of (contestable) description of facts."[182] His students were probably pushing him hard[183] and Von Foerster appears to have been willing to bend. He ends his piece "if we wish to regulate we have to learn how to listen."[184] The intransitive use of the verb "to regulate" is ambiguous. Regulate *what*? Campus *disorder*? At the same time Brün was publishing a piece that proposed that disorder be thought of as potential (Brün 1970).

Perhaps "anticommunication" was the dividing line between Brün and Von Foerster. Von Foerster appreciated Lugwig Wittgenstein, (who he reportedly met as a young man in Vienna), who wrote "What can be said at all can be said clearly, and what we cannot talk about we must pass over in silence."[185] Brün, by contrast, wrote atonal music and theorized anticommunication as a means to try to say something. The path from art to politics is more well-worn than the one leading there from electrical engineering.[186] Heinz von Foerster's note on campus disruption is far afield from cybernetics research based on empirical studies, but at the same time has not fully arrived at a formulation of cybernetics as a radical social theory. If von Foerster even got close, it appears to have been at the expense of the BCL. Educators who pursued art education under the new rubric of artificial intelligence lacked any meaningful social agenda and basically spoke as though the 1960s had never happened (Rosenboom 1970/1983).

Why did the BCL, and cybernetics in general, fall into decline?

The Mansfield Amendment certainly had an effect, but questions remain as to whether there was any genuine shortage of funding for non-military scientific research in the US as a result of the 1970 law (Branscomb 1992). Researchers generally abhor centrally planned science and are likely to complain when research agendas de-emphasize their work, as when there is a shift from funding foundational cognitive research (e.g., the BCL) to the improvement of computerized weapons (e.g., AI). Still, the National Academy of Sciences was funding basic research in the mid-1970s and it is facile to blame the decline of cybernetics on a single Congressional act that appropriated military funding to military projects.[187] Nor was it solely dependent upon the turn to constructivism, for there were precedents of this as well (Menger 1959). It seems more

likely that the radical turn of Heinz von Foerster toward more of a social change agenda, which contained a fundamental critique of empirical research, the concept of objectivity, and the premises of the US school system, took the BCL to a point-of-no-return as a unit of the College of Engineering at the University of Illinois. His contemporaries in the humanities and social sciences were drawing similar conclusions (Foucault 1969), but the world of science and engineering continued to operate by the logic of positivism he had now spent half a decade rejecting.

Heinz von Foerster's work was criticized in his later years, during and after the shut-down of the BCL, and much of the critique is reproductive of the status quo of research institutions that von Foerster had opposed. Stuart Umpleby, one of von Foerster's students, claimed that the BCL took over the American Society of Cybernetics (ASC) and von Foerster and Maturana excluded everyone who came from logical positivist assumptions (Müller and Müller 2007, 84-5). Umpleby's claims appear to be consistent with the traces left by the ASC,[188] as also his claim that von Foerster "was severely criticized since his University of Illinois days" (Müller and Müller 2007, 85). What reason was there, however, to not orient the ASC away from positivism? There was no shortage of scientific research using positivist assumptions. Umpleby says that he personally became interested in "a more eclectic approach to cybernetics" that "was engaged with Artificial Intelligence (AI)" (Müller and Müller 2007, 84). Umpleby goes on to state that while AI may be criticized as "being epistemologically naïve" it has still "produced some interesting results" because "it has been well funded" (Müller and Müller 2007, 86). Umpleby's critique, while respective of von Foerster's positions, also reproduces an obsessive focus on positivism that allows AI researchers to perpetuate

weapons research as the only surviving branch of systems theory, necessarily excluding the complicating factor of the observer's ability to reflect.

A stronger critique of von Foerster's work would engage his failure to question his own assumptions after a certain point, given that he had lost his laboratory at which he could have been researching the viability of second-order claims. After his retirement, von Foerster continued to present and publish, on subjects including epistemology, technology, psychiatry, and education amongst others. It is only logical that after a certain while some of Von Foerster's ideas about physiology and technology would become somewhat outside the current of contemporary research. Von Foerster often wrote about the closure of the nervous system, particularly as expressed in his essays "On Constructing a Reality" (von Foerster 1973) and "Objects: Tokens for (Eigen-)Behaviors" (von Foerster 1976). The latter paper was originally dedicated to Jean Piaget, on the occasion of his 80th birthday in 1976. Piaget's proposition of the non-representationalism of the nervous system appealed to Maturana as well, who once referred to it as the "Scylla monster of representationalism" (referencing Homer's Odyssey) "the trap of assuming that the nervous system operates with representations of the world" (Maturana and Varela 1987, 133-34). Noam Chomsky came out as a vociferous critic of Piaget and the Geneva school's principle of "constructivism" in *Rules and Representations* (1980). Chomsky's kindest way of putting it was that the constructivists conflate "biologically unproven" and "biologically unprovable" (Chomsky 1980, 207). Challenging the constructivist claim that human language has no basis in biological mechanism, Chomsky called out the constructivists for dogmatically elevating an epistemological or ethical proposition to the level of biological fact (Chomsky 1980, 207-210, 211, 235-236).

Chomsky's critique was warranted, particularly given the fact that Piaget, von Foerster, and Maturana continued to give talks to researchers who were mid-course or even beginning their own course of research. That is to say, von Foerster continued to accuse representationalist research as empirically unfounded, despite the fact that he was no longer, himself, conducting empirical research. The problem is confounded by the fact that the whole constructivist epistemology, promoted by von Foerster and Piaget, is a problematization of empirical research (von Foerster 1982). At the same time it is based on empirical claims. But the "constructivists" in question were not in agreement—Maturana once said bluntly "I am not a constructivist."[189] Brün's focus was composition, and he did not often cite empirical evidence, let alone scientific research conducted against controls, for his epistemological claims. Whereas von Foerster's "constructing a reality" was a set of claims about the consensual nature of reality, Brün's "designing a society" was a proposal for what to do if that were truly possible. None of this has anything to do with Chomsky's quest for a universal grammar.

The 1960s Effect

Heinz Von Foerster made his most overt political statements during the waning of the 1960s; and they signaled a shift in priority and direction that would ultimately result in his retirement from the University of Illinois. In 1971 he spoke of society being stuck in "undesirable states" that were "protected by their institutionalization" (von Foerster 1972, 5) and "popular questions whose popular answers lead us deeper into a trap." (Von Foerster 1972, 7) These sentences, which echo Brün and Illich, would not simply fade from memory as the United States moved on from the 1960s. Von Foerster effectively relinquished his position as the head of the center of US Cybernetics research rather than

reformulate its agenda along military lines (Umpleby 2003). To the contrary, von Foerster amplified his rejection of "objectivity" with a revitalization of the American Society for Cybernetics (ASC) in the 1980s along with several new papers (von Foerster 1981). He advocated for a shift in pedagogical practices and a different approach to knowledge in general—one based on "undeterminables, undecidables, and unknowables" (von Foerster 1990).

Herbert Brün's writing shifted substantially during this period. His English publications from the period show a turn away from writing exclusively on music composition to "making connections" "discourse" "cognition" and "needs" (see Table 3.4 in Appendix A). Brün was too young to have contributed to the German *Exilliteratur*, but was perhaps the perfect age and social position to be influenced by it.[190] He was influenced by Bertolt Brecht—Marianne Brün worked as one of Brecht's assistants while navigating her life as the daughter of famed German actor Fritz Kortner (BBC 1992). Brün cited the influence of Theodor Adorno's *Negative Dialectic* in the organization of his writing, and Brün's library reveals that he indeed had a copy of the original German edition (1966), seven years in advance of the English translation (1973). One of his most inspired essays, *Drawing Distinctions Links Contradictions* (1974b) stands out as some of the most radical writing that Brün would ever compose in terms of form.[191] Brün was applying his ideas about experimental composition to the composition of the text itself. It was, in a sense, a classic cybernetics move to apply the organizational structures found in one medium to another medium. In the entire cybernetics literature, few if any depart further from the conventional essay form than Brün's *Drawing Distinctions Links Contradictions*.

The new direction of cybernetics was a radical departure from the historical tendencies of the field, but was it politically radical? One has to bear in mind that the political status quo had shifted since the 1950s, and thus it was only natural for cybernetics to follow suit. It should also be mentioned that cybernetics as it is broadly understood (that is, as an empirical science concerned with the manufacture of man-machines) has been ruthlessly critiqued, before and since the period under consideration here. The Situationists were critiquing it, in advance of the Spring 1968 uprising (Debord 1967, 42; Vaneigem 1967); though arguably, they were critiquing just about everything that wasn't an uprising. More recently, the entire foundation of the Invisible Committee's journal *Tiqqun* is founded on a critique of cybernetics (Anonymous 2001). The critics claim cybernetics was used to implement repressive state measures of control and to sharpen their weaponry and intelligence gathering. These claims may be warranted, though the work of von Foerster, Brün, and Maturana do not have any practical military application, especially after 1967.

What is striking, rather, is the mobilization of a Frankfurt School-styled critique of logical positivism and empiricism, applied to a classroom dynamic to create a non-deterministic course aimed at investigating knowledge formation itself, and apparently resulting in the radicalization of its teachers. Theorists such as Marcuse and Horkheimer had challenged positivism (Marcuse 1964) but it would be a while before this critique was explicitly incorporated into a critical theory of pedagogy (Giroux 1983). The question then is not "why didn't Cybernetics follow AI's positivistic path?" or “why did von Foerster critique the roboticization of student behaviors?” Instead we may ask: where further did the unorthodox ideas impact the pedagogy?

The treatment of education as a medium, with boundaries and properties that could be experimented with seems to have been a major contribution. Artists in late 1960s found themselves in a dialectical tension between rejecting education as "too didactic" and reformulating art's purpose to become a pedagogical tool to radicalize the masses (Holert 2008). Obviously, some errors were made in traversing the narrows of radical politics. But it also seems that the beginner's errors would be a stepping stone to further radical work for those who were committed to societal change. Brün's affinity for the Frankfurt School, aided by his fluency in German, would lead to further experimentation with graduate students of composition in the following decade. The work in anticommunication, desire formulation, and socially beneficial technology would press against the limits of University of Illinois as Brün's graduate students formed an experimental ensemble at the University of Illinois.

CHAPTER 4

THE RISE OF THE PERFORMERS' WORKSHOP ENSEMBLE (1976-1990)

The Sixties (with a capital S) have been mythologized in Roland Barthes' (1973) sense: referring not only to the literal decade (i.e. January 1, 1960 through December 31st, 1969) so much as the invocation of intentions attributed to an era lasting into the early 1970s (Gitlin 1993, Jenkins 2006). The intentions attributed to the era have been memorialized. Thus in spite of all the uncertainty, fluidity, contradiction, abandonment, and multiplicity explored during the sixties, the Sixties has become a somewhat concrete entity. I question the explanatory power of said mythology and I intend to problematize the standardized notions of what occurred *before, during, and after* the Sixties.

The various trains of thought that lead to the School for Designing a Society each had a different schedule.[192] Herbert Brün's intense focus on language and the contributions he made to the focus on language were proper to the 20th Century (another mythological construct by now). His work, particularly in text, contains statements that were apparently before, during, or after "their time".[193] Though if the era was no more fated than the time-period outlined in this chapter, then neither should be allowed to stand above the other: there is no historical inevitability, and things could have gone otherwise. The Sixties was not a natural phenomenon, nor was its abandonment, nor was the milieu that formed around Herbert Brün during this time, nor their drift from music composition in the direction of radical theories of language use and pedagogy.

Language became a major subject in the 20th century, which according to the mythology starts a little before the 1900s with linguists such as Saussure and continues up to this present day. The focus on language was driven by a number of voices that see language shaping our concept of reality, even in its relativistic aspects (Whorf 1956). Language was exposed as a central player in political domination based in hegemonic control (Gramsci 1971), in that society was found to tolerate, perhaps even prefer, to rule people via consent more than with repression (Chomsky 1998). It looked better and, in the era of photo and audio recording and mass-circulation media, looks mattered. It appeared that consent, in a certain respect, could be manufactured like any other valuable commodity (Chomsky 1988). In a society managed by means of ideas, concepts, rationality (Burchell et al 1991), choice, language would appear to be the strongest leverage point for affecting change. Control of a people's language is thus nearly equivalent to control of people.[194]

Marianne Brün's *Paradigms: the Inertia of Language* (1980) articulated several of Herbert Brün's main concepts about the role of language in human affairs.[195] Ostensibly a reflection on Thomas Kuhn's *The Structure of Scientific Revolutions* (1962), the piece largely reiterates the skepticism of inherited language that can be found in Herbert Brün's writing. The critique advanced by Marianne Brün (1980) is, in a certain sense, a methodology for critiquing the present state of knowledge. Namely: pay attention to the *language* of current knowledge, notice what *language* calls "a problem", what *language* brings with it from past usage in the form of assumptions and relationships. Brün's article gives the example of the words "sunset" and "sunrise" as out of date words which represent the geocentric world view in which the earth sits at the center of the universe

with the sun rotating around it, rising and setting on its horizons. Though we now have a heliocentric view, our language does not.

Yet a simple etymological interpretation of Brün's proposal is insufficient. One can trace the roots of a word and come to false conjectures about the contemporary relevance of word-use. For instance, the word "seminar" can be traced back to the word "semen" (Latin for "seed") which would suggest that "seminar" is an interaction that results in one person "inseminating" or planting a seed in the other. However, contemporary usage may have it quite the opposite, wherever the term "seminar" is used to distinguish a format of mutual listening and co-learning, in contradistinction to the expository lecture which would be more like planting a seed.[196] Since the founding of modern linguistics it has been understood that the significance of a speech act has to do with the context in which it is uttered (Holdcroft 1991). That contemporary English uses sunset/sunrise to refer to events that occur when the earth spins is politically relevant as an example of a how a person's worldview may clash with their language.

New Students, New Music, New Projects

The changing political tides of the mid 1970s were concurrent with a shift in the milieu around Herbert Brün. Heinz Von Foerster and his students left town, and new graduate students were entering the composition division of the music school. In the fall of 1974, Susan Parenti enrolled as a graduate student and Mark Enslin enrolled as an undergraduate in Music Composition at the University of Illinois.[197]

The Sixties were coming to an end. Activist movements that had largely been inspired by opposition to the Vietnam War and Civil Rights legislation had generated a

host of more complicated proposals: economic justice, counterculture, feminism, Chicano/a, ecology, militancy, pacifism, psychedelics, community control, eastern spirituality, "back to the land", gay rights, and a list of other issues which did not belong exclusively to the color line or the frontline. The fracturing and fading movement led many to look forward with hope that persistence could extend the work of the Sixties. Herbert Brün's persisted in his call for experimental composition.

> Contradictions can not be settled in the system in which they're contradictions. If you were to carry out the contradictions, the system would disappear. But if you become familiar with contradictions (not informed but familiar—it becomes a comfortable feeling: "This is a free country"—look at all the contradictions we can live with. Right? That's familiarity). Then of course it's perfect: it survives you. It sends you to Vietnam or other places, we're just waiting for the next one, and you'll be dealt with. Never mind, we can afford it, you know. This system can afford your loss like *that* [snaps finger]. You're totally superfluous [pause]. That's *not* tolerable. *That* is not tolerable. Please, all become composers.
>
> —Herbert Brün at Music Theory Seminar, 1977[198]

Brün's recorded lectures are provocative. Here he is telling a room of undergraduates in a music seminar that the society they live in makes them superfluous, pausing for dramatic effect, before imploring them to become composers (as opposed to performance majors, presumably).

A handful of graduate students that arrived at Illinois in the mid-1970s would work with Brün for decades. Susan Parenti and Mark Enslin, who joined Illinois' School of Music in 1974, would go on to found the School for Designing a Society with Brün in 1991 and continue the project after Brün's death in 2000. In the mid-1970s, they were focused on their graduate education in music composition. Most musicians do not pursue advanced training in composition. Indeed, according to Brün, most musicians do not compose music.

> He may run under the description and our social categorization of professions as a composer, but that's misfortune. The composer who is an output of a society is not composing music. What he composes is a new configuration of old stuff. That can be very amusing and can be done with enormous skill — it can be all the good things in life with one exception: it's not a composition.
>
> Herbert Brün at MUS 405 Theory Seminar, 1977[199]

For Brün, composition was the connection between music and politics.[200] It was the framework by which a person could read music as either being reproductive of the status quo, or a contribution of something unheard of. Thus for Brün the composer is already trying to change the world, as a matter of definition. Those who studied with Brün in this period wrote of "systems" "significance" "witnessing" and did not hide the fact that they incorporated some of Brün's vocabulary into their own. Their tendency to do so, combined with their heretical view that music is political, earned them the informal moniker of "the Brünettes" within the School of Music (Kowalkowski 2008).[201]

The Noticings Group

The "noticings" arose from students enrolled in Brün's Seminar on Experimental Composition were looking for means to raise the significance of the concerts at the school of music. They were amidst a seminar discussion on "witnessing" as a verb—that one has to act to become a witness, rather than merely be present with one's eye's open. They used the word "noticing" to refer to a distinguishing description of a piece or concert or music that was then posted at the School of Music on the walls. The intention was to show that music compositions have consequences.

One of Brün's students would go to a concert and then would write up a notice (not a review). Then they photocopied the text at Unit One where Marianne Brün was the

director. Then, late at night they would walk around the Music Building and post the text which was clearly marked "from the Notice Group". Within a few months time, the animosity of response to the notices led to Brün being summoned before the Music School administration and being told to control the students that were doing this. The connection was made quickly because Brün and his students were known to be articulate respondents at a regular series known as "The Composers' Forum". Hence, Brün's students were sometimes referred to as "the Brünettes" for their habit of using his ideas to pursue their compositional agendas. They were received as critics, whether or not that was their intention.

The first 11 "noticings" were posted within 51 days, with considerable student, faculty, and administrative backlash. The first notice was posted February 17, 1976 and responded to a piano concert at the Krannert Center for the Performing Arts. The concert contained a composition (Sonata in E-flat by Joseph Haydn) and an improvisation. The notice both expressed dislike of the attempt to play "in the manner of Haydn" and enjoyment at listening to him perform Haydn's Sonata in E-flat. All the notices were taken down by the evening and a rude response was posted. The second notice responded to a concert of piano trios and explicitly attempted to be more polite. The third (February 24, 1976) actually listed the members of the notice group: David Chalmers, David Daviee, Bill Defotis, Pat Daugherty, Mark Enslin, Joe Green, Lenore Metrick, Susan Parenti. The fourth notice described how a tendency to "smooth over the juxtapositions" in a Mahler 5th Symphony threatened to destroy the piece. The fifth noticing (March 3, 1976) praised the cooperation between two violinists, while bemoaning that school bells

rang during the Junior Violin Recital. The ninth notice was a sort of meta-notice that provided some rationale for the project.

> After much thoughtful preparation, a concert is given. Signs put up invite people to attend, to sit and appreciate that into which so much time and patience has gone to prepare. Musicians go to great lengths to produce a recital for the public and I have been wondering of late the reasons for desiring that others hear music. What can an audience give to the musicians that an empty hall cannot? What do the people offer the musicians in return for that which the musicians offered? The answer to these questions clearly is response. Therefore notices appear; they are used to express thoughts about the concert to those who are concerned about the concert.
>
> Notice Group
> March 29, 1976

The eleventh notice (April 9, 1976) responded to a concert by the University of Illinois Percussion Ensemble, singling out a piece entitled "Tracks" by Brün's student Michael Kowalski.

After the first eleven "notices, " Susan Parenti continued the series *da sola* under the pseudonym "Bott". Bott was short for "Bottom of the Bunch Bassoonist" and the notices then proceeded in the formatting of a dialogue between Bott and her friend Top Clarinetist ("Topsy"). These notices were collected and published by Parenti as a sort of extended back-and-forth between two characters on the language about music (Parenti 1980). The activity around the notices led to a formation of the group around Brün that stabilized as Mark Enslin, Susan Parenti, Pat Daugherty, and later Mark Sullivan—or Brünettes, as they had come to be known.

The "notices" may have backfired in various ways. As part of the planning of an upcoming panel on music composition, Brün saved two memos from Ben Johnson (Professor of Music Composition at Illinois 1951-1986) written to William DeFotis (then

a Master's student of Brün, and "Notice Group" member) and also sent to Brün, which stated, "I respectfully decline to regard this panel as a debate. If someone wants to delineate what have been the relationships between politics and music, I shall be happy, in fact certain, to comment."[202] Another memo sent the same day, November 22, 1976, using Illinois letterhead reads "Please make sure we panelists each get all the texts. If you are going to distribute them still more widely, I'm agreeable as long as it is OK with all panelists and as long as distribution is to any specific people who plan to attend the panel. If you plan to use them as broadsides or as mailbox leaflets please consult all of us first." This suggests that a fellow experimental composer (Johnson had studied with Harry Partch and John Cage) was put considerably on edge by the atmosphere surrounding a panel involving one of Brün's students who was involved in the Notices Group just a few months earlier.

Sawdust

The year 1976 also marked the culmination of Brün's computer music program "Sawdust" in his completion of his first composition using the program, entitled "Dust". The significance of the Sawdust program, which Brün generated, was that it extended the range of possible acoustics available to the composer. The 1970s saw the rise of the synthesizer (i.e. an electronic keyboard with different voices pitched to the 12-tone equal tempered scale). These commercial keyboards, such as the Moog synthesizer, were first popularized when used to perform classical German compositions, namely J.S. Bach (Holmes 2002).[203] Other references include the German pop band Kraftwerk, a band that relied entirely upon synthesizers, in many ways precursors of disco. Brün's Sawdust was

almost the opposite of the synthesizer: it made sounds that could not be made with conventional musical instruments, in pitches that almost always lingered between the notes of conventional scales. It was a composer's computer program made by the composer himself, and could not be played on a piano-like keyboard. Unlike the digital "synthesizers" of the 1980s that would offer musicians pre-selected sounds that would mimic the sound of analog instruments, Sawdust provided raw sine waves, which one could manipulate to create saw tooth waves and other basic elements of sound.

Sawdust represented a political attitude toward the function of technology in society. Rather than use electronic music technology to supplant the function of a violinist (say, whenever a song uses an electronic string section – a trick so common in commercial today as to generally go unnoticed), instead Brün was interested in using technology to add alternative sounds that could not be produced with acoustic instruments. A brief glance at his computer graphics reveals that they could not have been produced by the human hand. Nor did he want them to be confused with the fact of *the computer as a source of alternatives* left out of the picture. He referred to his visual art as "ink graphics, drawn by a plotter, under the control of a computer, programmed by the composer."[204] He also made several social proposals premised upon the development of new technologies in the 1970s.[205] Contrasting with the alienating and numbing quality of certain habits of technological consumption, Brün's socio-technological proposals sought to make people more aware of the social consequences of their action.[206]

For Brün the computer was never a technical fetish-object, in the sense of Theodor Adorno (1938). Rather, he saw the computer as "a practical means of implementing his long-standing desire as a composer to create structures freed from at

least some of our inherited cultural contexts and habits of ear, eye, and mind" (Kowalski 2004). Put another way, computers were ignorant of consumer preferences in the 1960s, and Brün constructed sawdust as a way of wielding the mindless precision of the computer to artificially construct traces of his own preferences. He was aware that his computer music would irritate audiences and seems to have agreed with Adorno that "under the prevailing social conditions, making experts of all listeners would off course be an inhumanly utopian enterprise" (Adorno 1976). Composers have claimed that Brün promoted "ugly music" in the sense that he asked composers to write the music that they did not like yet—emphasis should be on the word "yet". The idea has been called a "modernist ploy" while at the same time a method leading to "unexplored, and potentially useful territory" (Kowalkowski 2008).

The Performers' Workshop Ensemble

According to their "Performance History" document, the Performers' Workshop Ensemble (PWE) began composing and performing in 1979. Their first listed performances are in 1981. The 1984 production of Susan Parenti's play *The Politics of the Adjective "Political"* was a milestone in the group's history (see figure 5.1). The PWE produced 19 house theaters, produced between 1985 to 1994. From September 1989 to March 1990 they toured Germany. From 1991 to 1994 they hosted a year-round radio show every Sunday night on the local community radio station 90.1 WEFT.[207]

Members of the Performers' Workshop Ensemble organized the first sessions of the School for Designing a Society, arguably sowing the seeds of their own break-up as a performance troupe. The ensemble stopped touring in 1996, concurrent with a decline in

Herbert Brün's mobility with the onset of emphysema, and increased work on the School for Designing a Society leading to the rental of a year-round facility in Urbana, Illinois in 1997. While Brün helped hold the milieu together, many of these projects were coordinated by his associates, who contributed their ideas and dynamics to the emerging projects in the composition and performance of educational theater music.

Figure 4.1. Cast members after a performance of Susan Parenti's play "The Politics of the Adjective 'Political'" at Allen Hall, University of Illinois, March 18, 1984. From left to right: Marina Manetti, Arun Chandra, Robert Maffia, woman from Unit One, and Kirk Corey. Photo by Pamela Richman.[208]

The Institute for Global Thinking in the Systems Age

In 1983, a group that included Marianne Brün began work on a proposal for an "Institute for Global Thinking in the Systems Age." The proposed institute was to found a school distinguished by innovations in curriculum. Curricular innovations were to include forays into bilingual education, cybernetics, and self-organization in the face of "liberal corporatism" and laissez-faire capitalism. The group considered purchasing a building in the Chicago area, applied for grants, and hosted dozens of meetings aimed at brainstorming and organizing proposals for the institute. The funding never materialized. The school was never started. The idea of starting a school, however, remained.

Perhaps it would be better to say that *the conditions* that led to school proposals continued to exist during the following decade. The impetus, in part, was that Mark Sullivan was soon to complete his doctorate and his departure from the ensemble was imminent.[209] In short, Urbana-Champaign would only have so much need for Doctors of the Musical Arts and Brün's graduate students would have to find jobs as composers, performers, as teachers. Indeed, most of them did find jobs as such. However, if they were to remain connected in daily conversation, they would need to create the context for themselves. The solidarity amongst Brün's graduate students was uncanny; the "Institute for Global Thinking" appears to have been an early attempt to stay together as a group of thinkers and composers.[210] Other students' graduation dates prompted further proposals.[211] Mark Sullivan was hired by Michigan State University in 1985.

House Theater

The same year, Susan Parenti and Candace Walworth began making "house theaters" in peoples' houses in Urbana-Champaign, Illinois. The performances were

constructed by PWE and other community members as "a non-University, non-commercial context for mixing experimental music and political satire in a lived-in setting" (Parenti, Enslin, and Brün 1995, 230). The decision to make house theaters was non-trivial: experimental music, "new music" and other extended forays into unusual acoustics are rarely given play outside of (a few) venues in big cities and universities. "By experimenting with alternatives to traditional concerts and traditional theater formats, we have been able to address many people who do not otherwise attend experimental music or theater programs" (Parenti, Enslin, and Brün 1995, 231).

On the other hand, by experimenting with alternative venues, the ensemble was establishing connections outside of their original meeting places inside the University of Illinois. House theaters were consistently offered in Urbana from 1985 to 1994, and intermittently afterwards.[212] The house theaters made bridges between the audience, the work of understanding complex musical forms, and the political implications of composing new music. Thus, a didactic function emerged in the work of the ensemble. The ensemble was immersed in the context of Brün's teaching at Illinois and they were explaining his concepts in little plays and skits that Parenti called "plits."[213] Increasingly, when the ensemble did perform on campus, they would explicitly provide art as an intermediary between Brün's more philosophical and political ideas, and the students. "Herbert would talk about a concept, and then we'd jump up and do a performance... and then we'd work with the students to make a piece with them that they and we would all perform."[214]

The Tour to Germany

Susan Parenti received her Doctorate of the Musical Arts in 1987. She received a job offer from Macalester College within a year.[215] On the one hand it seemed like a dream job, they were looking for a music composer with a background in feminism which was one of Parenti's main interests (Parenti 1996). On the other hand, it was a low-paying position on a small campus located 1,500 miles from Urbana-Champaign. Parenti was in a quandary: to start a professional career or to continue a composing and performing in Illinois? She confronted the Performers' Workshop Ensemble and declared that she wanted the ensemble to be her professional career. She rejected the job at Macalester and initiated a series of discussions aimed at making the Performers' Workshop Ensemble into a more professional touring ensemble. One idea was to organize a tour in Europe.[216]

Marianne Brün had repatriated to Berlin in the mid-1980s when her mother was ill.[217] Owing to the fact that her parents were successful actors from Germany, Marianne Brün, as mentioned earlier, had grown up in the company of Bertolt Brecht and Hanns Eisler. She had introduced Herbert Brün to the Theodor Adorno and was an intimate friend of the family of the composer Otto Klemperer. In short, she had good connections for performers in Germany. At some point, she told Parenti "Come live in my house—with you living/sleeping on the couch in my living room, you will force me to figure out how I can help you with this tour."[218] So Parenti stayed with Brün in Berlin and they organized concerts, speaking engagements, and cabarets (i.e. mixture of theater and music). They arranged to have Herbert Brün hired for an entire semester at the

Gesammtehochshule in Kassel.[219] In the end, there was sufficient funding for ten people to make performances in and around Germany from September 1989 to March 1990.

Several unexpected developments shaped the tour. The upper limit of ten performers meant excluding some people from the tour—while this exclusivity may have helped sharpen the "professional" ensemble that Parenti had sought, it also strained their relationships with her colleagues in Urbana.[220] The ensemble ultimately included Susan Parenti, Mark Enslin, Arun Chandra, Herbert Brün, Leslie Olson, Lori Blewett, Jeff Glassman, Keith Johnson, and Sarah Wiseman. They arrived in Berlin only to be instantly upstaged by political history—the Berlin Wall would begin to fall on September 9, 1989, leading to a huge media spectacle around the celebratory destruction of the wall. The ensemble arrived with four potential program proposals, including texts memorized in German, which they presented to Marianne Brün—she rejected the initial proposals and pushed for the inclusion of more unusual pieces that included elements of text and theater. This estranged Lesley Olson, who wanted to do straight music concerts; she eventually sought her own gigs and stayed in Germany. At the same time, the concerts received confused reactions from the German audiences, who were not used to mixed-media performances. The ensemble, as a result, began to bill their performances as "cabaret."[221]

Group Professorship Proposal

The European tour also re-invigorated the ensemble and new proposals were soon forthcoming. Though Lesley Olson and Sarah Wiseman dropped out, the remaining PWE members embarked on a two-month tour in the United States. When they finally settled back in Urbana, Parenti says "I got really ambitious with our finding a role in the

University" which led to a Fellowship with the Center for Advanced studies.[222] Rather than continue further in the direction of purely musical pursuits, the ensemble expanded their variety of offerings. In 1990, the ensemble created a brochure for a "Multidisciplinary Residency" that describes eleven presentation and four workshops in the areas of music, theater, dance, the social sciences, English, and engineering.[223] The beginning of the Persian Gulf War began to unfold during Fall 1990 and Susan Parenti was apparently in the middle of a local effort to oppose the invasion of Iraq. There were protests in Urbana and Champaign, Illinois, oftentimes with theatrics supplied by members of the Performers' Workshop Ensemble (see figure 5.2).[224]

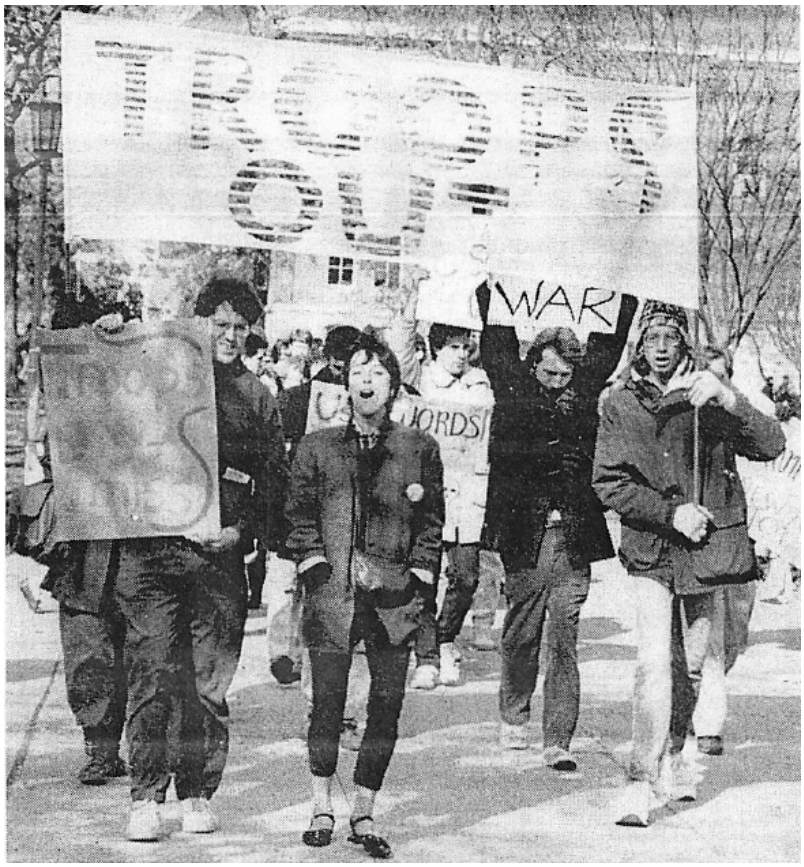


Figure 4.2 A protest on the Quad at the University of Illinois in Urbana-Champaign, Fall 1990. Left to right: Keith Johnson, Susan Parenti, Rick Burkhart, unknown. (Photo credit: Joe Trojanowski, The Daily Illini)

The following year, in 1991, the ensemble reframed itself as a "Group Professorship."[225] On the surface, it looked like an attempt to collectivize the function of Brün's guest professorship during the Germany trip, by distributing the role of professor to the entire PWE. It was a collective economic strategy: the group would split the money for one visiting professorship, while bringing an ensemble of artists-in-residence to a college campus for a semester. Framed another way, the ensemble was beginning to look like a small school without a campus. The six-page brochure for the Group Professorship provides brief biographies for nine instructors and lays out a curriculum encompassing courses on music, theater, computer science/engineering, as well as interdisciplinary courses that engage the philosophy of language and issues of feminism.[226] The proposal was ambitious, but it did not result in any jobs for the ensemble.

In the following years, the PWE would initiate the School for Designing a Society, while hybridizing this work with Herbert Brün's jobs at the University of Illinois. Brün became professor emeritus in 1988, but he continued to offer his Seminar for Experimental Composition through the 1990s. In spring 1991, Brün and the PWE co-taught an undergraduate Honors course (Music 199: Composition between Disciplines), which was so popular that the honors program requested that the course be repeated.[227] In the mid-1990s there was another honors course (Music 199: The Need For, and Traces Left By, Experiments in the Arts).[228] From 1997 to 1999, Brün, Parenti, and Enslin co-taught an undergraduate discovery course (Music 199: Composing Music... and Beyond) that was intended for non-music majors.[229] Parenti and Enslin also co-taught the Seminar for Experimental Composition during the late 1990s. After Brün's death in December

2000, Enslin and Parenti offered the final semester of the Seminar in spring 2001, with the support of the College of Music at the University of Illinois.

The story of PWE thus represents several avoidances. The principal one was the avoidance of independent career paths. Brün's graduate students were resisting the demands of the labor market to get real jobs and stop making political theater, new music, and experimental concerts. They were also avoiding the elite concert settings with proscenium stages—the PWE made art happen in houses, classrooms, and conferences. They explicitly attempted to make their art an input into ongoing discourses. Another avoidance (taken the furthest by Parenti) was the avoidance of a professional academic career path. Rick Burkhardt, a young Urbana composer, studied at Harvard for a year but dropped out to return to the University of Illinois to study with Brün and the ensemble. While Mark Sullivan, Ya'aqov Ziso, Lesley Olson, and others dropped out to pursue independent work, Parenti, Enslin, and Jeff Glassman would accept the limited teaching positions that could be found, while remaining based out of Urbana, Illinois. By staying together, they began to synthesize larger and more ambitious proposals, far beyond the scope of most performance ensembles, staking out positions in theoretical and political terrains while remaining grounded in art and composition as a point of departure.

The American Society of Cybernetics Meetings

The early days of cybernetics (late 1940s, 1950s) led to a wave of younger scholars distinguishing themselves in substantially different ways in the 1960s. These younger scholars included Maturana, Beer, and von Foerster. By 1974, however, the American Society of Cybernetics (ASC) became trapped in an institutional logjam

(discussed below), and it would take another generation of scholars to resuscitate the ASC in the 1980s. These scholars had been students of the second wave of cyberneticians, and they included Stuart Umpleby, Larry Richards, Rodney Donaldson, Mark Enslin, Fransisco Varela, Annetta Pardretti, Lou Kauffman, and others. This second wave of the ASC in the 1980s was not only concurrent with the development of the PWE and its evolution into a teaching ensemble, but also was one of the main sites of the transformation and development of the ideas for their work. The following section, thus, aims to describe the context of ASC conferences and meetings at which these developments took place. The geographic discontinuity with the Urbana group did not render the ASC meetings less influential; to the contrary, it may have heightened the impact of the discussions that took place there.

Why was there a hiatus after the 1974 ASC Conference in Philadelphia? It had been organized by Klaus Krippendorff under the title The Control of Control and The Communication of Communication (Krippendorff 1975) and would be the last ASC conference until 1981. At the 1974 conference, Heinz von Foerster gave a talk on the Cybernetics of Cybernetics book/project that went on to become the lead paper in the proceedings, which Krippendorf edited. At the 1974 ASC organizational meeting, however, then-President of the ASC Roy Hermann stated he did not support the conference theme and refused to relinquish his office (he refused to hold an election).[230]

According to Umpleby (2005), there was also an argument between the officers of ASC and the publisher of the *Journal of Cybernetics*. Apparently the issue was taken to court and the publishers subsequently continued to publish the Journal with a different title. A confusing trail of publications are left: *Journal of Cybernetics* was published 1971

to 1973 (volumes 1–3); the *Journal of Cybernetics and Information Science* was published in 1976, 1979, and 1980 (volumes 1-3); and the *ASC Cybernetics Forum* was published 1972 to 1976 (volumes IV to VIII) before two final years of publication from 1979 to 1981 (volumes IX to XI).[231]

During the hiatus from 1975 to 1981, various cyberneticians attended the annual meetings of the Society for General Systems Research (SGSR), where Heinz von Foerster had been a past president. Conferences of the SGSR were always held in conjunction with the American Association for the Advancement of Science (AAAS) conferences in January, and occasionally sponsored panels at the AAAS meeting. The SGSR conference of January 1977 in Denver, Colorado was chaired by Stuart Umpleby, with Francisco Varela presenting his "Calculus of Self-reference" paper, and an SGSR panel at the concurrent AAAS meeting included von Foerster, Margaret Mead, Ernst von Glasersfeld, Francisco Varela, Joe Goguen, and Kenneth Boulding as panelists. In the following years Stuart Umpleby instigated a series of discussions that led to the reconfiguration and renewal of the ASC. Barry Clemson (who had succeeded Roy Hermann as ASC President) was willing to help. In the meantime Klaus Krippendorff, Doreen Steg, and others had started a new organization, the American Cybernetics Association (ACA). Clemson's primary goal as ASC President was to get the two organizations back together. Umpleby then became president of the ASC in 1980 and asked Larry Richards to organize a 1981 ASC conference.

In 1981, the first ASC conference since 1974 was hosted in Washington, DC, called "The New Cybernetics". Herbert Brün, Heinz von Foerster, Gordon Pask, Annetta Pedretti, Ernst von Glasersfeld, Ranulph Glanville, Russell Ackoff, and many others were

in attendance. Humberto Maturana did not attend, due to the ASC's inability to help with funding the trip from Chile.[232] At the following, 1982 ASC conference in Columbus, Ohio, Herbert Brün and some members of the Performers' Workshop Ensemble performed. The 1983 ASC conference at Foothills Community College (near Palo Alto, California) included Heinz von Foerster, Stafford Beer, Werner Erhard, James G. Miller, and the United Mime Workers from Urbana, Illinois. The United Mime Workers was a theater ensemble headed by Jeff Glassman which was influenced by Herbert Brün and Heinz von Foerster. Glassman would also participate in the Performers' Workshop Ensemble in later years. The new ASC looked very different from the ASC that got stuck in 1974, which would never have allowed scientific papers to be presented alongside performances by an ensemble of mimes.

Marianne Brün's "Designing Society" Course and Book

When the ASC hosted a conference in Philadelphia in November 1984,[233] many of the later elements of the School for Designing a Society came together. Humberto Maturana and Francisco Varela were able to attend for the first time since the resumption of the ASC conferences.[234] Herbert Brün attended along with the full Performers' Workshop Ensemble. In addition to a performance, the Ensemble participated in a session chaired by Marianne Brün called "Designing Society", based on the course she had taught at the University of Illinois in 1980 and 1984 (Brün 1985). Though there had not yet been a proposal for a School for Designing Society, Marianne Brün was teaching courses based on Herbert Brün and Heinz von Foerster's assignment of writing lists of desire statements and exploring them in relation to the structure of the capitalist system. The milieu in Urbana used Brün's assignment for two decades, not only critiquing the clichés

of the current society but also formulating desires for a different society. In the relationship between Brün and his graduate students, the school was born. Marianne Brün described her course in a video made in 2001, after Herbert's death.

> In 1981, I gave a class at Unit One, at the University of Illinois, called "Designing a Society". That class was repeated a couple of times. The idea of it, for me, was to make an analysis of the society we live in, and then look at what aspects of the present-day society, the status quo, we don't want, and what kind of a society we do want. The image of that society [had] two functions: one, a critique of the society we live in, and [two] the beginning of a path to a new society. That was quite successful with the students, and it was then a few students who had been in that class, or close to the class, who started the *School* for Designing a Society. (emphasis original, Marianne Brün in 2001 Video Documentary "School for Designing a Society") [235]

This "class at Unit One" was well documented in a book that resulted from Brün's presentation of the course at the 1984 ASC Conference (M. Brün 1985). She said that a serious step in the direction of "design of a society" would be to construct a "socially-beneficial information processor" (SBIP). This would be a computer system where "any and every user's input will be based on the current network generated by all and any previous users' inputs" (M. Brün 1985, 22). The computer system she described bore an uncanny resemblance to the Internet, and also echoed Stafford Beer's project Cybersyn from Chile, though she claimed she never heard of it.[236]

The group involved in the Designing Society class was also present at the ASC presentation, as well as members of the PWE such as Susan Parenti who participated in the conference discussion.[237] This group overlapped with the PWE and the earliest school project proposals described above.

> For years, in the 1980s, we had been meeting at Cybernetics Conferences. Meeting, in the sense that our friends were across the country. And so, when we would all come together, one of the main topics would be education, social change, and were we doing some project together? We each had our projects here [Urbana], and Virginia Beach, Lansing, and Chicago. In 1984 - 1986, a

> group of students of Herbert and Marianne Brün's met with Marianne for about three years and we talked about starting a school in Chicago. (Susan Parenti, in 2001 Video Documentary "School for Designing a Society")[238]

Indeed, Marianne Brün tried to get foundation grants for the Institute for Global Education in the Systems Age described in an earlier section. The grants did not materialize and when Marianne moved back to Germany to take care of her ailing mother, the Urbana group continued to disperse. The group that stayed in Urbana maintained a performance ensemble and the diaspora continued to look for a project to work on together.[239] The ASC meetings provided a setting for those discussions.

The School Group meets at ASC Meetings and the ASC Meetings look at Education

The next ASC Conference was in Spring 1986 at Virginia Beach, organized by Larry Richards.[240] It was titled "Conversations in Cybernetics" and was attended by Heinz von Foerster, Gordon Pask, Stafford Beer, Humberto Maturana, Herbert Brün, Annetta Pedretti, Ranulph Glanville, the Performers' Workshop Ensemble, and a robust cast of other characters.[241] Richards was elected ASC President at the conference, who then called a meeting with Brün and the Performers' Workshop Ensemble to ask if there would be interest in creating a school for cybernetics. Lesley Olson, a member of the ensemble, counter-proposes a school that would focus on the subject of designing society.[242] The discussion was left incomplete.

In December 1987 there was an ASC Conference in Urbana organized by Mark Enslin, Lesley Olson, Susan Parenti, Herbert Brün, and others, titled "Creative Cybernetics: Our Utopianists' Audacious Constructions".[243] Here the Urbana group first encountered Patch Adams, a medical doctor who focused on happiness and social change,

who they invited to the conference as a guest speaker.[244] This was also the first time the PWE hosted a "Cybernetics Fair" (or "problem jostle"), where conversations on topics/questions of interest were placed on cards and hung from helium-filled balloons above tables, interspersed with short performances.[245] The aim was to have multiple conversations, in a short period of time, on topics that were chosen by the group. The PWE group achieved this by creating "stations" where one would sit and discuss, briefly. The announcement that it was time to switch stations was signaled by a brief performance of music or a skit. This format would be used to generate agendas at the first School for Designing a Society in 1993, which was hosted at Patch Adams' Gesundheit Institute.[246]

In June 1988, the Larry Richards organized an ASC Conference in Victoria, British Columbia, which was attended by Brün and PWE.[247] This is where Mark Enslin first proposed that Larry Richards produce a children's book on cybernetics, likely in connections with the PWE program "Young music for new people".[248] In 1989, when Herbert Brün and the Performers' Workshop Ensemble were in Kassel, Germany, Annetta Pedretti and Larry Richards visited for a week to talk about starting a School for Designing Society. In 1990, another ASC conference in Montreal took place on an abandoned floor of an old three story building, which was donated for the purpose. Annetta Padretti and a few others arrived a day early to clean it up and set up displays. There was no program until the first evening when everyone stated what they wanted to do and how long it would take. Larry Richards saw everyone get their wish with no parallel sessions, and thought it was the best ASC conference to date.[249]

During the summer of 1991, the ASC conference held at the University of Massachusetts-Amherst, featured dual-keynote speakers where Larry Richards gave a

paper entitled "Why I am Not a Cybernetician" followed by Ernst von Glasersfeld giving a paper entitled "Why I am a Cybernetician". There was another discussion of a school including members of the PWE, at which time Susan Parenti reported that Marianne Brün had suggested that Parenti should hang out at Richards' house in Virginia Beach, until he did something about it.[250] The start of the school will be taken up in chapter 6.

Figure 4.3. The Performers' Workshop Ensemble, circa 1993. Top row, left to right: Susan Parenti, Keith Johnson, Mark Enslin, Rick Burkhardt. Bottom row, left to right: Herbert Brün, Lori Blewett, and Jeff Glassman.

After the start of the School for Designing a Society, the ASC conferences continued to be an important site of discourse and developing relationships for the group. In October 1992, Rodney Donaldson organized a conference in Seabeck, Washington, where Herbert Brün and Humberto Maturana were invited to prepare papers for attendee study. It was here that Larry Richards first met Steve Sloan, both of whom would later teach cybernetics at the School for Designing a Society.[251] Education seems to have

become a preoccupation. Richards organized an ASC Conference on "The Teaching of the Teaching of Cybernetics" in January 1993 and another ASC conference in November 1993 focused on "Cybernetics in the Art of Learning", where Herbert Brün was recognized with the Norbert Wiener Medal.[252] Steve Sloan would help organize the following ASC Conference in Chicago (1995), which was followed by a conference in Urbana (1997) organized by Judy Lombardi, Mark Enslin, Arun Chandra, Herbert Brün, and Stuart Umpleby.[253] With the exception of Umpleby, all were involved in the first sessions of the School for Designing a Society. In other words, teachers from the School for Designing a Society helped organize all of the ASC conferences between the first summer SDaS (June 1993) and the launch of the year-round SDaS (Fall 1997). In the years that followed, the SDaS would continue to send a contingent of students and teachers to ASC Conferences.[254]

A Shift in Herbert Brün's Writing

During the years in which the Performers' Workshop Ensemble was active, Herbert Brün's ideas were published in a wider array of formats, which offer a portrait of some gradual conceptual shifts in the direction of his compositional thinking (see Table 4.1 in Appendix A). Almost all of Brün's essays and interviews before the mid 1980s focused on music. After that, *my words and where i want them* (1986), Drummage (1988), For Anticommunication (1989), and the Invecticide (1991) all engage and re-formulate Brün's ideas about language, theater, and other non-musical contexts as well. Many of Brün's major writings were collected into an edited volume by Arun Chandra in

the 1990s, who shopped the book to publishers with Brün's permission. They were published post-humously (Brün 2004).

A pivotal turn in Brün's writing was the 1980 piece entitled "My words but where I want them" whose title and format would be a precursor to the 1986 *my words and where i want them* (1986) which was edited by the PWE and contained many of the foundational ideas of the School for Designing a Society (H. Brün 1980, H. Brün 1986). The format of both the 1980 and 1986 pieces seemed similar to Theodor Adorno's *Minimia Moralia* (1951): brief abstract statements, formatted to stand alone, outside of the organized forms of essay, paragraph, even book. At some point Brün wrote:

> "PARATAXIS came to my attention when I read the preface to 'Aesthetische Theorie' (theory of aesthetics) by Theodor W. Adorno. Adorno dies before having decided on the sequence in which the parts of the tractate were to be ordered in the book. He quarreled with the form 'book' because the medium forces parts to follow one another, even though the author means to have the parts be mutually independent and quasi strewn around the subject matter. Not the syntactic gathering of connected aspects was to make the point but rather was the paratactic constellation of disconnected points to allow for the drawing of many lines." (H. Brun in *Irresistible Observations*, 17.)

The 1986 book was a return to the formal play that Brün hadn't used (in print) since *Drawing Distinctions Links Contradictions* (H. Brün 1974). More importantly, it could be said that this paratactic form was applicable to the projects pursued by Brün and the ensemble as they moved between different domains.

CHAPTER 5

THE PERFORMERS' WORKSHOP ENSEMBLE MAKES A SCHOOL FOR DESIGNING A SOCIETY (1991-1997)

The previous chapters have elaborated some of the crossroads that will intersect at the School for Designing a Society (SDaS). I will recapitulate the main intellectual pathways here, to set the stage for an exposition of the final set of transformations that occur roughly between 1991 and 1997. The various trains of thought (designing society, cybernetics, performers' workshops, etc.) pre-existed the first summer sessions of SDaS and continued beyond the first year-round session in 1997. My review will, therefore, focus on the state of affairs amongst the founders of the SDaS, just before it started. Later sections of the chapter will describe the early sessions of the SDaS and provide some discussion of the significance of their work to discourses of education.

In 1991, the Performers' Workshop Ensemble (PWE) of Urbana, Illinois was at a turning point. Up to this time, the PWE had been a touring performance ensemble that emphasized experimental music and theater that questioned "the status quo of society."[255] In the late 1980s the ensemble explored different trajectories; having developed their network for over a decade, the PWE hosted meetings with colleagues from outside Urbana to brainstorm new collaborations. The ensemble had grown out of collaboration with Herbert Brün at the University of Illinois, but it had become much more. Members of the ensemble had taken on systems theory, political activism, and community organizing.[256] They had also taught alongside Brün and performed original compositions

at schools around the United States. Brün became emeritus in 1988 and ensemble members were developing independent careers—there was a need for new contexts for continuing the discursive practices shared by the group.

The PWE organized meetings, conferences, and projects while searching for a new context to work with collaborators from around the country. Not all of these collaborators were performance artists: PWE itself included an engineer (Keith Johnson) in its ranks, and cyberneticians such as Larry Richards were included in discussions of what to do next.[257] The wider group of collaborators had a shared history that included some formative events in the history of the SDaS: Marianne Brün's course on "Designing Society" at the University of Illinois in 1980 and 1984; Susan Parenti's play "The Politics of the Adjective 'Political'" performed in 1984 (see Figure 5.1); the 1987 American Society for Cybernetics (ASC) conference in Urbana entitled "Creative Cybernetics: Our Utopianists' Audacious Constructions"; and, the PWE tour to Germany during the fall of the Berlin Wall in 1989.[258] The meetings in 1990 and 1991 were set up to imagine new work in the liminal space between the classroom, the stage, and the public sphere. Proposals included a "group professorship", a dinner theater, and a school.[259]

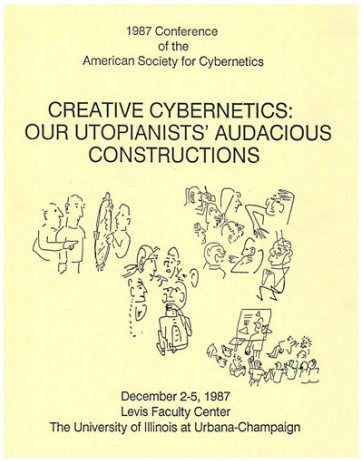
The Proposal to Start a School

""To determine the exact "start" of the School for Designing a Society is difficult. Certain elements, such as the invitation to write desire statements, date back to Herbert Brün in the 1960s, while the phrase "design society" doesn't rise into usage until Marianne Brün's 1980 course at the University of Illinois. In retrospect, this class crystallized a foundational project, where students were asked to relate their desire

statements to the capitalist system and to formulate human needs and form committees to make proposals for action (M. Brün 1985). But Marianne Brün moved to Germany in 1986, and the SDaS was started by the PWE years later. The program brochures for the 1987 ASC Conference, the 1988 PWE catalog, the 1990 Multidisciplinary Residency Proposal, and the 1991 Group Professorship Proposal all lead in the direction of the School for Designing Society brochure of 1993 (see figure 6.1). Exactly how the leap from "ensemble" to "school" was made is a matter of some contention among the people involved.

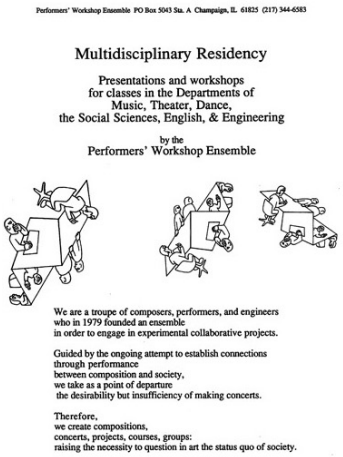
It is clear that there were two days of meetings in Urbana in 1991, at which the decision was made to organize a trial-run school for a week in Urbana during the summer of 1992.[260] Larry Richards is described as having proposed a "dinner theater" or "cabaret" type of a project at the 1991 meeting.[261] The decision to make a trial-run school in individual's houses in Urbana in 1992 is unattributed, though various bits of credit have been doled out with respect to the final decision.

When asked about the origins of the SDaS, Mark Enslin replied that it was originally the un-named idea proposed by Mark Sullivan in 1983, that later became the proposed "Institute for Global Education in the Systems Age."[262] At the 1993 Summer School, Susan Parenti introduced a Larry Richards presentation by attributing much of the impetus to start the school to Richards himself.

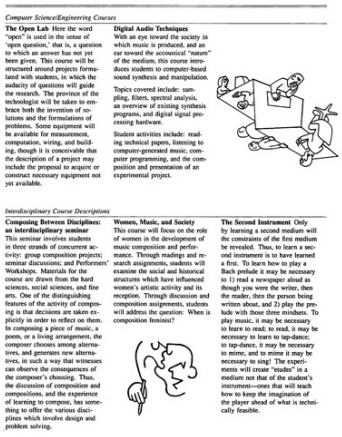


1987

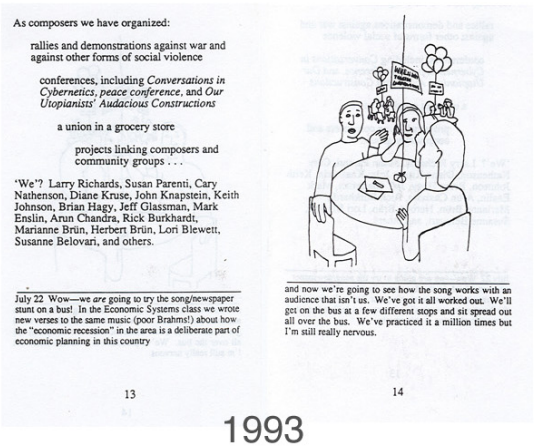
1988



1990



1991



1993

Figure 5.1 Promotional brochures material from (left to right) the 1987 ASC Conference, the 1988 PWE proposal "Young music for new people", the 1990 Multidisciplinary Residency proposal, a page from the 1991 Group Proffesorship Proposal, and two pages from the 1993 School for Designing Society brochure. The line drawings for the brochures were produced by Mark Enslin.

> [Larry Richards] spoke, continuously late at night when everyone else was tired, and discouraged with whatever conference we were at (we would meet him at conferences) — he'd be up, twelve o'clock at night, saying "You've got to start the school. You've got to do something different. You've got to begin... to teach people differently than what they've been learning." And he has continuously talked with us. We all sit pretty much in Urbana and he would do the dramatic thing of taking a plane from Virginia, affording the plane and coming over to talk with us for three days about how to start the school, and made us feel important about wanting to start the school.
>
> Susan Parenti, July 8, 1993[263]

Richards himself, when asked, emphasized rather that he proposed a "school for cybernetics" at the 1986 ASC meeting, but it was Lesley Olson of PWE who suggested the focus be "designing society."[264] Arun Chandra, by contrast, placed the origins of the school in the reflections after the tour to Germany.

> The idea for a school came up after the two tours to Germany in 1989-90 and 1991, during the fall and spring of 1991 and 1992. This was in part after the recognition that performances given by the PWE were insufficient to address the social and political needs we felt needed to be addressed. These required time with the "audience", and thus a "school" seemed to be a better framework to work in than a "performance."
>
> –Arun Chandra[265]

The 1991 meeting returns in this version as a sort of crystallization of the necessity to move beyond the performance format in order to extend the discourse that was being proposed by the art, the ideas in the art, and the ideas about the art that were in the discussions around the art. The proposal to start a school appeared as an emergent property of the discussions between the PWE and other collaborators such as Larry Richards. It was carried forward to a trial run in 1992 by the group in Urbana.

The 1992 Trial Run

The 1992 "trial run" of the SDaS in Urbana, Illinois was a sort of rehearsal of the following year's planned Summer School at the Gesundheit Institute (GI) in West Virginia. In fact several trips were made during the summer to visit the GI during the

summer of 1992.[266] The events of the trial school occurred from August 12 to 22, 1992 with two days off, in the houses of the organizer/participants.[267] According to Arun Chandra, the 1992 session was organized "To see whether we could have 'classes' that met in our homes over the course of a week, and to see whether we would like ourselves in the model of this 'school.'"[268] The session indeed seems to have been a try-out of formats, structures, and subject matter involved in later SDaS programs. The participants in the 1992 school were members of the PWE, their friends and colleagues (see Table 5.1 in Appendix A). Susan Parenti hand-made a schedule and a map of event locations, which was photocopied and distributed to the group. The courses were proposed and organized by the participants themselves.

The courses offered at the trial run (each taught for about one week) were mostly unlike anything found in the PWE brochures of the preceding years. The Group Professorship Proposal of 1991 had presented itself as academic with a zany edge, whereas the trial school truly indulged in zaniness. Course titles such as "Gadgets!!" and "Lust-Porn" catch one's eye right away when looking at the 1992 schedule, with more serious-sounding "Politics of Language" and "Laboratory of Everyday Movement" further down.[269] Readings included George Orwell, Karl Krauss, and Benjamin Lee Whorf.[270] The proposed schedule ran from 10:00AM to 6:30PM for eight days without any mention of a break, and on some days there were events scheduled up to 10:00PM. This would not do; each class was located at a separate location, and there was no time allowed in the schedule even to travel between venues, not to mention the necessity of eating sometime during an 8.5 hour stretch of class work. However, these were perhaps

precisely the mistakes that having a "trial run" was good for. The 1993 summer school in West Virginia scheduled included time for "lunch" and "cleaning" for example.[271]

The "Capitalism Described" course was an exemplar of the pedagogy proposed by the 1992-era group. The deceptively simple proposal was to describe capitalism using only the amount of time that it takes for a person to eat a chocolate mousse (i.e. 3-5 minutes). Built into the course one finds crash course on why the SDaS was started in the first place. The invitation was to imagine hypothetical dinner with a person (friend, relative, stranger), who at some point stumbles upon one's critique of capitalism, then proceeds to question "what's wrong with capitalism?" just as their dessert arrives. The assignment was to write a description of capitalism that would fit within the amount of time it takes to eat the dessert. The course itself focused on the study of capitalism, but the output of the course was a 3-5 minute performance. Along the way, one had to practice being brief (H. Brün 1986, 3), engaging a study of political economy, and performing in a non-commercial setting by the end of the week.[272]

The responses to the assignment, themselves coming from the group that formulated the assignment, were predictably well done and enthusiastically performed. One person focused on Marx's concept of surplus value (the source of capitalist profit), another used dining utensils to illustrate the concept of the "means of production", and still another focused on how his desire was superfluous to the availability of mint tea at a café, drawing parallels to voter dissatisfaction with political candidates in the upcoming election. In a certain sense, it seems that the "trial run," the "capitalism described" assignment, and the school proposal itself embodied Herbert Brün's thinking that structural analogies to everyday life, composed in an artistic medium, become an input to

society. Here members of the PWE rehearsed introductions to political economy, and in a sense began to "script" a school that would engage uninitiated members of the public for the first time the following year.

The 1993 Summer School for Designing Society

The cover of the brochure for the 1993 Summer School for Designing Society (SSDS)—the indefinite article 'a' in SDaS had yet to be added—asks, "If a school were designed to address the questions you bring to it, which ones would you bring?"[273] The first page of the brochure says "Everyone of high school age and older (14 to 94) is invited."[274] The remainder of the brochure explains that the schedule will be hashed out in a "problem jostle" on the first day, all chores such as cooking and cleaning will be shared "in an enjoyable way" and the SSDS will be hosted at the Gesundheit Institute near Hillsboro, West Virginia. There were to be two sessions, one from June 13 to July 10, and the second from July 18 to August 14, each costing $650 with room and board included. The following section describes the various components of the proposal, and how they influenced the pedagogy.

Gesundheit Institute

The story of the Gesundheit Institute, and its crusading spokesperson Hunter "Patch" Adams, was not well known in the early 1990s. His star would rise with a Hollywood movie later in the decade (Shadyac et al. 1999). In the 1970s, the Gesundheit Institute was a renegade free clinic started by counterculture doctors in Virginia (Adams 1993). The project emphasized an integration of all healing arts and spurned the role of commerce in medicine. In brief, Gesundheit was an anti-capitalist experiment in re-designing health care by means of collective action. In 1981, the Gesundheit Institute

purchased a 310-acre lot in West Virginia with plans to build a free hospital there. Adams became a touring lecturer and fundraiser for the project and, in 1987, PWE invited him to the Cybernetics conference in Urbana. In 1992, he was asked to do be a guest-in-residence at Unit One at the University of Illinois. That year, while the PWE toured to New College of Florida, they stopped in West Virginia to scope for facilities near the Gesundheit Institute where they could potentially host a summer school. In a surprising turn of events, the entire on-site staff was on the verge of leaving the project, at least in its West Virginia manifestation, and they offered the PWE the Gesundheit Institute's modest facilities in West Virginia as a venue for the SSDS in 1993.[275] (See figure 6.2 for image of the 1993 group at Gesundheit).

The rural West Virginia setting substantially impacted the school. First of all, there were scarce facilities on the land at that time (the funding for the hospital hadn't materialized), consisting mainly of a farm house, a workshop, and a dormitory with a half dozen beds. People slept in trailers, tents, yurts, on cots, in a bus, and at a hotel down the road. Classes and performances were presented alongside power tools, and people ate their meals around crowded picnic tables. This may have been standard fare at Gesundheit, but living in a rural intentional community was not the *forte* of the PWE and

Figure 5.2 Group photo from the 1993 Summer School for Designing Society at the Gesundheit Institute. Photo by Maria Isabel Silva.

some people had such a problem with it that their issues upstaged the school itself.[276] The presence of children who did not know how to swim in the vicinity of a large pond with no lifeguard became a major issue for a few of the parents present, exacerbated by some of the organizers of the SSDS taking the side of the youth who resented the parents' logic for arguing that all swimming children wear life vests.[277] One can take the view that this was extra-curricular, however the footage of the events make it plainly clear that the school's ideas about freedom, composition, and change were being practiced in the discussion amongst the adults about who decides the rules around swimming.

Design Groups

Herbert Brün can be seen introducing one of the design group assignments in a video from the first day of the 1993 Summer School.[278] He described a time when students from the University of Illinois approached Heinz von Foerster and requested that he organize a course on "heuristics." According to Brün, the students described heuristics as "doing research stepwise, and having the goal change while we do research. Therefore the result will clearly be a case of a process and not of achievement."[279] Brün was invited to assist in teaching the course, and one of his main contributions to the class was an assignment that converted the patriotic loyalty slogan, "right or wrong, my country!", into a provocation to write statements under the title "right or wrong: my desires." The assignment was to write declarations of what one wants that doesn't exist, to call that a "desire statement", to write as many as one can, and to make them short, so that one can later be asked about them. Brün added, "the concept of feasibility is excluded, you are not supposed to judge whether what you want can be met or cannot be met - you want it, period."[280] In the video, Brün states that the students from the heuristics class initially thought they wouldn't need a full week to produce a list of desire statements, but they later discovered that the assignment was difficult enough to be worthy of an entire semester. The implicit suggestion is that the assignment be taken seriously for it is worthy of the duration of the four-week summer school.

The other classes varied greatly from week to week, though the desire and design ideas seem to have infiltrated many of the other classes. Each session started with a "problem jostle" that generated discussions that ended up on the schedule. Herbert Brün's Fundamentals course was presented over the course of two one-hour sessions, a week

before the end of the second session (they might have been presented at another time as well, but the presence of several organizers such as Larry Richards and Jeff Glassman at Brün's talks suggests that these were the only introduction to Brün's fundamentals in 1993).[281] Marianne Brün presented on Marxist economics. Larry Richards presented on cybernetics and conversation theory. The schedules show classes on songwriting, movement laboratories, technology, and freedom.[282]

The content of the problem jostle and the desire statement assignment were omnipresent owing to a large, strange sculpture in the backdrop of the plenary space marked "Network for designing, discussing, developing: a form of organization" and "All yous: add + change IT."[283] This "network" appeared to be constructed from an old hammock hung on its side with sheets of paper taped to it, pieces of yarn connecting them to other pieces of paper elsewhere. The sheets of paper were clustered around the labels "Definitions" "Premises" "Statements" "Proposals" and "Consequences." The sculpture was a little bit zany looking, but the sentences pinned to it were serious, and the whole assemblage also served to mark this room on the second floor of a carpentry workshop as a space for the activities of the SSDS. Each week, downstairs on the landing, there would be an evening of performances organized by Rick Burkhardt and Rishi Zutshi—they called the space the "wired fox" and created a café environment and hosted cabaret there.[284]

Controversies

Between the cover-page invitation to "bring questions" to the school, and the explicit invitation to formulate desire statements on the first day of the school, the organizers had asked the other participants to help shape the content of the SSDS. The

power-sharing may have sounded good on paper, but there were apparently some snags along the way. They included the swimming controversy mentioned above, a debate over the distinction (or lack of distinction) between "teachers" and "students," and a presumed robbery in which several thousand dollars disappeared.

There were young people at the SSDS, and within the first week there was a controversy about who was to have a say in the safety policies around swimming in the pond. Footage of shows Susan Parenti in the "You Could Live Differently" class making a video with the children about their frustration with the swimming policies—in particular, a new rule that required the children pass a swimming test, or otherwise to wear a life-jacket at all times when in the pond.[285] Rick Burkhardt, the youngest organizer of the SSDS, argued "if we make all these rules, that is not going to make sure they follow them... if we say they can't jump on each other in the water it doesn't mean they're not going to jump on each other in the water... no matter what we do, the life and death situation is there."[286] Lisa Fay, who had a young child at the SSDS herself, argued that the ability to pass a swim test doesn't translate into an accord with the results of the test: "I see it as your problem that I can't swim; I don't see it as my problem."[287] In a separate discussion, Parenti added the concept of self-reflection, saying "there's one part of Susan who looks at Susan and says 'you stay out of that fucking water when you're scared...' so, I have my own lifeguard system because I know I'm not a reliably strong swimmer."[288] Ultimately, that argument combined with the fact that all SSDS participants were at least 14-years-old led people to say that they were capable of regulating themselves. If every young person needed a lifeguard, the argument went, then, it was "camp" instead of "school." At some point the video footage cuts to all the young people

swimming together, only one of whom is wearing a life-vest, with a few disgruntled parents grumbling beside the camera-person.

If one abstracts the ideas behind the arguments in the swimming controversy, coming from the SSDS organizers' side, one can hear some of the foundational ideas of the SSDS itself. First, the distinction between what a person does and what their language does: a rule against swimming is not the same as people not swimming; under certain circumstances, the two may have nothing to do with each other. Second, tests are trivializing to the test-taker: one desire to do something doesn't disappear once one fails a test of one's ability to do it. Third, the cybernetic self-observation loop proposed by "second-order cybernetics" as the observer including oneself in the system s/he describes: if one is to be safe, test or not, one must observe one's own boundaries; an external "life guard" ultimately relies on a person not to recklessly put themselves at risk. While these arguments flew in the face of what a few of the parents wanted, the SSDS organizers were at least being consistent with the premises of the SSDS as proposed.

During the second session of the SSDS (July 18 to August 14, 1993) there were complaints from college-aged students that the theoretical propositions of the school were not being put into practice; such that in spite of the professed disdain for teacher-student dichotomies, there were clear differentials of powers in the dynamics of the decision-making at the school.[289] During a discussion at the Roadside Café in Hillsboro, West Virginia, a student's voice (off camera) can be heard saying, "The whole power structure that underlies the way that the school is run needs to be either made more apparent, and they need to say 'ok these are the people who run things' and 'we're not trying to blur the line between teachers and students, we want you to know who organized and who didn't,'

or... they need to be true to what they say about wanting to blur the distinction between teacher and student, or who makes decisions and who doesn't."[290] Accordingly, the schedule for the upcoming week was adjusted to accommodate a meeting in plenary in which the issue would be confronted and given space. That the meeting happened suggested that the students had power to shape the agenda of the school. However, the organizers removed the invitation to bring questions and the notion of blurring the line between teacher and student in the SSDS proposal for the following year in 1994.[291]

There were other problems that would test the fortitude of the proposed premises at the 1993 SSDS. A week into the second session, $3,500 in cash disappeared.[292] A plenary meeting in which everyone on the land responded to the issue was captured on video. There were widely divergent proposals: an assignment to study individuals' relationship to property before and after the robbery as part of the research of the SDSS, a proposal to raise funds to reimburse the Gesundheit Institute, and a proposal that everyone join in a group confession about how many people in the group have in fact stolen something at one time or another in their lives. During the discussion, the question arose as to whether the group at the SSDS was "capable of handling" the robbery, accompanied by a call for a group apology to an individual who had been accused of stealing the money.[293] There were buckets left around the property as an invitation to anonymously return the money—the money was never returned. If there was one thing the cash disappearance exposed, it was the different criteria by which people approach the issue of money.

The 1994 Summer School for Designing Society

In 1994, there was an SSDS in Sioux Fall, South Dakota in a community setting. The SSDS lasted from July 5 to August 7, 1994. The minimum age listed on the brochure was increased to 16, and the five week program (including room and board) carried a tuition of $750.[294] The choice of a new locale in the progressive city of Sioux Falls echoed Mark Sullivan's idea from the early 1980s to "infest a community," and the idea from the 1991 meetings to create a "traveling school."[295] Curiously, the brochure for the SSDS directs participants to make any check payments to "The Institute for Global Education," an anomaly that never appeared again.[296] It is unclear what "global" meant at the 1994 session, but the 1999 group participated in the anti-globalization protests in Seattle in 1999. The 1994 SSDS also included an "Intensive Five-Day Workshop" from August 2-7 that cost $300 and was accessible to people with full-time jobs. Footage from that week shows members of the American Society of Cybernetics (ASC) in attendance.[297]

Return to the Fundamentals

Herbert Brün again presented his fundamentals at the 1994 SSDS, and this time at much greater length. There are differing stories about the origins of Brün's fundamentals, which I covered in chapter 2; Lori Blewett seems to have asked him to formulate his course proposal, and in the 1993 video he thanks her for the invitation.[298] However, records suggest that in 1993 the fundamentals were only formally presented over a few hours. Their terrain expanded in 1994. The schedule for the SSDS shows Herbert Brün presenting from 9AM to 10:30AM, three days per week, and the video shows that he was elaborating his fundamentals.[299] Brün performed in a 10-minute skit about the "court of

criteria," in the character role of a young person trying to decide how to write a letter home from the SSDS.[300] It was not uncommon to spend an entire hour on a single formulation from the fundamentals in 1994.[301] And although the fundamentals were discussed in Chapter 2, the following courses warrant further description here.

Economics with Michael Brun and Maria Isabel Silva

The 1994 SSDS saw an introduction of a class on contemporary Marxist theory in a class co-taught by Michael Brun (son of Herbert and Marianne) and Maria Isabel Silva. Specifically, Silva introduced dependency theory, which says that capital accumulation occurs by means of resources flowing from peripheral "underdeveloped" areas to urban centers set up by capital. Silva looked specifically at examples from Latin America, the historic function of cities such as Mexico City and Santiago de Chile, and the role of the military (most recently in January 1994 in Chiapas) in colluding with capital to subdue the periphery (i.e. to manufacture its dependency).[302] The center-periphery analysis was developed in a paper by Raúl Prebisch (1950). Dependency theory developed in the 1970s, out of the work of André Gunder Frank (see: Frank 1967), who visited the SDaS in 1999.[303] The historical significance of dependency theory and its use at the 1994 SSDS, was to counter the narrative of "modernization" that claimed that all nations develop via a common set of stages of industrialization. According to dependency theory, some parts of the system are deliberately "underdeveloped." In this sense, underdevelopment is not a "stage" so much as an ongoing process because the exploitation of peripheral lands is necessary for accumulation of capital in the cities. Silva and Brun would present at the other SSDS sessions and at the SDaS in Urbana after 1997.

Susan Parenti's Acoustic Portraits

The proposal to challenge the language of a speaker, rather than the speaker per se, was discussed in reference to Susan Parenti's "Playing Attention to Language" booklet in chapter 2. At the 1994 SSDS, Parenti hosted a class that focused on the use of metaphors and gave an assignment entitled "acoustic portraits."[304] Students were requested to make one-minute "portraits" in the medium of sound that would expose the politics of a text. "The intent" of the assignment, Parenti stated, was "to show how language is repeating and reproducing the current social system, and is getting in the way of what people want."[305] Parenti goes on, "one is trying to be non-cooperative with the social system at that moment when one is becoming aware of how language is affecting one's thought and preventing one's desires."[306] The students and Parenti, thus, composed brief pieces in which a sentence is heard in the context of other speech and sound such that its function in the social order is brought. Parenti's piece was a portrait of the phrase "No, honey, I can do it!" that connected the phrase to the daily oppression of women in service of men. The piece is musical in that the melody of the phrase "No, honey, I can do it!" is used as a point of departure, repeated and varied, such that by the end of the piece one is likely to cringe at the sound of a woman's voice saying the statement.[307]

Cybernetics

The field of Cybernetics, to review, was one of several attempts in the post-WWII era to formulate systematic work across various disciplines.[308] In the 1970s and 1980s some members of the ASC reformulated cybernetics as a discipline concerned with language, epistemology, and ethics (von Foerster 1981). The PWE wrote skits and plays for cybernetics conferences and the arts became an emphasis of the ASC. These

connections were kept alive and freshly relevant at the SSDS by participants who participated in the earlier era of cybernetics research, including Steve Sloan, Judy Lombardi, and Larry Richards, all of whom were present in 1994.[309] They would also all teach or participate in classes on cybernetics in subsequent sessions of the SDaS.

1995 Summer School for Designing a Society

In the year 1995 the project added the word "a" to the title: School for Designing a Society (SDaS). During previous years the indefinite article was used in discussions about "designing a society"; I know of no case where the definite article was used. The change of name was made so that the proposals of the school would be understood as alternatives, rather than as "we design the society." The SDaS took place June 12 to July 8 at Horizons High School in Atlanta in 1995. There was no "intensive workshop" built into the schedule and the teaching staff remained largely the same as in 1994: Herbert Brün, Susan Parenti, Mark Enslin, Arun Chandra, Lori Blewett, Maria Isabel Silva, Larry Richards, Rachel Rubin, and Patch Adams. What is interesting about the schedules from the four weeks of the 1995 SDaS is that while week one is taught exclusively by these seasoned instructors, the schedule shifts the classroom facilitation to the students such that the fourth week includes classes from the participating students: Rochelle Young, Aaron Loeb, Bethany Cooper, Joe Futrelle, Kristine Masters, Dylan James, and Dan Silver.[310]

Patterns emerge

Herbert Brün taught the first class every day, starting at 10:00AM, for the first three weeks of the four-week session. He presented his fundamentals, as well as several items from his lists A, B, and C, including "anticommunication" and his ideas about

peace and conflicts.[311] Susan Parenti presented classes on metaphor and "the power of the adjective." Michael Brun introduced political economy. Maria Isabel Silva led discussions on political issues in Latin America, screening a film about the 1989 US invasion of Panama (Trent et. al. 1992) and presenting on Proposition 187, a 1994 California law aimed at keeping social services from immigrants. Larry Richards presented on cybernetics and conversation theory. Patch Adams presented on the Gesundheit Institute. There were items on the schedule that were not part of any repeating pattern, that were anomalies—other ideas were debuted that would become mainstays of the SDaS repertoire.

Power of the Respondent

The originators of the SDaS were motivated by the political necessity for a forum where groups could engage in creative tampering with communication formats as a mechanism of social change (Parenti, Enslin, & Brün 1995). The school invited artists and activists to participate, largely under the rubric of Herbert Brün's composition curriculum. Mark Enslin (1995) wrote a dissertation on his observations and research on the modulation of power in the dynamics of response to the teaching of composition. Enslin observed, "comparison of the concert and the classroom as forums for the dissemination of the composer's ideas shows that the respondent in both situations wields more power than is usually recognized" (iii). In other words, Enslin likened the student power in the classroom to audience power in the presence of a work of art. His study assumed the desirability of student/audience voice, thus both were labeled "respondent." The themes of the dissertation were presented at the 1995 SDaS and frequently thereafter, when the interpretation of interpretations required analysis of the respondent's power in

shaping the response. The two films shown at the 1995 SDaS critiqued the role of the media in framing the language of political events in their role as reporter/respondent (Trent et. al. 1992, Achbar et. al. 1992).

Organizing against Racism

The 1995 SDaS also included screenings of two "black power" videos, though the schedule did not list the title. There was also a scheduled discussion of "anti-racism" as well as a presentation entitled "critique of multiculturalism" by Rachel Rubin.[312] This theme of anti-racism likely arose in collaboration with the largely African-American based high school where the SDaS being hosted.[313] The issue of Proposition 187 was a current issue at the time. Eboo Patel, founder of Interfaith Youth Core, also presented at the SDaS in 1995—his work focused on building bridges between people of different faiths (Patel 2007). The work on the social-constitution of human subjectivities, and the power dynamics that are played out in non-economic forums (i.e. racism, sexism, homophobia, etc.) were already recurrent themes before 1995 but that particular summer it seems to have been established that issues of identity could take a major thematic stage at the school. Indeed they would do so again in the coming years.[314]

1996 Summer Schools for Designing a Society

In 1996, there were two sessions of the SDaS, one at an intentional community in Wisconsin called "Dreamtime Village" and a second at the Gesundheit Institute in West Virginia. The former lasted four weeks (June 17 – July 12) and was attended by college-aged students and members of the Dreamtime Village; the latter was two weeks (July 22 – August 2) and was attended chiefly by young children.[315] This summer was a crossroad for the project—a decline in the membership of the Performers' Workshop Ensemble,

and Herbert Brün's declining health, obliged the organizers to make some different decisions about their touring schedule, their commitment to the PWE and the SDaS, and the location of future activities. However, while engaged in the SDaS session of 1996, the focus was once again upon the delivery of a month-long workshop in a community where they were guests.

Dreamtime Village

The community at Dreamtime Village describes itself as "a collective community of residents, buildings and land located in the Driftless Bioregion of southwest Wisconsin. Our activities center on permaculture, art, media and learning how to live sustainably." (And 2004). The Dreamtime Village project grew out of a flourish of new art-forms centered around the use of photocopy machines in the 1980s, and the founding of Xerox Sutra Editions in Madison, Wisconsin which later came to be known as Xexoxial Endarchy. They were part of the mail art movement in the 1980s, where art was made to be photocopied and mailed to a wide network of mail artists. Xexoxial Endarchy started a photocopy-based press in Madison, out of a house known as the "Church of Anarchy" with front-yard installations such as the 1993 "Merz Avant-Garden" (Ish 1999). The following year, the group moved to Southwest Wisconsin where they founded a community focused on applying their art to the landscape and the community itself: Dreamtime Village (And 1999). As a group of artists in Wisconsin focused on experimental art, changing the language, politics, and designing social relationships, it seemed a perfect setting for a project like the SDaS.[316]

The traces left by the 1996 SDaS show that the patterns of course offerings from 1995 continued, with the addition of several more presentations by young people who

had attended earlier sessions of the SDaS. Every morning from 10:00–11:00AM, Herbert Brün presented his ideas, starting with the assignment to write desire statements on day one, followed by an hour of another seasoned SDaS presenter on a connected subject. There was a pattern of presenting in pairs: Danielle Chynoweth and Sam Markevich, Jeff Glassman and Lisa Fay, Lori Blewett and Rachel Rubin, with other pairs such as Michael Brun and Maria Isabel Silva presenting separately, and the central duo of Dreamtime Village, mIEKAL aND and Elizabeth Was presenting throughout the month. Course titles had more straightforward titles in 1996, such as "observing the current social system," "performing and writing" and "describing and composing social activism."[317] Other additions included working at Dreamtime Village which entailed being introduced to "permaculture" and the community living there.

Gesundheit Institute

It is less clear what happened at the two-week session in West Virginia ten days later. The only "roster" I could find consists of a couple of emails and statements about the children of some friends in Urbana and other communities in attendance.[318] Apparently Mark Enslin was the only "seasoned" SDaS organizer who attended, though Patch Adams made a brief appearance during the first two days.[319] Other organizers included Danielle Chynoweth, Rishi Zutshi, and Marianne Shaneen.[320] In short, it was a program for children, organized by people in their early twenties with the help of Mark Enslin. It led nowhere; the SDaS wouldn't return to Gesundheit for almost a decade after 1996 and there was never another program explicitly offered for children.

Aftermath of the Summer of 1996

Herbert Brün's health declined precipitously in the summer of 1996. The dusty, and allegedly asbestos-filled "school building" at Dreamtime Village may have contributed, but Brün already had lung problems and trouble getting around. He was 78 years old, and had smoked cigarettes for much of his life. He was diagnosed with emphysema, and given a tank that delivered oxygen via a tube running underneath his nose. From 1997 on he generally needed a walker or a wheelchair to get around, as well as a driver. In short, 1996 was the year in which it became clear that Brün could no longer travel to communities that lacked adequate bedding and medical facilities, etc. Having been the originator and motivator of so much of the SDaS activities and the mind behind many of its core concepts, the only potential future for the SDaS seemed to be near to Brün in Urbana, Illinois.

The Fate of the Performers' Workshop Ensemble

The SDaS sessions of 1993-1996 were concurrent with the final years of intensive PWE touring; or perhaps one could say the final years of that era of the PWE. The membership changed rapidly: the 1991 Proposal for Group Professorship listed Arun Chandra, Lori Blewett, Keith Johnson, and Drew Krause;[321] whereas a January 1995 description of the ensemble lacks these players, while including Lisa Fay, Sam Markevich, Joe Futrelle, and Danielle Chynoweth (Parenti, Enslin, and Brün 1995, 233). In addition to this rapid turnover in the membership, Jeff Glassman and Lisa Fay were pursuing an independent career as a theater duo[322] and Rick Burkhardt was organizing a theater troupe under the title "Utopia Train."[323] Herbert Brün's health went into decline.

When, in 1996, Markevich and Chynoweth dropped out, Susan Parenti "gave up on the ensemble."[324]

Though Parenti's participation had been crucial (recall from chapter 5 that she was the one trying to make the PWE into a professional ensemble), her position differs from those of other PWE members. When I asked Mark Enslin in 2010 about the decline of the PWE, he emphasized that while Herbert Brün's declining health made it difficult to tour after 1996, "PWE remains as a potential nest."[325] Put another way, Enslin still viewed the PWE as a vehicle for work alongside the vehicle of the SDaS. Arun Chandra also hesitated to describe the PWE as having an "end," but rather pointed to a sapping of energy away from music and toward the organizing of SDaS sessions.[326] Perhaps herein lies the resolution of the different stories: it was Parenti's energy that was sapped and oriented elsewhere (she was a primary caretaker of Brün in his declining health) and the school was not a self-organizing system. The PWE needed Brün's presence, Parenti's drive, the requisite time to score new music compositions, the ability to rehearse and tour the new pieces, and the effort became too strained in 1996. While the PWE may have re-surfaced in conversations and house theaters around the SDaS, there has not been a brochure, or a tour, of any PWE independent of SDaS students and sessions since the early 1990s. For the remaining participants, the SDaS became the main vehicle for working on art and social change.

1997 School for Designing a Society

The School for Designing a Society has offered at least one session each year from 1992 to present, though there were several discontinuities along the way (see Table 5.2 in appendix A). For the first five years, the School was only operating on average less

than one month per year. In 1997, in response to Herbert Brün's declining health, and other factors, the School began to operate out of Urbana during fall and spring semesters, as would a university. That made the time between the summer of 1996 and 1997 one of the longest pauses the school would ever take. During 1997, the group scouted out a place to situate the school locally, eventually renting a house on the corner of Race Street and University Avenue in Urbana (see figure 6.1 in appendix B). The initial group of students was very small, though the overlap of activities with Brün's Seminar for Experimental Composition and Discovery Courses at the University of Illinois provided plenty of schooling activity for the organizers to have their handful.

Thus, the SDaS was launched as a year-round school with a space in Urbana, Illinois and a handful of student inside and outside of the University of Illinois, with an openness to using multiple settings in the local town as forums for pedagogy, performance, and experimentation. While certain possibilities were excluded from this model (and of necessity, such as Herbert Brün's health), other possibilities were included by dint of the fact that the SDaS organizers had lots of connections in their home city. The 1997–1998 school year closed with a house theater May 1 and 2, 1998 (see figure 6.3).[327]

Living Laboratory

The 1997–1998 school year was reportedly the first time that a "living lab" was hosted at the SDaS, though details are sketchy. There was another living lab in the fall of 1998 SDaS session organized by a new student, and inspired by the ideas of the Situationist International (Sloan 1999).[328] The overlapping points of view between the Situationist International and the SDaS were explored in chapter 2.

> "The SI is not interested in finding a niche within the present artistic establishment, but in undermining it."
>
> *The Adventure*, in Internationale Situationniste #5, 1960

> "Rather than orienting participants to find a comfy spot in the current social system, *this* school offers tools, time, ambiance and company in which people can imagine and design a system they would prefer."
>
> School for Designing a Society, 1997-1998 brochure

The living lab could be considered comparable to the Situationist concept of dérive, in the sense of living according to one's desires for a specified period of time and allowing oneself to "drift" inside of the chosen constraints. The early living labs at the SDaS consisted in a few full days of living together under constraints proposed and chosen by members of the group. The Situationist International reportedly had members who had "dérived" for "three or four months straight" (Chtcheglov 1963).

Performance (in Everyday Life)

The re-situating of the SDaS in Urbana was accompanied by Susan Parenti's amplification of the concept of performance as an aspect of daily life. As was discussed in chapter 2, Brün's work often treated art works as analogous to human activity in a social system, and his Fundamentals course formulated "performance" in terms of "sharing your presence; conveying your thought and attention; carrying your messages so that they reach out the way you want" (H. Brün 2003a, 118). The 1997–1998 school year was the time that Parenti really began to flesh out the concept of "performance in everyday life" as a course proposal, semester-long in duration.[329] It is logical that the time in Urbana should become the "when" it became possible to flesh out the proposal that art infiltrate life and that other local educators add to the tool-box of ideas for how to bring that about.

That composed theater works can therefore show yet-untried social realities was

Figure 5.3 Group photo from the end of the 1997–1998 School for Designing a Society in Urbana, Illinois.

also brought to the SDaS in Jeff Glassman's concept of "pivot montage." In this concept of theater, actors find positions of bodies and objects that are shared by two or more scenes, then using the moment in time as a "pivot point," an abrupt change from one scene to another is possible. As Glassman explains, "The purpose is to serve the author-composer of theatre in turning the daily life material of human action into behavior not observable in daily life, yet possible to perform."[330] The audience is thus permitted to see a behavioral and gestural universe that is not observable in the current society, thus using theater as an analogue for social change.

The shift of performance from "on the stage" to off the stage, in other domains and in everyday life, is to this day most clearly articulated in Parenti's course proposal "Performance as Social Design." Not limited to theater scenarios, Parenti considers

performance any situation in which a person has intentions, chooses between alternative ways to present their intentions, and adjusts their actions after observing the consequences of the choices. The course aimed to draw participants' attention to where their intention was subverted by their presentation of themselves. Parenti invites students to "bring 'material' to class: "behaviors/habits they wish to change, amplify, or have alternatives to."[331] Thus, the classroom functioned as a sort of workshop, in which people's daily life behavior could be altered, so that peoples' actions might be consistent with their desires, oftentimes in friction with their sense of identity.

Precedents to this work include Erving Goffman's *The Presentation of Self in Everyday Life* (1959). Though Goffman was interested in analysis of everyday interactions from a sociological perspective, employing a "dramaturgical approach" to analyze social relations in terms of actors, audiences, setting, etc., Parenti was interested in the potential for synthesizing new everyday performances to challenge people out of their fated sense of "authentic self." The theater of daily life was also tampered within Augusto Boal's "forum theater" (Boal 1979) or "playback theater" (Fox 1979). These are performance exercises in which people perform live re-enactments of everyday moments of oppression from their lives and use that performance as a source material for making interventions upon everyday events. Interventions include re-writing the "script" of everyday life scene or inviting audience members to jump into roles in the performance to demonstrate how the scenario could go differently. This tactic of using "spect-actors" to undo the actor/audience split is often associated with the work of Augusto Boal (1992). By intervening in one another's performance, participants in the SDaS were applying composition and performance ideas to the social world, starting with themselves.

Much more could be said about the past, present, and future of the early SDaS sessions. The PWE was drawing on a rich history of collaboration with thinkers from diverse fields.[332] The significance of the work is drawn from what it is not—it is not the average tale of work taken by music school graduates.[333] Here a group of people decided that a conversation which began with experimental composition and arrived at a re-thinking of the premises of society was worthy of its own school. In the final chapter, I will conclude with a brief review of some of the contributions of the School for Designing a Society and describe what I see as the social significance of the work done by the school.

CHAPTER 6

CONCLUSION

> Karl Marx wrote in *Wage Labour and Capital:* "Capital does not consist in accumulated labour serving living labour as a means for new production. It consists in living labour serving accumulated labour as a means of maintaining and multiplying the exchange value of the latter."
>
> My application of this sentence structure: Communication does not consist in accumulated language serving living language as a means for new thinking. It consists in living language serving accumulated language as a means of maintaining and multiplying the communicative value of the latter.
>
> Marianne Brün, *Paradigms: The Inertia of Language*

In the preceding chapters, I outlined a history of a collective effort to transform the discursive environment around Herbert Brün and the Performers' Workshop Ensemble (PWE) into projects of contemporary significance in art, education, and politics. In this final chapter, I formulate my thoughts about what the School for Designing a Society (SDaS) teaches us about the experimental side of alternative education, what it has done that other alternative schools have not done. I also reflect on a few unresolved tensions within the project. More importantly, I affirm that the SDaS is still a work in progress and that much hope can be drawn from the passion and persistence of those who have worked on the project over many years.

The Composition Approach to Social Change Education

While many institutions of higher learning have been fertile ground for formulating social critique, and some have been hotbeds of activism (Cox Commission 1968, Wolin and Schaar 1970), the SDaS was unique in its aim to challenge the status quo at all times, by teaching people to compose new activisms. The stated aim to move beyond critique to generate new alternatives by means of composition was emphasized throughout the literature and practice of the SDaS. The notion that the students were not only there to receive, but also to contribute, was not a particularly new idea. The invitation to students to contribute something unheard of and potentially anticommunicative was fairly unique, however. When offered to participants that had experience with already attempted activisms, the composition curriculum seemed well positioned to result in exciting new perturbations to the social order. What was unclear, however, was by what means the pedagogy would ensure that participants were, in fact, already aware of the existing society and attempts to change it. It is tautological to say that if one wants to avoid the status quo, one first must know what the status quo is. While some college-educated students of the SDaS may have had a background in political economy, linguistics, philosophy, and/or music, it seems that others encountered the SDaS without this background and nevertheless advanced immediately to the project of generating alternatives.[334]

I propose to call the SDaS method the "composition approach" to social change education. Its methods were distinct from those of the Highlander Folk School, for instance, which are known for having led to "direct action" protests and activism. The composition approach of the SDaS was more of an indirect method of manifesting social

change. It resulted in "indirect action" protest and activism. Similar intentions were present in both schools—for instance, the intention to challenge the violence and injustice of the current society—but at the SDaS these intentions were put into action by composing something that was not yet communicative. In this sense, the SDaS organizers tended to spurn labels such as "progressive" or "left" as did the originators of the Black Mountain College (Zommer and House 2007). Thinking like a composer, one must be aware that any label can backfire and generate consequences that are contrary to the purpose of the label. Calling oneself "radical" is not itself a radical act.[335]

There is no incompatibility between direct action protest and the composition approach; they hybridize readily. It is known that Rosa Parks attended the Highlander Folk School a few weeks before refusing to move to the back of the bus in Montgomery, Alabama in 1955 (Murphy 2003). Today, Parks' refusal is treated as the quintessential direct action, in part because it was so well composed. Many actions taken during the early days of the civil rights movement were, in a certain sense, performances—there was a chosen cast, scripted and timed interventions, even wardrobe ideas were planned in advance in order to carry the intended message (Chappell, Hutchinson and Ward 1999). What is the difference from making an actual performance? In almost all cases, the composition of these early protests recreated the characters, behaviors, and appearances that were accepted by the status quo of the time: respectable community members with no criminal record, taking non-violent action by going to buses and at lunch counters and politely requesting service while wearing their best clothes. These actions communicated a radical message within the channel of communicable messages understood by society. They communicated the injustice of racial discrimination.

An example of the composition approach and an SDaS project of indirect action protest would be radical cheerleading. "The Radical Cheerleaders began in 1996, when three sisters living in Florida (Cara, Aimee, and Colleen Jennings) decided to experiment with new ways of staging political protest" (Farrar and Warner 2006). The next year, they self-published the first 'zine of radical cheers that were, literally, cheers to be performed by cheerleaders that advocated radical social change. Aimee Jennings attended the School for Designing a Society during Fall 1998 and the SDaS organized a cheerleading squad to protest at the World Trade Organization's 1999 Ministerial Meetings in Seattle, Washington.[336] Radical cheerleading has received attention for its ability to perturb the gender dynamics within protest events themselves. Jennings had been frustrated at the 1996 protests at the Democratic National Convention, where "the people who had the bullhorn got to state the message, and most of them were boys" (Associated Press 2003). The radical cheerleading squads that resulted were decisively inclusive of all constructions of gender, body types, and included both anarchist cheerleaders and actual former mainstream cheerleaders, such as Jennings herself. At the same time, radical cheerleading became a platform from which to refresh the variety of chants used at protests, while adding to their complexity and scope.

Such work exemplifies the *detournement* the SDaS engaged to change the means to change. Put another way, the composition approach looked not only at the message calling for change, but also the terrain of the messages themselves. This goes a bit further than the 1960s call to recognize "the media is the message" (McLuhan 1964) in that it calls for the consideration that a new message may require new language and new media (Brün 1988/2004). This was the connection between "new music" composition and the

world of social change: music was a medium in which to develop a skill for composing new structures, and to face the fact that audiences are generally unprepared to hear music that does not, at least, use the tonal system. At the SDaS, the performing arts were a point of departure for modifying the means of communication itself, with no anticipation that it would be immediately understood outside of the SDaS. Any field of inquiry thus generates a special vocabulary when attempting to make new work. These actions called attention to undesirable elements of systems of protest, in addition to the systems that were being protested.

Many educators have experimented with communication, but Brün's anticommunication is extraordinary. Accordingly, the SDaS was opposed to the use of clichés and practical goal-oriented approaches to problem solving.[337] It is hard to find anyone advocating such tactics in the educational literature. By contrast, one finds a huge literature of pragmatism (Dewey 1925), including critiques of pragmatism (Karier 1977), extended exploration of pragmatism (Sleeper 1986), re-invention of pragmatism (Henry 2005), but scarcely any proposals to *exclude* or *avoid* the pragmatic wholesale. According to Brün, to avoid composing a variation of past systems, one may have to compose that which is today considered "implausible" (Brün 1963). This line of thought resurfaced when he told his heuristics class in 1969 to anticommunicate; and it framed the SDaS assignment to formulate desires as "false statements." It could be called a counter-pragmatic education, aimed not at adjusting people to the society they live in, but at generating stronger miss-fits.

One could then ask, "Was not the SDaS proposing a sort of hyper-individuality, which epitomized competition and was the opposite of solidarity?" To some extent, I

think this is accurate. At the same time, the SDaS had a complex relationship to care, collaboration, and community. The study of composers of experimental art, who have been slandered as "cold" and "cerebral" by the commercial media, was in fact motivated by social concern. The SDaS also had fruitful encounters with the ideas of Nel Noddings (2003) and Peggy Claude-Pierre (1999), who have been slandered as "soft" and "sentimental."[338] Susan Parenti's paper on the US Health Care System is a recent example of the counterintuitive synthesis of care and composition at the SDaS (Parenti 2008). The SDaS was not a project without compassion and caring. Like many communities of resistance, the SDaS existed in a contradiction between its stated commitment to working together to improve society, and the effort of individuals within the group to distinguish themselves, their ideas, and their tactics for change as something "new." Thus, many of the foundational ideas listed in chapter two encouraged an exploration of new potentials by doing something audaciously different in the interest of social change. Audacious acts of care-giving were included, such as when the SDaS re-located to Carle Hospital on-and-off as a "care club" for Herbert Brün in his dying days during the fall of 2000.[339]

The contradictory stances of the SDaS were held together by abstract ideas. The concepts of constraint, information, communication, and systems (from cybernetics) and composition/performance, not limited to music/theater (Brün 1970), open the door for working in virtually any conceivable domain of human life. Unsurprisingly, the SDaS found projects of interest in proposed economic systems (Albert & Hahnel 1991), systems of health care delivery (Adams 1993, Parenti 2006), unusual theater formats (Parenti, Enslin & Brün 1995), transportation networks in small cities (Chynoweth 2002),

or even ecological landscaping (Scott 2005). The SDaS organizers drew upon the spirit and interdisciplinarity that had fostered early cybernetics research, while at the same time uniting around the common purpose of working in an artistic mode without a commercial agenda. The resultant discussions took a tone of disrespect toward tradition, ready-made consensus, and coalitions built upon anything but the tenuous connections of yet-untried proposals.

Now I will recap a few of the contributions to the study of education that I see in the early sessions of the SDaS (1992-1997). I use the word "contribution" in the sense of Brün, who preferred it to the word "new" which one finds in so many commercials. Rather than ask what is new about this project, Brün wanted to know what is its contribution (Brün 2003b, 20).

Chapter three described some historically significant experimental pedagogy at the University of Illinois. The Biological Computer Laboratory, led by Heinz von Foerster, pivoted to include ethical and epistemological questions, methodically excluded from western science, and an experimental course on heuristics taught with Herbert Brün was itself central to the pivot move. There were unanswered questions raised at the end of the 1960s, which provided the central problematic that remained in the milieu until a school was founded to engage it. Namely, the question of desire, the communication issues that arise when trying to articulate oppositional desires in a social system that recuperates it via language, and openness to a pedagogical unfolding that doesn't assume pre-determined goals (heuristics).

In the seminars with Ivan Illich in Cuernavaca, I found traces of Heinz von Foerster making the earliest reference to "legitimate" questions (questions that remain

unanswered). Humberto Maturana participated in the discussions, shortly after publishing his seminal work on his theory of living systems, and a discussion of "needs" ensued. There I found the first traces of Herbert Brün's canonical dialectic of needs and necessities (Brün 1986, 42-43), that was used up to the era of the SDaS, and was cited in "Herbert's List A" (see footnote 314). I noticed that these developments were all recorded in an advance draft of the proceedings dated to 1971,[340] but they did not appear in the final publication I found in the University of Illinois library (von Foerster 1972). This fact illustrates how the archive at the Herbert Brün Library was instrumental in making these connections.

Finally the lack of funds for the Biological Computer Laboratory, the coup in Chile, and the suspension of American Society for Cybernetics conferences combined to punctuate the end of that mini-era of experimental cybernetics pedagogy around von Foerster. He retired at the age of 63, but returned to the ASC in his seventies to push second-order cybernetics. Maturana outlived the Pinochet dictatorship in Chile and started a school in Santiago in the 1990s.[341] It is called the Matriztic Institute for the Study of Biological and Cultural Existence and it deals with issues of cybernetics, language, ethics, and epistemology—categorically the same issues dealt with by the School for Designing a Society. It would be interesting to trace the path of Maturana during the intermediating period just as this work has done for Brün and his students.

Chapter four described how the enthusiasm of Brün's students got them labeled (somewhat maliciously) as the Brünettes – I suspect more than anything because of the frustration that a group of students were disrupting the status quo. While they were posting "notices" about the lack of discussion about music concerts, Brün was beginning

to compose some fairly challenging music using his Sawdust program. Describing his 1979 Sawdust composition "A Mere Ripple" Brün would call it "one of the most unpleasant responses that I find in today's society."[342]

As the 1980s began, there was a slightly more constructive turn as the group became more organized around the performance ensemble, Manni Brün's "Designing Society" course was organized, Parenti's play "The Politics of the Adjective "Political" was performed, there was a proposal to institute a school, and there were more concerts and House Theater events organized. The group was not interested in merely performing music concerts followed by a liberal shrug to audience interpretation—they wanted their work to be an input in the social world. That meant initiating conversations, workshops, demonstrations, lectures, and in the end they seem to have been metamorphosing into becoming a hybrid performance ensemble and a roaming band of teachers.

Then there was the conference on "Creative Cybernetics: Our Utopianists' Audacious Constructions," a proposed music education program for children, the 1989 tour to Germany, "Multidisciplinary Residencies" and finally a proposal for a "Group Professorship." I found so many different project titles over the course of the 1980s that I didn't get much time to fill each one of them in with the strands of thought that poured over from the 1960s and 1970s. What became more interesting was the extent to which the changing titles and descriptions of these projects embodied many of the ideas articulated earlier. So, the Notices Group's thirst for discussions about music concerts was probably quenched, at least to some extent, by development of performers' workshops, which leads to an ensemble, more discussion, classes, and by the end of the 1990s they were openly discussing a proposal to start a school.

Chapter five covered the founding of the School for Designing a Society and its first raft of proposals in the 1990s. I took interest in the age-range dynamics, particularly as they were raised by the swimming debacles of 1993 summer school. It has been observed that Myles Horton and the Highlander Folk School never really figured out how to engage the youth movement in the US (Morris 1991). I think a parallel problem grips the desire-formulation pedagogy of the School for Designing a Society that touched the life-experience-based pedagogy of Highlander—people have to be exposed to society, and they have to develop their views about it, before they can chart a truly unheard of path in a different direction within that society.

A similar issue seems to underlie the issue of anticommunication; you can't skip the step of learning to communicate. Imagine if you were learning some new language, say Turkish, and your teachers start asking you to stop trying to say things that made sense in Turkish. A similar issue may also underlie the agenda of teaching music composition and/or the composition of activism at the School for Designing a Society. Those who have learned the basics of music, or say the basics of activism, could stand to benefit from a semester at the SDaS as it existed in the 1990s, encouraging a departure from status quo language, music, or theater. The example of radical cheerleading (above) was a good example of how a young adult had learned the status quo of social protest in the US, and then responded with a performance idea that transformed the gender dynamics, the message, and the enthusiasm of protest. At the early sessions of the SDaS there were 14-year-olds (later, 16 years old became the age limit)—if was a large group of teenagers at the SDaS it would be unlikely to include many seasoned social activists or music composers that could go to bat with Herbert Brün in the seminar arena.

Moreover, the swimming rules debate from 1993 typified the sort of exploration of controversy that was possible in this type of school. Does a language capable 14-year-old human have the ability of an adult observer to reflect? That is to say, do some school participants require that their abilities be stipulated by an external agent (i.e. a supervisor, lifeguard, or teacher)? The majority present in 1993 seemed to agree that 14-year-olds could regulate themselves, as full "participants" in the school. The consensus was incomplete, however; one of the parents continuously referred to them as "children" to invoke a different framework. This seems like a language trap set by American culture. The concept/word "teenager" came into widespread usage in the US in the 1950s, whereas other languages still lack the term (Harper 2010, Rohlen 1983). According to Ivan Illich's (1970) analysis of the expansion of "childhood" it is precisely the schooling context that gives rise to the notion that 14-year-olds cannot be trusted to play on the edge of a pond no matter what they say. Rephrased in the vocabulary of cybernetics, schools do not consider 14-year-olds to be "observers," yet. Though, as many pointed out, emphasizing the dangers involved in unsupervised swimming for 14-year-olds ignores the fact that there are also dangers involved in unsupervised swimming for adults.

How has a school with such theory and practice not received wider notice in the society at large? The composition agenda, framed by Brün (2003b, 21) with echoes of Adorno (1938), set the SDaS at odds with commercial success. This led the work of the SDaS away from the common agenda of schools helping participants achieve a higher pay-grade in a given field. For people who found that money or debt is a major issue, the SDaS only could offer cheap housing, food, and community support. Thus, the SDaS endeavored to help with student financial needs, but it undermined actions guided by the

profit motive.[343] As of April 2011, the SDaS had not received a single foundation grant for its work. Rather, the tendency at the SDaS was to boast that the anti-commercial nature of the project as an intended avoidance of the prevailing commercialism of the existing market economy. This language likely had consequences on enrollment, given the absence of a baseline critique of capitalism in the current society, as well as the common misreading of anti-commercial language as unconcerned with the economic plight of under-resourced people.

There are no other alternative education projects that I have found that have existed with such a scarcity of financial resources, stated goals, and publicity, while continuing to work with strong theoretical ideas of what it is doing. The SDaS had a different economic agenda and thus, a different public profile than other schools. During the first 20 years of its existence, I know of a single 1.5" x 1.5" advertisement for the SDaS that appeared in *The Progressive* magazine in 1996.[344] There is a conundrum similar to that of the Highlander Institute—much of the work of the SDaS went unpublished or self-published on a small scale. Perhaps the story of the Highlander Folk School would never have been published in long form had Myles Horton not released two books in his final year of life (Horton 1990, Horton and Freire 1990). Both the Highlander Institute and the SDaS focused on the practice of education during their most active years. With the time and attention of SDaS organizers spread across teaching, recruiting, performing, writing, and updating the webpage, there was scarce additional time for communicating the existence of the project to the public. While there were performances every semester, newspaper articles, and invited talks, they often were

theoretical and in that sense functioned more as an extension of the SDaS pedagogy rather than as a communicative introduction to the project's role in the larger society.

Outside of the SDaS, the potential for a desire-oriented pedagogy and educational policy remains largely unexplored. I know of no education scholars with a stated agenda or developed curriculum for training more skillful *desirers*, although it is possible that such educators would not leave easily accessible records of their work. It should also be remembered that projects that arose at the SDaS did not necessarily reference the SDaS in any way. This is a fitting distinction for a school that insists that the work arise from the desires of the participants rather than lessons taught. One would only hope then that the functionality and concepts of the SDaS at some point be traced for their own merit, which is part of what motivated me to write this dissertation.

Conclusions

I've battled with the concept of "conclusion," perhaps due to the influence of my study of Paulo Freire a few years ago. He posited the aim of education as "humanization," which he saw as an incomplete project that all educators must address (Freire 1972). His words pointed to a concrete example of the non-objectivity that I encountered at the SDaS. I can study events that I was not present for but am still ultimately self-interested. I can evaluate ideas but, at the same time, the ideas shape the framework by which I evaluate. When I looked at the Black Mountain College, I found that I was using Brün's vocabulary of "nesting" to describe how BMC used student labor to build the teaching center, thus nesting their economics in community. On the other hand, when I looked at the rise and fall of cybernetics funding in the US, I saw the intersection of the technological cold war internationally with the struggles for domestic

freedoms in the US. This was a connection explored in courses I took at the University of Illinois. Cybernetics rose on science budgets (and agenda) of the Cold War, and when American cyberneticians began to side with the protest movement their funding lines were diverted back to the war economy. The new ethics in these theories of knowledge thus had to forge new frontiers, and the creation of a new experimental school was an example of this. These are some of the contributions to existing educational research that this study could make.

EPILOGUE

I moved to Urbana in the Fall of 1998 to attend the School for Designing a Society the second year it was offered as a year-round program. I attended on-and-off for a few years, while also enrolled as an undergraduate at a university.

Herbert Brün died in December 2000, of emphysema. During his final two years of life, he taught whenever he was out of the hospital, for as long as his breathing allowed his language to function. When he needed to pause to catch his breath, Susan Parenti or Mark Enslin would keep the discourse going. Their commitment to the project of teaching is largely what led me to locate in Urbana after completing my Bachelor's degree. The day after Brün's death, the Seminar for Experimental Composition met as it normally would on a Thursday, taught by Susan Parenti after she gave a brief mention of Brün's passing.

Steve Sloan died in May 2001. After Brün's death he had fallen into a state of depression and became difficult to coordinate with. At the same time, he was failing to take his diabetes medication properly. One day, he had trouble breathing and a student called an ambulance. The medics decided he was having a heart attack and a defibrillator was used. He died in the ambulance. Three days later, a group from the SDaS departed for a cybernetics conference in Vancouver, British Columbia.

While partly in shock and partly trying to continue with the SDaS, the crimes of September 11, 2001 occurred. The organizers of the SDaS, Susan Parenti in particular, instantly responded by organizing daily protests against the so-called "War on Terror." A local anti-war group was founded out of the SDaS within a week. In the following years, while activism flourished, enrollment hit a low point. In 2004 and 2005 the fall semesters

were cancelled due to low enrollment, though during these same years there were summer sessions enrolled in full—the energy from these summer sessions would be used to re-launch the Fall Semesters in 2006, 2007 and 2008. During those years, I worked at the SDaS as a core organizer, Jeff Glassman returned as a teacher, and Danielle Chynoweth returned to teach as well. I resigned on January 1, 2009 to devote my attention to writing this dissertation.

During the early years, a pattern was established of hosting the School for Designing a Society in settings that were not set up as schools. The most common setting for classes would be a living room at a house in Urbana or some other community. The summer schools from 1993 to 1997 took place at "intentional communities".[345] From fall 1997 to spring 2004, the School rented a suburban house at 409 North Race Street in Urbana, IL (see figure 6.1 in Appendix B). More recently the school has rented space in the Independent Media Center in downtown Urbana, and several new buildings have been put into use at the Gesundheit Institute during the summer sessions.

While I have attempted to provide a multi-sided portrait of the SDaS and the lives of those people who helped create it, I hope that, consistent with the underlying vision, the reader is left with a sense of incompleteness.[346]

WORKS CITED

Achbar, Mark, Peter Wintonick, Noam Chomsky, and Edward S. Herman. 1992. Manufacturing consent: Noam Chomsky and the media. VHS Cassette. Directed by Mark Achbar. Montreal, Canada: National Film Board of Canada.

Adams, Patch. 1993. *Gesundheit: Bringing good health to you, the medical system, and society through physician service, complementary therapies, humor, and joy*. Rochester, Vermont: Healing Arts Press.

Adorno, Theodor. 1938. Über den Fetishcharakter in der music und die regression des hörens. *Zeitschrift für Sozialforschung* 7. Translation unattributed. 1982. On the fetish character in music and the regression of listening. In *The Essential Frankfurt School Reader*, ed. Andrew Arato Andrew and Eike Gebhardt, 270-299. New York: Continuum.

———. 1951. *Minimia moralia*. Frankfurt: Suhrkamp Verlag.

———. 1966. *Negative dialektik*. Frankfurt: Suhrkamp Verlag.

———. 1968. *Alban Berg: Der meister des kleinsten Übergangs*. Vienna: Verlag Elisabeth Lafite and Osterreichischer.

———. 1970. *Ästhetische Theorie*. Frankfurt: Suhrkamp Verlag.

———. 1973. *Negative dialectics*. (Translated by E.B. Ashton) London: Routledge.

———. 1975. Culture industry reconsidered. Trans. Anson G. Rabinbach. *New German Critique* 6:12-19.

———. 1976. *Introduction to the sociology of music*. Trans. E.B. Ashton. New York: Seabury Press.

———, Else Frenkel-Brunswik, Daniel J. Levinson, and R. Nevitt Sanford. 1950. *The authoritarian personality*. New York: Harper and Row.

Albert, Michael, and Robin Hahnel. 1991. *Looking forward: Participatory economics for the twenty first century*. Boston: South End Press.

And, Miekal. 1999. Hyper wilderness / hyper culture. In: *Avant gardening: Ecological struggle in the city and the world*, ed. Peter Lamborn Wilson and Bill Weinberg, 132-141. New York: Autonomedia.

———. 2004. Dreamtime Village. http://www.dreamtimevillage.org/ (accessed January 15, 2011).

Anderson, Terry H. 1995. *The movement and the sixties: Protest in America from Greensboro to Wounded Knee*. New York: Oxford University Press.

Anonymous. 2001. L'hypothèse cybernétique. *Tiqqun: Organe de liason au sein du parti imaginaire* Vol. 2. Zone d'Opacité Offensive: Éditions Les Belles-Lettres.

Arendt, Hannah. 1963. *Eichmann in Jerusalem: A report on the banality of evil*. London: Penguin Books.

Ashby, W. Ross. 1950. *Design for a brain*. New York: John Wiley & Sons.

———. 1956. *An introduction to cybernetics*. New York: John Wiley & Sons.

———. 1962. Principle of the Self-Organizing System. In *Principles of Self-Organization*, ed. Heinz von Foerster and G.W. Zopf Jr., 259-278. London: Pergamon Press.

Associated Press. "Radical Cheerleaders Raise Ruckus." November 14, 2003. http://www.cbsnews.com/stories/2003/11/14/national/main583821.shtml (Accessed January 17, 2011.)

Bakhtin, Mikhail M. 1981. *The dialogic imagination: Four essays by M.M. Bakhtin*, Trans. M. Holquist and Caryl Emerson. Austin, Texas: University of Texas Press

Barrett, Cyril. 2007. *Lugwig Wittgenstein: Lectures and conversations on aesthetics, psychology, and religious belief*. Berkeley: University of California Press.

Barthes, Roland. 1973. *Mythologies*. London: Paladan Books.

Bateson, Gregory. 1967. Cybernetic explanation. *American Behavioral Scientist* 10(8):29-32.

BBC - British Broadcasting Corporation. 1992. City of Strangers: A Sense of Difference. VHS Cassette. Directed by Sue Knussen. Produced by Diana Lashmore and Ann Hummel. London: British Broadcasting Corporation.

Beer, Stafford. 1979. *Heart of enterprise*. New York: Wiley.

———. 1981. *Brain of the firm*. 2nd Ed. John Wiley & Sons: New York.

Benjamin, Walter. 1935. L'Oeuvre d'art à l'époque de sa reproduction mécanisée Trans. Pierre Klossowski. *Zeitschrift für Sozialforschung* 5:40-68. Translated by Harry Zohn. 1969. The Work of Art in the Age of Mechanical Reproduction. In *Illuminations: Essays and Reflections*, ed. Hannah Arendt, 217-251. New York: Schocken.

Berger, Peter L., and Thomas Luckmann. 1966. *The social construction of reality*. Garden City, NY: Anchor Books.

Biological Computer Laboratory. 1975. *Publications by the Members of the Biological Computer Laboratory*. B.C.L. Report No. 74.1, Champaign-Urbana, Illinois: University of Illinois, 3-6.

Birken, Lawrence. 1994. Intellectual History and the history of economic thought. *History of Political Economy* 26(3):501-508.

Black, Bob. 1997. *Anarchism after leftism.* Columbia, Missouri: C.A.L. Press.

Boal, Augusto. 1979. Theater of the oppressed. New York: Urizen Books.

———. 1992. Games for actors and non-actors. New York: Routledge.

Branscomb, Lewis M. 1992. America's emerging technology policy. *Minerva* 30(3): 317-336.

Brown, G. Spencer. 1969. *Laws of form*. London: George Allen and Unwin Ltd.

Brün, Herbert. 1952/2004. Teaching the function of time in art. In *When music resists meaning: The major writings of Herbert Brün*, ed. Arun Chandra, 2-5. Middletown, Connecticut: Wesleyan University Press.

Brün, Herbert. 1962/2004. The function of time in art. In *When music resists meaning: The major writings of Herbert Brün*, ed. Arun Chandra, 6-39. Middletown, Connecticut: Wesleyan University Press.

———. 1963. Against Plausibility. *Perspectives of New Music* 2(1): 43-50.

———. 1970. From musical ideas to computers and back. In *The Computer and Music*, ed. Harry B. Lincoln, 23-36. Ithaca, NY: Cornell University Press.

———. 1970/2004. Technology and the composer. In *When music resists meaning: The major writings of Herbert Brün*, ed. Arun Chandra, 163-176. Middletown, Connecticut: Wesleyan University Press.

———. 1973. ...to hold discourse, at least, with a computer... *Guildhall School of Music and Drama Review*, 16-21.

———. 1974. Drawing distinctions links contradictions. *Perspectives of New Music* 12:29-39.

———. 1974b. The need of cognition for the cognition of needs. In *Cybernetics of cybernetics*, ed. Heinz von Foerster, 336-341. Minneapolis: Future Systems Inc.

———. 1980. My words but where I want them. In: *Allos: 'Other' language*, ed. Kenneth Gaburo, 203-214. La Jolla, California: Lingua Press.

———. 1986. *my words and where i want them*. London: Princelet Editions.

———. 1988/2004. Drummage. In *When music resists meaning: The major writings of Herbert Brün*, ed. Arun Chandra, 274-275. Middletown, Connecticut: Wesleyan University Press.

———. 1989. Composer's input outputs music. In *On the wires of our nerves: The art of electroacoustic music*, ed. Robin J. Heifetz, 133-147. Lewisberg, Pennsylvania: Bucknell University Press.

———. 1989. On Anticommunication. In *Words and Spaces: An Anthology*, ed. Stuart S. Smith, 33-48. Lanham, MD: Rowman & Littlefield.

———. 1994. Social transformations. DVD. Directed by Judith Lombardi. Urbana, Illinois: Herbert Brün Society.

———. 1998. Language, message, drummage. CD Recording. EM109, Cat #614. New York: Electronic Music Foundation.

———. 2003a. *Irresistible observations*, ed. Mark Enslin, Susan Parenti, and Andrew Trull. Champaign, IL: Non Sequitur Press.

———. 2003b. *Sighs in disguise*, ed. Mark Enslin, Susan Parenti, and Andrew Trull. Champaign, Illinois: Non Sequitur Press.

———. 2004. *When music resists meaning: The major writings of Herbert Brün*, ed. Arun Chandra. Middletown, Connecticut: Wesleyan University Press.

Brün, Marianne. 1980/2004. Paradigms: The inertia of language. In *When music resists meaning: The major writings of Herbert Brün*, ed. Arun Chandra, 292-300. Middletown, Connecticut: Wesleyan University Press.

———, et. al. 1985. *Designing society*. London: Princelet Editions.

Burbules, Nicholas C. 2000. Moving beyond the impasse. *Yearbook of the National Society for the Study of Education* 99(1):1-16.

Burchell, Graham, Colin Gordon, and Peter Miller. 1991. *The Foucault effect: Studies in governmentality*. Chicago: University Of Chicago Press.

Butler, Judith. 1990. *Gender trouble: Feminism and the subversion of identity*. New York: Routledge.

Chandra, Arun. 1989. On the construction of the passing of time in music. DMus diss., University of Illinois at Urbana-Champaign.

———. 2005. If then, what now? Ethics, and the "committee of criteria". Paper presented at the annual meeting of the American Society of Cybernetics,

Washington, D.C.

Chappell, Marisa, Jenny Hutchinson and Brian Ward. 1999. “Dress modestly, neatly ... as if you were going to church”: Respectability, class and gender in the Montgomery bus boycott and the early civil rights movement. In *Gender and the Civil Rights Movement*, ed. Peter J. Ling and Sharon Monteith, 69–100. New Brunswick, New Jersey: Rutgers University Press.

Chomsky, Noam 1957. *Syntactic structures*. Paris: Mouton.

———. 1980. *Rules and representations*. New York: Columbia University Press.

———. 1988. *Manufacturing consent: The political economy of the mass media*. New York: Pantheon Books.

———. 1998. Propaganda: Control of the public mind. Audio Recording: 2 Compact Discs. Oakland: AK Press.

Chtcheglov, Ivan. 1963. Letter to Michèle Bernstein and Guy Debord. *Internationale Situationniste* 9:38.

Chynoweth, Danielle. Ed. 2002. City imaginings: A project of the School for Designing a Society. Self-published booklet. http://www.designingasociety.net/?p=257 (Accessed January 20, 2011.)

Claude-Pierre, Peggy. 1999. *The secret language of eating disorders: How you can understand and work to cure anorexia and bulimia*. New York: Vintage Books.

Conway, Flo, and Jim Siegelman. 2005. *Dark hero of the information age: In search of Norbert Wiener, the father of cybernetics*. New York: Basic Books.

Cox Commission. 1968. *Crisis at Columbia: Report of the fact-finding commission appointed to investigate the disturbances at Columbia University in April and May 1968*. New York: Random House.

Curtain, Tyler. 2004. Turing, Alan (1912-1954). *GLBTQ: The world’s largest encyclopedia of gay, lesbian, bisexual, transgender, and queer culture*. http://www.glbtq.com/social-sciences/turing_a.html (accessed October 15, 2010).

Debord, Guy. 1961. Perspectives de modifications conscientes dans la vie quotidienne. Internationale Situationniste 6. Translated by Ken Knabb. 1981. Perspectives for conscious alterations in everyday life. In *Situationist International Anthology*, ed. Ken Knabb, 68-75. Berkeley, California: Bureau of Public Secrets.

———. 1967. *La société du spectacle*. Paris: Les Éditions Gallimard. Translated by Ken Knabb. 2004. *Society of the spectacle*. London: Rebel Press.

Dewey, John. 1902. *The child and the curriculum*. Chicago: University of Chicago Press.

———. 1916/1997. *Democracy and education: An introduction to the philosophy of education*. New York: Free Press.

———. 1925. The development of American pragmatism. In *John Dewey: The Later Works, 1925-1953*, vol. 2., ed. J. A. Boydston. Carbondale, Illinois: Southern Illinois University Press.

Duberman, Martin. 1972. *Black Mountain: An exploration in community*. New York: E.P. Dutton & Co.

Edwards, R. C., M. Reich, and T.E. Weisskopf. 1972. *The capitalist system: A radical analysis of American society*. Englewood Cliffs, NJ: Prentice-Hall.

Enslin, Mark C. 1995. Teaching Composition: Facing the Power of the Respondent. DMus diss., University of Illinois at Urbana-Champaign.

Eshkol, Noa. 1976. Twenty-five lessons by Dr Moshe Feldenkrais. Tel Aviv: The Movement Notation Society.

———, and Abraham Wachman. 1958. *Movement notation*. London: Weidenfeld and Nicolson.

———, P. Melvin, J. Michl, Heinz von Foerster, and Abraham Wachman. 1970. *Notation of movement*. Urbana, IL: University of Illinois.

Farrar, Margaret E., and Jamie L. Warner. 2006. Rah-Rah-Radical: The radical cheerleaders' challenge to the public sphere. *Politics and gender* 2(3):281–302.

Foucault, Michel. 1969. *L'archéologie du savoir*. Paris: Éditions Gallimard.

Fox, J. 1979. *Playback theatre storybook*. Poughkeepsie, NY: Playback Theatre.

Frank, Andre Gunder. 1967. *Capitalism and underdevelopment in Latin America: Historical studies of Chile and Brazil*. New York: Monthly Review Press.

Freire, Paulo. 1970. *Pedagogy of the oppressed*. New York: The Seabury Press.

———. 1973. *Education for critical consciousness*. New York: Continuum.

———. 1992. *Pedagogy of hope: Reliving pedagogy of the oppressed*. New York: Continuum.

———. 1993. *Pedagogy of the city*. New York: Continuum.

———. 1997. *Pedagogy of the heart*. New York: Continuum.

———. 1998. *Pedagogy of freedom: Ethics, democracy, and civic courage*. New York: Rowman & Littlefield.

Gandesha, Samir. 2004. Leaving home: On Adorno and Heidegger. In *The Cambridge companion to Adorno*, ed. Tom Huhn, 101–128. Cambridge: Cambridge University Press.

Gerovitch, Slava. 2002. *From newspeak to cyberspeak: A history of Soviet cybernetics*. Cambridge, Massachusetts: MIT Press.

Giroux, Henry A. 1983. *Critical theory and educational practice*. Victoria, Australia: Deacon University Press.

Gitlin, Todd. 1993. *The sixties: Years of hope, days of rage*. New York: Bantam Books.

Glanville, Ranulph, and Alexander Riegler. 2007. Ninety years of constructing. *Constructivist Foundations* 2(2-3):2–4.

Goffman, E. (1959). *The presentation of self in everyday life*. Garden City, New York: Doubleday.

Gramsci, Antonio. 1971. *Selections from the prison notebooks*, ed.Quintin Hoare and Geoffrey Nowell-Smith. London: Lawrence and Wishart.

Günther, Gotthard. 1969. Many-valued designations and a hierarchy of first order ontologies. *Proceedings of the 14th International Confress of Philosophy* 3: 37–44.

Habermas, Jürgen. 1987. The entwinement of myth and enlightenment: Horkheimer and Adorno. In *The philosophical discourse of modernity: Twelve lectures*, trans. Frederick Lawrence, 106–130. Cambridge: MIT Press.

Hall, Stuart. 1973. *Encoding and decoding in television discourse*. Stencilled Paper 7. Birmingham, UK: Centre for Contemporary Cultural Studies (CCCS).

Harlan, David. 1989. Intellectual history and the return of literature. *American Historical Review* 94(3):581–609.

Haveric, Selma. 2010. The mighty minority: Students lack role models; still few women on faculty. *The Daily Illini*, March 9, 2010.

Hebdige, Dick. 1979. *Subculture: The meaning of style*. New York: Taylor & Francis.

Hegel, Georg W.F. 1817. *Wissenschaft der Logik*. Berlin: Verlag von Dunder und Humblot. Translated by Steven Taubeneck. 1990. Science of Logic. In *Encyclopedia of the Philosophical Sciences in Outline*, ed. Ernest Behler. New York: Continuum.

Hein, George E. 1991. Constructivist Learning Theory. Paper presented at the International Committee of Museum Educators (CECA) Conference. Jerusalem. http://www.exploratorium.edu/IFI/resources/constructivistlearning.html (accessed

August 15, 2010).

Henry, S. E. 2005. A different approach to teaching multiculturalism: Pragmatism as a pedagogy and problem-solving tool. *Teachers' College Record* 107(5):1060–78.

Heylighen, Francis. 2005. Cybernetics and systems societies. Principia Cybernetica Web. http://pespmc1.vub.ac.be/societies.html (accessed October 16, 2010).

Hoffer, Peter Charles. 2004. *Past imperfect: Facts, fictions, fraud – American history from Bancroft and Parkman to Ambrose, Bellesiles, Ellis, and Goodwin*. New York: Public Affairs Press.

Holdcroft, David. 1991. Saussure: Signs, system, and arbitrariness. Cambridge: Cambridge University Press.

Holert, Tom. 2008. Learning curve: Radical art and education in Germany. *Artforum International* 46(9):334–339.

Holmes, Thom. 2002. *Electronic and experimental music: Pioneers in technology and composition*. 2nd ed. New York: Routledge.

Hooks, Bell. 1989. *Talking back: Thinking feminist, thinking black*. Boston: South End Press.

Horkheimer, Max, and Theodor W. Adorno. 1944. *Dialektik der aufklärung*. New York: Social Studies Association. Trans. unattributed. 1999. The culture industry: Enlightenment as mass deception. In *Dialectic of enlightenment*, 120-167. New York: Continuum.

Horton, Myles. 1990. *The long haul: An autobiography*. New York: Doubleday.

———, and Bill Moyers. 1981. The Adventures of a Radical Hillbilly. VHS Cassette. New York: Public Broadcasting System.

———, and Paulo Freire. 1990. *We make the road by walking: Conversations on education and social change*. Philadelphia: Temple University Press.

Hutchinson, Jamie. 2008. "Nerve center" of the cybernetic world: Heinz von Foerster and the Biological Computer Laboratory. http://bcl.ece.uiuc.edu/hutchinson/ (Accessed February 2, 2010).

Illich, Ivan. 1970. *Deschooling society*. New York: Harper and Row.

Illich, Ivan. 1971. After deschooling, what? *Social Policy*, Sept-Oct 1971: 5–13.

Illinois General Assembly. 1970. *Joint Committee on Campus Disorders*. Senator G. William Horsley, Chairman. Submitted to members of the 76th General Assembly pursuant to Senate Joint Resolution no. 63. Springfield, IL.

Ish, Lyx. 1999. Peeing on a lilypad (and other musings on gardens and art). In *Avant gardening: Ecological struggle in the city and the world*, ed. Peter Lamborn Wilson and Bill Weinberg, 117-126. New York: Autonomedia.

Jenkins, Philip. 2006. *Decade of nightmares: The end of the sixties and the making of eighties America*. Cambridge: Oxford University Press.

Kant, Emmanuel. 1781 *Critik der reinen Vernunft*. Translated by J. M. D. Meiklejohn. 1855. *Critique of Pure Reason*. London: Henry G. Bohn.

Karier, C. 1977. Making the world safe for democracy: An historical critique of John Dewey's pragmatic liberal philosophy in the warfare state. *Educational Theory* 27:12–27.

Kauffman, Louis H. 1987. Self-reference and recursive forms. *Journal of Social and Biological Structures* 10:53–72.

Kauffman, Louis. 2002. Time, imaginary value, paradox, sign and space. In *Computing Anticipatory Systems, CASYS - Fifth International Conference*, ed. Daniel Dubois. Liege, Belgium. AIP Conference Proceedings Volume 627.

Knabb, Ken, ed. 1981. Situationist international anthology. Berkeley, California: Bureau of Public Secrets.

Kowalkowski, Jeffrey. 2008. Techniques for thwarting hegemony: Anticommunication and gesture-inhibiting musical material as compositional resource in the music of Herbert Brün. *Perspectives of New Music* 46(2):238–243.

Kowalski, Michael. 2004. The graphics, music, and writings of Herbert Brün: Composition across boundaries. Paper presented at the Symposium "The graphics, music, and writings of Herbert Brün" Kentler Drawing Space, New York, September 17–18, 2004.

Krippendorff, Klauss. 1975. Conclusions from the ASC conference on communication and control in social processes, October 31 – November 2, 1974 at the University of Pennsylvania. *Kybernetes* 4(3):188-189.

Kuhn, Thomas S. 1962. *The structure of scientific revolutions*. Chicago: University of Chicago Press.

Lakoff, George. 1991. Metaphor and war: The metaphor system used to justify war in the Gulf. *Viet Nam Generation: A Journal of Recent History and Contemporary Issues* 3(3). http://www2.iath.virginia.edu/sixties/HTML_docs/Texts/Scholarly/Lakoff_Gulf_Metaphor_1.html (accessed November 12, 2010).

———, and Mark Johnson. 1980. *Metaphors we live by*. Chicago: University of Chicago Press.

Lee, Sharon. 2010. (Un)seen and (un)heard: The struggle for Asian American "minority" recognition at the University of Illinois at Urbana-Champaign, 1968–1997. PhD diss. University of Illinois at Urbana-Champaign.

Lettvin, Jerome Y., Humberto R. Maturana, Warren S. McCulloch, and Walter H. Pitts. 1959. What the frog's eye tells the frog's brain. *Proceedings of the IRE* 47(11):1940–1959.

Lévi-Strauss, Claude. 1964. *Le cru et le cuit*. Paris: Librarie Plon. Translated by John Weightman and Doreen Weightman. 1969. *The raw and the cooked*. Chicago: University of Chicago Press.

Lincoln, Harry B., ed. 1970. *The Computer and Music*. Ithaca, New York: Cornell University Press.

Lombardi, Judith. 1996. From what to when is (not) violence? PhD diss. The Union Institute. http://faculty.stevenson.edu/jlombardi/dissertation.html (accessed June 2, 2010).

Lombardi, Judith. 1996. From what to when is (not) violence. VHS Cassette. Cincinnati, Ohio: The Union Institute.

Lotringer, Sylvère, and Christian Marazzi, eds. 2007. *Autonomia: Post-political politics*. Los Angeles: Semiotext(e).

Luhmann, Niklas. 1996. Second-order cybernetics as paradox. In: *The reality of the mass media*, ed. Luhmann, Niklas. 117–122. Stanford, California: Stanford University Press.

Mann, Chris. 1990. Chris Mann and grammar. La Jolla, California: Lingua Press Publishers.

Mann, Thomas. 1947. *Essays of three decades*, trans. H. T. Lowe-Porter. New York: A. A. Knopf.

Marcuse, Herbert. 1964. *One-dimensional man: Studies in the ideology of advanced industrial society*. New York: Routledge.

Marx, Karl. 1859. *Zur Kritik der politischen ökonomie*. Translated by S.W. Ryazanskaya. 1970. *A Contribution to the Critique of Political Economy*, ed. Maurice Dobb. Moscow: Progress Publishers.

———. 1867. *Das Kapital: Kritik der politischen Ökonomie*. Hamburg: Verlag von Otto Meissner. Translated by Samuel Moore and Edward Aveling. 1887. *Capital: A critique of political economy*, ed. Frederick Engels. Moscow: Progress Publishers.

Maturana, Humberto R. 1970. Biology of Cognition. Biological Computer Laboratory Research Report 9.0. Urbana, IL: University of Illinois.

———. 1988. Reality: The search for objectivity, or, the quest for a compelling argument. *The Irish Journal of Psychology* 9(1):25–82.

———. 2000. The effectiveness of mathematical formalisms. *Cybernetics and Human Knowing* 7(2–3):147–150.

———, and Bernhard Poerksen. 2004. *From being to doing: The origins of the biology of cognition*. Heidelberg, Germany: Carl-Auer Verlag.

———, and Francisco J. Varela. 1972. *De Maquinás y Seres Vivos*. Santiago, Chile: Editorial Universitaria S.A.

———, Francisco J. Varela and Samy G. Frenk. (1972b.) Size constancy and the problem of perceptual spaces, *Cognition* 1(1):97–104.

———, and Francisco J. Varela. 1980. Autopoiesis and cognition. In *Boston Studies in the Philosophy of Science*, vol. 42, ed. Robert S. Cohen and Marx W. Wartofsky. Dordrecht, Holland: D. Reidel Publishing Company.

———., and Francisco J. Varela. 1987. *The tree of knowledge: The biological roots of human understanding*. Shambhala: Boston.

McCullough, Warren S. 1945. A heterarchy of values determined by the topology of nervous nets. *Bulletin of Mathematical Biophysics* 7: 89–93.

———. 1965. *Embodiments of mind*. Cambridge: MIT Press.

McDonough, Tom, ed. 2004. *Guy Debord and the Situationist International: Texts and documents*. MIT: Cambridge.

McLuhan, Marshall. 1964. *Understanding media: The extensions of man*. New York: Mentor Press.

Mead, Margaret. 1968. Cybernetics of cybernetics. In *Purposive systems,* ed. Heinz von Foerster, 1–11. New York: Spartan Books.

Meadows, Donella, Dennis L. Meadows, Jørgen Randers, and William W. Behrens. 1972. *Limits to growth: A report for the Club of Rome's project on the predicament of mankind*. New York: Universe Books.

Medina, Eden. 2011. *Cybernetic socialism*. Cambridge, Massachusetts: MIT Press.

Menger, Karl. 1959. Gulliver in the land without one, two, three. *Mathematical Gazette* 43:241-250.

Minsky, M. 1961. Steps toward artificial intelligence. *Proceedings of the Institute of Radio Engineers* 49:8–30.

Müller, Albert. 2000. A brief history of the BCL: Heinz Von Foerster and the biological

computer laboratory. *Österreichische Zeitschrift für Geschichtswissenschaften* 11(1): 9–30.

———, Karl H. and Müller, eds. 2007. *An unfinished revolution? Heinz von Foerster and the biological computer laboratory: BCL 1958–1976*. Vienna, Austria: Edition Echoraum.

Murphy, Troy A. 2003. Civil society, the Highlander Folk School, and the cultivation of rhetorical invention. *The Communication Review* 6:1–22.

Noddings, Nel. 2003. *Caring: A feminine approach to ethics and moral education*. 2nd Ed. Berkeley: University of California Press.

Parenti, Susan. 1980. The "notices". In Gaburo, Kenneth (Ed.) Allos: 'Other' language. La Jolla, California: Lingua Press, 393–406.

———. 1985. Self-reference and the language about music (Article 2). DMus diss., University of Illinois at Urbana-Champaign.

———. 1987. Objectivity and subjectivity and the language about music (Article 1). DMus diss., University of Illinois at Urbana-Champaign.

———. 1996. Composing the music school: Proposals for a feminist composition curriculum. *Perspectives of New Music* 36(1):66–72.

———. 2000. *The politics of the adjective "political" and other plays*. Champaign, Illinois: Non Sequitur Press.

———. 2008. Redesigning the U.S. health care system: Think universally, design locally. Alternative Voice, 6(1):36–42.

———, Mark Enslin, and Herbert Brün. 1995. Recontextualizing the production of "new music". In *Sounding off! Music as subversion/resistance/revolution*, ed. Ron Sakolsky and F. W. Ho, 226–233. New York: Autonomedia.

———, and Willy May. 2003. Playing attention to language. Self-published booklet. Urbana, Illinois.

Parsons, Jotham. 2007. Defining the history of ideas. Journal of the History of Ideas 68(4):683–699.

Pask, Gordon. 1975. *Conversation, cognition and learning: A cybernetic theory and methodology*. New York: Elsevier.

———. 1976. *Conversation theory, applications in education and epistemology*. New York: Elsevier.

Patel, Eboo. 2007. *Acts of faith: The story of an American Muslim, the struggle for the*

soul of a generation. Boston, Massachusetts: Beacon Press.

Philips, D.C. 2000. An opinionated account of the constructivist landscape. *Yearbook of the National Society for the Study of Education* 99(1):1–16.

Popp, Jerome A. 2008. *Evolution's first philosopher: John Dewey and the continuity of nature*. Albany, New York: SUNY Press.

Prebisch, Raúl. 1950. *The economic development of Latin America and its principal problems*. New York: United Nations.

Puchner, Martin. 2006. *Poetry of the revolution: Marx, manifestos, and the avant-gardes*. Princeton: Princeton University Press.

Raisbeck, Gordon. 1963. *Information theory: An introduction for scientists and engineers*. Cambridge: MIT Press.

Rasmussen, Jens. 2001. The importance of communication in teaching: a systems-theory approach to the scaffolding metaphor. *Journal of Curriculum Studies* 33(5):569–582.

Rey, Yveline. 1990. Entrevue avec Heinz von Foerster. Paris: Centre d'Etudes et de Recherches sur l'Approche Systemique. Textes issus des travaux du Congrès "Système et thérapie familiale."

Richards, Laurence. 2001.The praxis of thinking: Deliberate vs. improvised. Paper presented at a meeting of the American Society for Cybernetics: Vancouver, British Columbia.

———, and Rochelle K. Young. 1996. Propositions on cybernetics and social transformation. Implications of von Foerster's non-trivial machine for knowledge processes. *Systems Research* 13(3):363–369.

Rohlen, Thomas. 1983. *Japan's high schools*. Berkeley: University of California Press.

Rosenberg, Marshall. 1999. *Nonviolent communication: A language of compassion*. Encinitas, CA: Puddledancer Press.

Rosenboom, David. 1970/1983. Artificial intelligence and art education. http://adagio.calarts.edu/~david/writings/articles_docs/AI_Art_Edu_1983.pdf (accessed January 18, 2011).

Sanguinetti, Gianfranco. 1975. Rapporto veridico sulle ultima opportunita di salvare il capitalismo in Italia. Pamphlet. Translator unattributed. 2007. True report on the last chance to save capitalism in Italy. In *Autonomia: Post-political politics*, ed. Sylvère Lotringer and Christian Marazzi, 92-95. Los Angeles: Semiotext(e).

Saussure, Ferdinand de. 1916. *Cours de linguistique générale*, ed. Charles Bally and

Albert Sechehaye. Paris: Payot. Translated by Roy Harris. 1986. *Course in General Linguistics*. Peru, Illinois: Open Court.

Schecter, D. 1991. Beer's "organizational tensegrity" and the challenge of democratic management. *Systemic Practice and Action Research* 4(4):303-317.

Schoenberg, Arnold. 1922/1978. *Theory of harmony*, 3rd ed. Translated by Roy E. Carter. Berkeley: University of California Press.

Schrödinger, Erwin. 1944/2000. *What is Life?* Cambridge: Cambridge University Press.

Scott, Robert. 2004. Legitimate questions. *Permaculture Activist* 54:57–58.

———. 2005. Illinois permaculture handbook. Masters' Thesis., University of Illinois at Urbana-Champaign.

Segal, Lynn. 2001. *The dream of reality: Heinz von Foerster's constructivism*. New York: Springer Verlag.

Semali, Ladislaus M. and Joe L. Kincheloe, eds. 1999. What is indigenous knowledge: Voices from the academy. New York: Taylor & Francis.

Shadyac, Tom, Steve Oedekerk, Barry Kemp, and Mike Farrell. 1999. *Patch Adams*. DVD. Los Angeles, California: Universal Studios.

Shannon, Claude E., and Warren Weaver. 1949. *The mathematical theory of communication*. Urbana, Illinois: University of Illinois Press.

Situationist International. 1966. De la misère en milieu étudiant. Pamphlet. Translated by Ken Knabb. 1981. On the poverty of student life. In *Situationist International Anthology*, ed. Ken Knabb, 319–337. Berkeley: Bureau of Public Secrets.

Situationist International. 1967/1981. Minimum definition of revolutionary organizations. In *Situationist International Anthology*, ed. Ken Knabb, 223. Berkeley: Bureau of Public Secrets.

Skinner, Quentin. 1976. Hermeneutics and the role of history. *New Literary History* 7:209–232.

Sleeper, R. W. 1986. *The necessity of pragmatism: John Dewey's conception of philosophy*. New Haven: Yale University Press.

Sloan, Stephen. 1974. Innovation, imagination and education: A recapitulation of Gordon Pask on learning. In *Cybernetics of cybernetics*, ed. Heinz von Foerster, 306-310. Minneapolis: Future Systems Inc.

———, ed. 1999. Doing the School for Designing a Society and doing cybernetics. Paper presented at a meeting of the American Society for Cybernetics, Falls Church,

Virginia.

Smith, Stuart S. 1979. A portrait of Herbert Brün. *Perspectives of New Music* 17(2):56–75.

Stone, Hal, and Sidra Stone. 1998. *Embracing ourselves: The voice dialogue manual*. Novato, California: New World Library.

Trent, Barbara, David Kasper, Joanne Doroshow, and Nico Paniguitti. 1992. The Panama deception. VHS Cassette. Directed by Barbara Trent. Los Angeles, California: Rhino Home Video.

Umpleby, Stuart A. 2003. Heinz von Foerster and the Mansfield amendment. *Cybernetics And Human Knowing* 10(3-4):187–190.

———. 2005. A History of the cybernetics movement in the United States. *Journal of the Washington Academy of Sciences*, 91(2):54–66.

Vaneigem, Raoul. 1967. *Traité du savoir-vivre à l'usage des jeunes générations*. Paris: Gallimard. Translated by Donald Nicholson-Smith. 1983. *The Revolution of everyday life*. London: Rebel Press.

von Bertalanffy, L. 1955. General system theory. *Main Currents in Modern Thought* 11(4):75-83.

———. 1968. *General system theory: Foundations, development, applications*. New York: George Braziller.

von Foerster, Heinz, ed. 1972. Interpersonal relational networks. Centro Intercultural de Documentacion, Cuaderno 1014.

———. 1973. On constructing a reality. *Environmental Design Research* 2:35-46.

———. 1976. Objects: Tokens for (eigen-)behaviors. *ASC Cybernetics Forum* 8(3&4):91–96.

———. 1982. A constructivist epistemology. *Cahiers de la Fondation Archives Jean Piaget* 3:191–213.

———. 1984a. Principles of self-organization in a socio-managerial context. In *Self-Organization and Management of Social Systems*, ed. H. Ulrich, and G.J.B. Probst, 2-24. Berlin: Springer-Verlag.

———. 1981. *Observing systems*. Seaside, California: Intersystems.

———. 1990. Lethology: A theory of learning and knowing vis a vis undeterminables, undecidables, unknowables. Paper presented at the Seminario Internazionale "Conoscenza come educazione." San Martino, Italy.

———. 1993. On Gordon Pask. *Systems Research* 10(3):35–42.

———. 1995. Ethics and second-order cybernetics. *Stanford Humanities Review* 4(2):308–319.

———. 2003. Understanding understanding. New York: Springer Verlag.

———, and Herbert Brün. 1970. Heuristics: A report on a course on knowledge acquisition. Biological Computer Laboratory Report 13.1. Urbana, Illinois: University of Illinois.

von Glasersfeld, Ernst. 1976. Piaget and the Radical Constructivist Epistemology. Annals of the New York Academy of Sciences, 280: 212-226.

———. 1981. Einführung in den radikalen Konstruktivismus. In *Die erfundene wirklichkeit*, ed. Paul Watzlawick, 16-38. Munich, Germany: Piper. Translated by Ernst von Glasersfeld. 1987. An introduction to radical constructivism. In *The construction of knowledge: Contributions to conceptual semantics*. Salinas, California: Intersystems Publications.

———. 1982. An Interpretation of Piaget's Constructivism. *Revue Internationale de Philosophie* 36(4):612–635.

———. 1988. *The construction of knowledge: Contributions to conceptual semantics*. Salinas, California: Intersystems.

Von Neumann, John. 1944. *Theory of games and economic behavior*. Princeton, New Jersey: Princeton University Press.

Wells, H.G. 1905/2005. *A modern utopia*. New York: Penguin Books.

West, Cornell. 2001. *Sketches of My Culture*. Audio CD. Artemis Records.

Whorf, Benjamin Lee. 1956. *Language, thought, and reality: selected writings of Benjamin Lee Whorf*. Cambridge: MIT Press.

Wiener, Norbert. 1945. Cybernetics. *Scientific American* 179(5):14–18.

———. 1946. Letter. *Cybernetic: The magazine* 2(1):78.

———. 1948. *Cybernetics: Control and communication in the animal and the machine*. Cambridge: MIT.

———. 1950. *The human use of human beings: Cybernetics and society*. Garden City, New York: Doubleday.

Williamson, Joy Ann. 2003. *Black power on campus: The University of Illinois 1965-75*. Urbana, Illinois: University of Illinois Press.

Winston, P. 1988. *Artificial intelligence: An MIT perspective*. Cambridge: MIT Press.

Wittgenstein, Ludwig. 1922. *Tractatus Logico-Philosophicus*. New York: Harcourt, Brace & Company, Inc.

Wolin, Sheldon S., and John H. Schaar. 1970. *The Berkeley rebellion and beyond: Essays on politics and education in the technological society*. New York: Random House

Woodson, Carter G. 1933/1990. *The mis-education of the negro*. Nashville, Tennessee: Winston-Derek Publishers.

Zommer, Cathryn D. and Neeley House. 2007. Fully awake: Black Mountain College. DVD. Watertown, Massachusetts: ElonDocs Productions.

ENDNOTES

[1] Attendance records of the School for Designing a Society are kept at the Herbert Brün Library in Urbana, Illinois. The figure of 364 represents distinct individuals who attended for more than 1 week between 1992 and 2010. In actuality, many attended for years on end.

[1] Compare to Black Mountain College, a school for experimental arts that lasted 24 years with approximately 1,200 students (Zommer and House 2007).

[2] The Highlander Folk School is remembered for its trainings for the newly formed Congress of Industrial Organizations (CIO) in the 1940s, its branding as a "subversive organization" by the House Committee on Un-American Activities (HUAC) in the 1950s, the fact that it was attended by Rosa Parks and Martin Luther King, and its role in supporting the formation of Citizenship Schools (Horton 1990). It is less well for being Highlander itself.

[3] This "triad" (the intersection of cybernetics, experimental art, and revolutionary Marxism) is unique to the School for Designing a Society. It is rare to find this triad elsewhere, though these subjects do occur in pairings. The pairing of cybernetics and experimental art is present in the early use of computers in graphic and acoustic compositions of the 1950s and 60s. The pairing of cybernetics and revolutionary Marxism is present in the work of Stafford Beer in Allende's Chile (Beer 1981). The pairing of experimental art and revolutionary Marxism goes back to the Dada movement, and can more recently be considered in the work of the Situationist International. These projects will be discussed in the following pages, in an exploration of their apparent incompatibility elsewhere: cybernetics initially had no use or art or politics; the Situationist International rejected cybernetics, etc.

[4] Indeed, both of these archetypes can be found in the spectrum of intellectual histories that have been published. An instance of the hunt for intentions can be found in the work of Quentin Skinner (1976), while an instance of hovering around the futility of looking for intentions, see David Harlan (1989).

[5] The recent work of the School for Designing a Society can be investigated in some of the more recent citations used in the following pages, as well as through internet resources. That is to say that there are already resources available on this project. The purpose of this document is to unify the story of several of the formative ideas, and thinkers, that led to the formation of the School for Designing a Society.

[6] The distinction between earlier histories of ideas and more recent ones has also been cast in terms of a shift from focus on Western (European and US) men to a more global perspective that incorporates non-Western epistemologies and intellectuals (Parsons 2007). Though the line of ideas traced in this work travel through the Middle East, Europe, Mexico and Chile, they are chiefly situated in the United States, in close proximity to the University of Illinois. Though there are non-European descended players

in the story of the School, the ideas draw mainly on German and American influences. Though the School for Designing a Society spotlights feminist ideas and foregrounds the voice of its female organizers this text does not focus on how their woman-ness shapes the course of thought *per se*. On balance the ideas of the School for Designing a Society represent a radical strand of modern western compositional ideas that forged into the era of interdisciplinary and multicultural study without making interdisciplinarity or multiculturalism its object of inquiry. One could critique the School for this, but it would be inaccurate to portray it in any other light. All this is to say that I am not blind to the western-centricity of my subject -- on occasion I will juxtapose the work of these thinkers and ideas with their nearby counterparts in other communities or countries, in order to illustrate that the parallelism or even disconnect is part of the path of the ideas being developed.

[7] I documented my interest in the idea of legitimate questions as it was taught at the School for Designing a Society in a brief article (Scott 2004).

[8] I use the word "radical" to refer to an idea, or a field of ideas, calling for a change of premise in the system.

[9] Brün described his departure from Germany in a video Spring 1998 video from the Herbert Brün Library in Urbana. Brün left Germany in 1936 at the age of 18 on an invitation to study at the Jerusalem Music Conservatory, which was one of many plots to save Jews from Nazi violence. His parents died in the concentration camp at Auschwitz.

[10] Schoenberg himself rejected the word “atonal” as nonsensical, as it would be to call a re-organization of color in painting “aspectral” (Schoenberg 1922/1978).

[11] The School of Music at the University of Illinois, for instance, currently offers a single partial-credit course on the subject: MUS 425 - Post-tonal Pitch Organization. At the same institution, departments of art, design, and architecture incorporate references to “visual culture”, “semiotics”, and “postmodernism” in 100- and 200-level course descriptions.

[12] Wolpe had studied with Anton Webern, who was a student of Schoenberg. Brün reflected on how Wolpe’s politics had led him to flee Germany earlier than Brün (in 1934), and how the same political attitude that placed them at odds with the nationalist movement in Germany led them to write an opera that mocked the Jewish nationalist movement in 1938, swiftly getting them all kicked out of the Jerusalem Music Conservatory (Smith, 1979).

[13] For a dense mathematical introduction, Norbert Wiener’s *Cybernetics: Control and Communication in the Animal and the Machine* (1948) is a the original text. W. Ross Ashby’s *An Introduction to Cybernetics* (1956) only requires high-school level algebra and calculus to be understood. Wiener (1950) and Ashby (1952) produced introductory

texts with less math, but they will not prepare the reader to understand cybernetic research papers which require it.

[14] After the war, Wiener refused to make his research available to weapons manufacturers (Wiener, 1946). The British government fired Turing when his homosexuality was discovered; he was forced to take Estrogen injections, and committed suicide in 1954 (Curtain, 2004).

[15] By "pioneering cyberneticians" I refer to Norbert Wiener, Warren McCullough, and W. Ross Ashby. Von Foerster reportedly met McCullough in New York just a few days before the March 1949 meeting which focused on theories of memory. Von Foerster claimed that his ideas were well received, but his English was poor; the assembled group appointed him Editor of Proceedings, so that he learn English as fast as possible (Rey, 1990).

[16] By one account there were at least 57 cybernetics and systems societies in operation in the year 2005 (Heylighen, 2005).

[17] In 2005, the American Society for Cybernetics awarded Von Glasersfeld its highest honor, the Wiener Medal for Cybernetics. Judith Lombardi, Laurence Richards, and Mark Enslin presented the medal at a ceremony in May 2006. The medal citations reads "Von Glasersfeld's seminal work, developing a constructivist approach to problems raised by early cyberneticians, has enriched the field and moved the conceptual base of cybernetics into a more consistent vision – expanding the nature of how we understand cybernetics, how we enter into cybernetic processes of constructing our worlds, and how we approach the consequences of this understanding." (Glanville and Riegler 2007)

[18] John Dewey died in 1952, just a few years after Norbert Wiener published his seminal work on cybernetics (1948). The turn of some cyberneticians towards constructivism begins in the 1970s. Though Dewey never saw the computer age, or the 1960s, many of the more philosophical ideas of the constructivist school are reproductive of his work.

[19] Von Glasersfeld cites Bateson in 1981, and Bateson cites cybernetics in 1967, but neither cite Dewey. This is one of the causes of my writing.

[20] The primary thesis of Berger and Luckmann's "The Social Construction of Reality" (1966) could be stated, "Where words are said to mean what people take them to mean there things are what is said about them" (H. Brün 1986, 22).

[21] It is possible to argue for a constructivism of political neutrality, for instance. "The principles of constructivist pedagogy—encouraging collaboration, promoting activity and exploration, respecting multiple points of view, emphasizing 'authentic' problem-solving—have a number of benefits, and among these may be that these approaches do facilitate a more creative, synthetic attitude toward learning" (Burbules 2000).

[22] Marianne Brün Interview.

Marianne Brün: ... when my father [Fritz Kortner] asked for a composer to be recommended very quickly, he recommended Herbert, and the theater in Frankfurt didn't know the name at the time, and so they made an agreement that he should have a discussion with Adorno, and Adorno would decide, and Herbert said "Never mind the job! If I can have the discussion with Adorno, that'll do it for me!" So that was his first meeting with Adorno. And they seemed to have talked for hours and hours and hours.
Rob Scott: But when would that have been in the 1950s?
MB: That would have been.... in the 1950s... 1955.
RS: Maybe, In Germany?
MB: In Frankfurt. Where Adorno lived and was teaching, and my father had this guest performance at the theater there.
RS: But so he's in Frankfurt, in 1955, and Herbert meets him there...
MB: mm-hmm.
RS: ...do they have a relationship? Are they friends?
MB: They, yes, I mean: "friends"? ...uhh, they got on well. Their discussion at that time was mainly musical. And, which never with Herbert or Adorno, gets stuck *there*. And afterwards, actually, he only saw him now and then at the Darmstadt Festival for *Neue Musik*. I even have amongst the papers that just came from Germany when I look through them, there's a picture Adorno Herbert and me.

Comment: The Brüns, like the Frankfurt School, escaped from Germany during the fascist period, and relocated in the United States under various circumstances. Theodor Adorno studied music composition in Vienna under the tutelage of Alban Berg while he was a finishing up his PhD studies in Philosophy. Berg was a student of Arnold Schoenberg. Adorno reflected on Berg toward the end of his life (Adorno 1968).

Herbert Brün studied Stefan Wolpe, who studied with Anton Webern in Vienna, who studied with Schoenberg. Berg and Webern are Schoenberg's two most well-known students. They constitute the core of the Second Viennese School. Brün and Adorno may be said to have studied under composers who worked in the Second Viennese School, without having been students of Schoenberg himself.

[23] "Seminar Reserve Files" in the Herbert Brün Library in Urbana, Illinois.

[24] Transcription of an audio recording done by the author. Another transcription, as well as the original audio, may be found online at http://www.herbertbrun.net/1977/

[25] Kant elaborated a series of what he considered to be unresolvable contradictions in his *Critique of Pure Reason* (1781); Hegel responded to Kant's antimonies by stating that contradictions are everywhere, and that this is fundamental to philosophy (1817).

[26] During a discussion of his ideas in 1994, Brün was pressed by an audience-member on his critique of language. Brün began his reply, "Not so much the language as the belief in it." This footage can be found in a video by Judy Lombardi entitled "Social

Transformations" produced in 2007 as a DVD and stored in the Herbert Brün Library in Urbana.

[27] The same concept is articulated by Lévi-Strauss (1964), though this French anthropological text seems unlikely to have crossed Brün's desk. It may perhaps be considered a strand of what is called "structuralist" thought: that one could see language using people, instead of people using language (Holdcroft 1991, 102).

"This language speaks in constructions which impose upon the recipient the slanted and abridged meaning, the blocked development of content, the acceptance of that which is offered in the form in which it is offered." (Marcuse 1964, 94)

"...society speaks in language, and we are told to obey." (Marcuse 1964, 182)

"The law which you don't break will break you. The language that you don't speak will speak you." (H. Brün 1986, 30)

[28] The opening line of Marx (1867): "The wealth of those societies in which the capitalist mode of production prevails, presents itself as an immense accumulation of commodities..."

The opening line of Debord (1967): "In societies dominated by modern conditions of production, life is presented as an immense accumulation of *spectacles*." (Emphasis in original)

[29] The text is attributed to a collaboration with "students of Strasbourg".

[30] Guy Debord had dropped out of the University of Paris after studying law. Raoul Vaneigem apparently received a degree in Romance Philology from the Free University of Brussels. Asger Jorn received his first college degree from Vinthers Seminarium at Silkeborg, Norway in 1935, before studying at the Art Academy in Copenhagen during World War II. Attila Kotányi was a professor at Düsseldorf Art Academy after he was excommunicated by Debord. Etceteras.

[31] Their concept of the dérive, for instance, which roughly translates to "drifting" involved letting go commitments to labor and leisure time as they normally arise, as a group of people drifts around a city environment according to other criteria. A report in *Internationale Situationniste* #2 (1958) suggested that a dérive might last for days on end. It was connected to the Situationist concept of "psychogeography," which is roughly the field of study of rational and irrational attachments and meanings that people have to a geographic landscape.

There were also Situationist-inspired groups in the Autonomist movement in Italy in the late 1970s, called the Metropolitan Indians. They put dérive in practice at a large scale and connected with other intellectual currents, such as those emanating out of France

(particularly the ideas of Jean Baudrillard and Felix Guattari) in Radio Alice (Lotringer and Marazzi. 2007).

[32] Seminar Reserve File 4 in the Herbert Brün Library in Urbana, Illinois.

A selection from Freire's *Pedagogy of the Oppressed* (1971) is included as a handout, pages 146-155 in the Seminar Reserve File.

[33] Source: Unpublished video by Maria Isabel Silva in the Herbert Brün Library in Urbana, Illinois, June 20, 1995, tape #2. The following exchange between Susan Parenti and Herbert Brün begins at minute 14.

[During a lecture on Anticommunication (H. Brün 1989)]
Herbert Brün: ...all these are journalistic reports on people's discomfort, when one doesn't make something plausible. Yes?
Susan Parenti: You bring this up in the context of this summer school so that what is thought of?
HB: What is what?
SP: So that what is thought of? [crosstalk]
HB: So that the term 'false statements' becomes functional, and no longer a sport or parlor game sense, but as a requirement... which is not just a trick.
SP: There's a connection between false statements and anticommunication?
HB: Yes. You see the simplest case is when you make a false statement and somebody notices it is false, then people think you make fun of them, right? How do they know you make fun of them? Because they know the correct statement that you could have made instead. These people will understand the correct statement but not the false one. So you have to put something in between so that these people do not get away with the correct statement and thought that you made fun of them. They have to understand that you put a monument in front of them, that they now have to integrate into their existence, as a no-longer-as-false-as-before statement.

Our hope was that the false statements are programs (sic). "All human needs are unconditionally met" is certainly a still-pretty-false statement. But it is not one of those false statements which one can put away as having made fun of something. It is not ironic. It is not satiric. Simply, pretty bleak. If you look at it for a while it becomes almost boring. And then what becomes more and more interesting is that it is a false statement. And finally you can actually get furious that it is a false statement. And if you're really involved, you generate a campaign for the true-ification of a false statement.
[34]I refer here to the use of the gerund "designing" in the title as a signifier of an ongoing process. The organizers also added the word "a" after the 1994 summer school. The shift from "School for Designing Society" to "School for Designing a Society" was response to the mis-reading of designing (the one and only) society, when what was intended was a (potential) society. Past posters and brochures are kept at the Herbert Brün Library in Urbana, Illinois. The 1993 and 1994 brochures clearly exclude the indefinite article "a".

[35]From the School for Designing a Society website and brochures. The text is unattributed, though it was reportedly generated by organizers of the School for Designing a Society in the mid-1990s (after the Summer School in 1993):

> Criticisms of the problems of the present society are often met with justifications. Once these justifications fail, many a conversation of hopeful intention is stopped with the (final) statement: 'The present organization of society is the best we have', or the question: 'Do you have a better idea?'
>
> This is a moment of possibility and not one to be left speechless. Indeed, many a time, the respondent finds herself sputtering, filled with a spirit of rebellion which unfortunately gets watered down to the mere language of complaint.
>
> Having had the time and opportunity to create--in conjunction with others of diverse experiences--detailed maps, dreams, plans, scripts, scores, videos, and blueprints of her desirable society, we imagine the situation could go differently.
>
> Imagine an atmosphere of audacity: She's asked the question: 'Do you have a better idea?' Everyone taking a coffeebreak looks at her or their shoes. She looks the interlocutor in the eye and reaches into her purse? knapsack? briefcase? kitchen drawer? for a booklet of proposals, slaps it on the table scattering cigarette butts, and answers: 'Here, read this--this will give you an idea of what I want.'

(http://www.designingasociety.org/about.html accessed November 1, 2010)

[36]Even on a practical level, it would be difficult to limit oneself to Brün's texts because his output was not huge. Brün preferred to be an input (Brün 1989).

[37]The history of design groups will be taken up at greater length in Chapter 4.

[38]Herbert Brün's concept of "truth" will be discussed in the following section on Fundamentals.

[39]Source: Unpublished video by Maria Isabel Silva in the Herbert Brün Library in Urbana, Illinois, June 14-15, 1993.

[40]Ibid.

[41]Herbert Brün's concept of "utopia" will be discussed in the following section on his Fundamentals.

[42]Mark Enslin Interview.

Rob Scott: What were the origins of Herbert Brün's "Fundamentals"? Did someone ask him to present a basic course on language and composition or something?

Mark Enslin: As I remember it, Lori Blewett asked Herbert and all of us to write what we consider fundamentals or indispensables of designing society.

[43]The only addition to this list that I have discovered was published posthumously (Brün 2003a):

> Extension to Fundamentals
>
> In order to retard the decay of that which one cherishes, it may often be necessary to retard the decay of some less cared for relations and interests.
>
> (*Irresistible Observations*, 334)

[44]Brün's introduction to the concept was re-printed posthumously (Brün 2003b):

> An image I wish to share: I sit in a darkened room, at a table, with lamp, pen, and paper. I'm writing something. For a while it goes very well, but then suddenly, I get stuck, I don't know how to go on.
>
> Immediately, the walls around me turn into doors, and – BING!!! – opens a door and out comes a voice telling me: "Do such-and-such!!" Another door opens, a different voice advises, "Rather, do – ", and so on. Sometimes one voice argues with another, "NO – he tried you last time – just look where it got him!", or, "OH YEAH? – but how will he earn a few piasters???!"
>
> These voices I call my inner committee of criteria – they're my environment waiting to be consulted. These criteria consult me or I consult them before I can make a decision.
>
> They're numerous: part of them inherited (I was born with them), some generated by me because I want them to be there, some hired on loan so that I can fire them, some party-crashers, some conditioned, educated, found, but they're all criteria that enter a council that will condition my next decision.
>
> (*Sighs in Disguise*, 25)

[45]Participants in one of Brün's Fall 1998 courses at the University of Illinois in the College of Music—MUS 199: Composing Music... and Beyond—were asked to compose pieces that showed conflicts within their personal committees of criteria. It was not only within the SDaS, but also at the university, that Brün used the distinction.

[46] Perhaps unsurprisingly, a similar line of thought was developed by psychologists in the 1980s called the "Voice Dialogue" method in which one is asked to name the sub-personalities of one's "inner committee" (Stone and Stone 1998). It was probably a parallel development as Brün was not greatly interested in psychology.

[47]"The briefest construct of words which explicitly states a thought is long enough" (Brün 1986, 3).

[48]The nest metaphor is not indispensible. He also referred to a cocoon and "a cotton wool" in an explanation of the main interest threat in 1993. See: Video Number 27 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: August 6th, 1993.

[49]From Herbert Brün's "my words and where I want them" (1986, 96):

An analogy is not that to which it is analog:
points are not people;
lines are not human relations;
sets of rules are not preferences;
the locus of a curve is not an individual's path through life;
a shape generated by points and lines is not a society shaped by people.

An analogy is not that to which it is analog:
points are not people;
a set of labeled points is not a set of named people;
a labeled point leaping along a curve is not a named individual stepping along her or his path through life;
a curve-generating function associated with one labelled [sic] point only is not a list a list of path-generating preferences associated with one named individual only;
a point's curve-fitting leap is not an individual's preference-heeding step; lines are not contemplative looks; the image of lines linking all leaps of a labeled point is not the image of a named individual contemplating her or his own path through life;
to avoid this image is not a protest against competitive society;
the image of lines linking all differently labelled [sic] points after every leap is not the image of differently named individuals looking at one another after each step before contemplating their next;
my emphasis on this image is not my desire for a non-competitive society;
a shape formed by point linking lines is not a society formed by preferred relationships.

Therefore:
My graphics are not the society I wish to live in.
An analogy is not that to which it is analog.
It points, however, to that which it is not.
My graphics are analog to the society I wish to live in.

Therefore:
I should like to see them understood as socio-political statements.

[50]Video Number 27 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: August 6th, 1993.

33'09"

[51]"Presentation to Music 405 Theory Seminar, 1977" cassette tape in the Herbert Brün Library in Urbana, Illinois. Transcription of the lecture available at http://www.herbertbrun.net/1977/ (accessed November 10, 2010).

[52]Video number 23 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: August 3rd-4th, 1993.

[53]More on "drawing a distinction" in a later section of this chapter.

[54]Video number 23 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: August 3rd-4th, 1993.

[55]"Presentation to Music 405 Theory Seminar, 1977" cassette tape in the Herbert Brün Library in Urbana, Illinois. Transcription of the lecture available at http://www.herbertbrun.net/1977/ (accessed November 10, 2010).

[56]Ibid.

[57]Ibid.

Herbert Brün: The fact that a person tells me, "Please don't smoke when I'm in the room" is correct, since I have the liberty to yes smoke or not smoke. He does not have the liberty to smell it or not smell it. He can't close his nose. Therefore, the one who has less alternatives should be listened to; not the one who has more alternatives. The one who has less alternatives is the one limited in his freedom. Since we want to increase the individual freedom, everything we do must inspect on the two sides of a decision taking — where are less alternatives? Freedom is the number of alternatives — very simple — let's not philosophize about it at all.

[58]Video number 23 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: August 3rd-4th, 1993.

15'27"
Herbert Brün: I have not said 'and do the one and not the other'. I rarely teach substitution. Rarely, there are a few cases and I will make a big noise when I do. Usually I prefer to make additions, so that by taking one of the alternatives I try to add one at the other end so that I land with one alternative more than I started. In contradistinction to most situations in our society when you make a decision, and it is significant, you lose at least 3 or 4 other alternatives for the time being.

[59] Ibid.

17'10"
Herbert Brün: Remembering is an act. Memory is almost, uh, something written on you.

[60]Ibid.

21'19"
Herbert Brün: This is not a trance. It is not hypnosis. It is not mystical. It is not belief. It is a real nervous action, with a spirit of desire to remember.

[61]Ibid.

22'19"
Herbert Brün: We have the greatest difficulty not calling it a "bureaucracy". It is established. The connections are there, you don't have to make them. You can't take them out, either. So that is the so called... when we have the term, which was, became famous in the sixties, and still is with us in some way "oh well, that's the establishment..." when we mean "this is a system within which all we do is absorbed, somehow used, or not used, dismissed, put in its value categories..."

[62]Video Number 27 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: August 6th, 1993.

42'40"

[63]Brün's concept of "design" entailed "composition". Brün's concept of "composition" entailed "a wish of bringing about that which without [the composer] would not happen" (H. Brün 1986, 49).

[64]Brochure for the 1997-1998 School for Designing a Society in the Herbert Brün Library in Urbana, Illinois.

[65]Parenti taught short units entitled "performance of self in everyday life" during the 1997-98 and 1998-99 school years, and she taught a semester-length course under this title during the Spring 2000 semester.

[66]From "Playing Attention to Language" by Susan Parenti, in the Herbert Brün Library in Urbana, Illinois, page 27.

[67]Judith Butler (1990) does not develop performativity as a choice so much as a juridical framework in which subjects are obligated to navigate gendered frameworks of intelligibility.

[68]"Playing Attention to Language," page 27.

It should be noted that "I in the third person" is being used deliberately here (see "Playing Attention to Language," page 11).

[69]"I use the word 'truth' whenever I wish to speak of the time during which the intent and content of a person's statement can not and will not be accidentally in conflict or accidentally in contradiction with the intent and content of any other statement which the person would make in response to any situation, question, or statement presented" (Brün 1986, 47).

[70]Video Number 58 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: June 16, 19, & 20 1995.

[71]Ibid.

[72]Ibid.

[73] Ibid.

21'55"
Ern Reynolds (off camera): But if we're apportioning blame, you apportion it on the deceiver not the deceived.
Herbert Brün: Unfortunately.
Susan Parenti: You have it the other way around.
HB: I want the deceived to be accused. The people who sit in church with the sanctimonious faces are the culprits, not the priest who is just doing his job.

[74]Ibid.

21'00
Herbert Brün: ...lies—there I go too far, I know that, but that can change one day—everything and anything believed. [Long pause.] So, it is the believer that makes the lies, not the speaker. The speaker is merely telling a story. If you don't believe it you are in the presence of literature. If you believe it, you are in the presence of crime.

[75]According to Theodor Adorno's usage, the "authoritarian personality" is not a trait of a leader but rather it describes he or she who wished to follow that leader (Adorno et. al. 1950).

From Herbert Brün (2003b, 73): "The authoritarian victim accuses power for being the victim's authority.....and confuses authority with power which substitutes for authority when authority is missing."

[76]"How can I answer the recurrent questions, reveal the solutions to repeatedly pointed at problems, without being accused of performing the frauds of a guru?" (H. Brün 1986, 89)

[77]Video Number 27 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: August 6th, 1993.

46'39"

[78]Video Number 58 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: June 16, 19, & 20, 1995.

45'46"

[79]The explication of "false statements" is conspicuously absent from the list of Fundamentals, as well as all video and audio recordings of Brün's presentation of the fundamentals.

> Utopia, Chaos, False Statements
> a. utopia = the dream which in your mental and social universe will remain but a dream.
> b. chaos = full of information and doomed to decay: communication!
> (H. Brun 2003a, 118)

Where is "c. false statements = _____"? Brün treated it as a subject matter covered elsewhere, in the Design Groups assignment mentioned earlier.

On June 16, 1995, when Brün arrived at this point of "false statements" on his list of fundamentals, he quipped "False statements I don't need to repeat" (53'07" in Video Number 58 from the Maria Silva Video Collection in the Herbert Brün Library).

But then, even in its published form "Utopia, Chaos, False Statements" was printed without an explication of false statements (H. Brün 2003a, 118).

[80]Video Number 27 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: August 6th, 1993.

3'00"

[81]Ibid.

4'49"

Herbert Brün: When we had the last great discussion [yesterday], I sought that "Steal from the wealthy, and don't steal from the poor" which sounds a little bit like bleeding-heart and morals.

If you want to make it an issue of ethics you have to re-word it and say "If your action deprives someone of some amount of power, go ahead; if your action deprives somebody of an amount of freedom, don't go ahead."

[82]Ibid. 7'20"

[83]Video Number 58 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: June 16, 19, & 20, 1995.55'15"

Brün's comment on "it depends whose money you steal" also illustrates that he did not equate power with evil. Rather, he saw power in the generic sense of capability to do things, and was mainly opposed to its concentration. So, to be clear: having lots of alternatives was not being presented as the undoing of power, but its dilution.

[84]Ibid.

62'21"

[85]Video Number 27 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: August 6th, 1993.

18'35"

[86]Video Number 58 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: June 16, 19, & 20, 1995.63'28"

[87] Brün also noted the occasional substitution of the word "policy" as in "it is a policy of mine..." (Ibid. 65'38")

[88]Ibid.

29'40"

[89] Herbert Brün was born July 9, 1918. The first record of Brün laying out the fundamentals in sequence comes from August 1993. Videos Number 23 and 27 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

[90] A careful reader will note that Shannon and Weaver's text is "The Mathematical Theory of Communication." It is common usage to refer to this set of ideas as "information theory." There are many communication theories in the world, this one is distinguished by the mathematical treatment of the concept of information.

[91]General system theory was conceived of as a broader field than cybernetics. Ludwig von Bertalanffy (1968) described cybernetics as "a part of a general theory of systems;

cybernetic are a special case, however important, of systems showing self-regulation." (p. 17)

[92]This description is derived from §3.11 (Ashby 1956).

[93]"The composer's activity consists in constructing contents, systems, stipulated universes, wherein objects and statements, selected by the composer, not only manifest more than their mere existence, but have a function or value or sense or meaning which without his construction they would not have." (H. Brün 1986, 49)

[94]The title of Heinz von Foerster's final book "Understanding Understanding" (2003) is perhaps the best example, in that a single word recurs to emphasize to application of the concept to itself. The book is an attempt to understand what it is to understand.

Early cyberneticists understood the potential to explain the feedback mechanisms of their subject by constructing sentences that themselves seem to contain recursive structures. Wiener wrote a book titled "The Human Use of Human Beings" (1950) which was intended to be an exposition of cybernetics without the complicated mathematics.

The difference is that where the earlier cyberneticians would put together a quirky circular title, the "second-order cybernetics" was based on circular structures, all the way down to the definitions.

Consider Humberto Maturana's formulation of language: "as a biological phenomenon language occurs in the flow of coordination of coordination of behaviors, or doings, along the realization of the living of languaging living systems" (Maturana 2000, 149). Then as Maturana develops his ideas in terms of his formulated premises, the sentences get more convoluted: "The effectiveness of mathematical formalisms is the result of our operation in a closed domain of structural coherences in which we generate metadomains of coordinations of coordinations of behaviors or doings — all in the domain of the realization of our living, through the realization of our living" (Maturana 2000, 150). Such lengthy sentences have been maddening for some, but they were taken as inspiration at the School for Designing a Society, as a rare instance of a writer refusing to let the unspoken assumptions of what qualifies as "good writing" block a new thought which requires that the language bend a little bit.

[95]An example would be Heinz von Foerster's "Objects: Tokens for (Eigen-)Behaviors" written in 1976 (in French) and published in 1981 (in English). In this essay, von Foerster likens the naming of any "object" to the what is called and "eigenvalue" in mathematics. Thus he proposed the term "eigen-behavior". Briefly, a mathematical example would be the operation (linear transform):

$$x_0 = (x \div 2) + 1$$

Given initial value (say, $x_0 = 4$), we find:

$X_1 = (4 \div 2) +1 = 3$
$X_2 = (3 \div 2) +1 = 2.5$
$X_3 = (2.5 \div 2) +1 = 2.25$
$X_4 = (2.25 \div 2) +1 = 2.125$
$X_5 = (2.125 \div 2) +1 = 2.063$
$X_6 = (2.063 \div 2) +1 = 2.031$
$X_{11} = (2.002 \div 2) +1 = 2.001$
$X_\infty = (2 \div 2) +1 = 2$

That is to say, the recursive operation of *x* divided 2, plus 1, then applied to it's result, recursively and without limit, leads us to a steady state vector around "2". Thus, 2 is the eigenvalue.

von Foerster (1981) tried to show that the same tendency applied to all "objects" we encounter in the behavioral domain, namely, treating them the same way, recursively and without limit, leads us to a steady state around the the object's name. Thus, the name of an object appears would be a token of our eigenbehavior around it.

Again, the implication is that we can generate a different system by generating different recursive patterns of stable behavior. This is a recapitulation of one of the oldest conceptions of a "system" used by cyberneticians (Ashby 1956). If one treats a pencil as a work of writing utensil then it becomes part of the systemic use of language; if one treats a pencil as a weapon to stab someone with then it becomes part of a very different system. It is the recursive and seemingly limitless use of a pencil as a writing implement that has earned it this identity, but indeed things could be done differently.

[96]The website "A Day in the Life of BCL" from Spring 1974 shows pictures of Steve Sloan and Heinz von Foerster in the Biological Computer Laboratory (BCL) "probably taken in spring 1974 on the day when printed copies or proofs of *Cybernetics of Cybernetics* were delivered to the lab" (http://bcl.ece.illinois.edu/KenWilsonBCLPhotos/index.htm accessed November 28, 2010).

[97]Video Number 5 from the Steve Sloan Video Collection in the Herbert Brün Library in Urbana, Illinois. Steve Sloan presenting Tai Chi and Cybernetics at the ASC Conference 1993.

[98]In 2005, I selected a collection of ten of Sloan's descriptions when incorporating his materials into the Herbert Brün Library. In 2008, Jason Marrero re-typed the self-descriptions and printed them in the format of a booklet. Both are in the Herbert Brün Library in Urbana, IL. The former, however, includes handwritten remarks and (in)consistencies left by Sloan that were edited out in Marrero's work. This is an important change: the handwritten and problematic passages were a portrait of the social

function of the document, a living text that Sloan circulated in his community in order to solicit responses and revise his self-description.

[99]The ideas contained in the book were known to be core concepts of the School for Designing a Society. Only ten copies of the booklet were made and circulated internally, with a sense that they were intended for future teachers of the SDaS, in the era after Herbert Brün's death. There is a copy of the booklet in the Herbert Brün library in Urbana, Illinois.

[100]Cassette tape in the Herbert Brün Library in Urbana, Illinois: Herbert Brün and the Performers' Workshop Ensemble Monday Evening Composers' Forum: Composition in Response to Invitation, Provocation, and Contempt.

In this hour-long concert of performances which is hosted by Herbert Brün he can be heard articulating ideas about the use of emphasis in speaking, which appears on page 39 of Parenti and May's *Playing Attention to Language.* Brün also critiques of the unconscious use of adjectives which is included on page 18.

[101]Brochure for the 1997-1998 School for Designing a Society in the Herbert Brün Library in Urbana, Illinois.

[102]Video Number 7 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: June 14 & 15, 1993.

0'04"

Lori Blewett: So, we wanted in part though to even get rid of that language of "student" and "teacher" and it has been, keeps coming back in our way of speaking even those of us trying to not do that. So, there is something of a distinction between the people who oriented this place at the moment and set out some of the initial premises. But, after that, we consider everyone here teachers and everyone students.

[103]"An instruction for violence: Suspend the power of language" (H. Brün 2003b, 16).

[104]Video in the Herbert Brün Library in Urbana, IL. Molecular Traces: Elements of Composition. Directed and Produced by Eric Hiltner, April 1998.

7'45"

Herbert Brün: There exists an exclusively human property, which means: it wants to change a need into a want. The need has to be met. The way it is met can be wanted. You can just eat... apples and pears or what you find, but the moment you want to cook you already want to participate in the meeting of the need and generate the necessities. This is where the need turns into a want. Nowhere else in nature have I detected that transformation from need into want. They're always identical.

Most animals I've seen (and I've not seen all...) do what they need. There's no transformation to wanting. Music is certainly not very nourishing, if you want food. So, is there a need for music? I do not know whether there is a need for music; I can tell you there is a need for composition.

[105]Video Number 52 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: Susan and Mark July 18 & 19, 1994.

82'30"

(Performance of *Black History Minute* for Bass Guitar and Voice by Mark Enslin)

Enslin: If you control a person's thinking you don't have to worry about their actions,
if you control a person's language you don't have to worry about their thinking,
if you control a person's income you don't have to worry about their language,
if you control a person's actions you don't have to worry about their income,
if you control a person's thinking you don't have to worry about their actions...

[106]"Recently, and at last, I found out that I am often understood, while what I say seldom is, because I do not know how to speak the language" (H. Brün 1986, 38).

See also the remarks on "communication" in the preceding section, and in Chapter 4.

[107]Herbert Brün Library in Urbana, Illinois.

[108]There was a one-week trial run of a school proposal, August 13-22, 1992. The participants consisted of local friends who were discussing the proposal to start a school. The week of events was not labeled in reference to "designing society".

[109]Video Number 3 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. Capitalism Explained. August, 1992.

[110]Paulo Freire called attention to the use of the adjective using the example "She's black, but she's decent" (Freire 1998, 50).

[111]Playing Attention to Language booklet by Susan Parenti and Willy Mays, 2003, in the Herbert Brün Library in Urbana, Illinois, page 18.

[112]Cassette tape in the Herbert Brün Library in Urbana, Illinois: Herbert Brün and the Performers' Workshop Ensemble Monday Evening Composers' Forum: Composition in Response to Invitation, Provocation, and Contempt.

[113]Ibid.

[114]He said that words such as “beautiful”, “good”, etc. are not necessary --- they are taught as interjections when a child is learning language. (Barrett 2007, 3). He implied that the issue was one of human laziness or impatience in teaching language. Rather than explain all the rules of music appreciation, one calls a Beethoven symphony “good” and aSchöenberg composition “ugly” and lets the language do the rest.

[115]“The metaphor is simply the statement of analogy” (H. Brün 2003b, 315). Brün’s interest in analogy is present throughout his compositional career, including his graphics project which dates to 1968.

[116]Video Number 58 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. SDaS: June 16, 19, & 20, 1995.

45’31”

Herbert Brün: The word “full of information” [sic] is taken from cybernetics or even before, theory of communication... information theory, whichever you prefer, and assumes as a figure of speech that every system contains a finite number of answers to a finite number of questions. The word finite may describe an enormous amount, but it is still finite. By asking a system consistently different questions... which is not easy... you exhaust the system’s information potential.

Information gotten out of the system makes the system more predictable. Less chaotic. So, as the temperature of predictability rises, the usefulness of the system for new thought decreases. That’s called communication.

[117] Stephan Wolpe was an atonal music composer, and a committed communist, who was also exiled from Germany by the Third Reich. He too immigrated to the United States, becoming director of the music program at Black Mountain College 1952-1956.

Frank Pelleg was a Czech-born harpsichordist, conductor, composer and educator whose life work was in Tel Aviv.

[118] Today it is commonly referred to as "Eshkol Wachmann Movement Notation". Originally published in an expository textbook in 1958, the system was in development in the preceding decade, a period of time during which Brün was in and out of Israel (Eshkol and Wachmann, 1958). Eshkol would work with the Biological Computing Laboratory at the University of Illinois (Eshkol, et. al, 1970), and the Movement Notation Society developed a branch on the University of Illinois Campus in the 1970s. Eshkol's *Twenty-Five Lessons by Dr. Moshe Feldenkrais* lists an office of the Society for International Movement Communication at the Freer Gymnasium on the University of Illinois campus, one block south of the Music Building (Eshkol, 1976).

[119] Video 92 of the Maria Isabel Silva Video Collection at the Herbert Brün Library in Urbana, Illinois.

The video shows Herbert talking about his time in Israel, and he describes himself as being granted an exit in 1955.

Herbert Brün Society Folder 21 at the Herbert Brün Library in Urbana, Illinois.

This folder contains Brün's British Palestinian citizenship papers dated to February 1939, his subsequent Israeli Passport, and his first German passport with a 1956 registration stamp, signed March 13, 1957.

[120] Video 92 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

1.30'18" to 1.30'35".

[121] Brün's essay "Teaching the Function of Time in Art" (1952), which may be found on page 3 in *When Music Resists Meaning* (2004) is the Brün's earliest published statement of interest in language, poetry, and choice of words.

[122] Brün's *Against Plausibility* (1963) does not use the concept of "information" as it is used in cybernetics, as it was derived from Shannon and Weaver's *Mathematical Theory of Communication* (Illinois, 1949), that is: the inverse logarithm of the probability of an event. In the 1960s, there was still a field of study known as "information theory" that used a different definition of information than the quotidian concept of communication. Namely, it used a mathematical concept of information as $\log_n$ (Raisbeck, 1963). Gregory Bateson (1967) provides a less mathematical definition, roughly: a measurement of the field of alternatives in which a given event is but one possibility. Brün's 1963 *Against Plausibility* conflates information and communication by speaking of the communication of information, whereas in his later *From Musical Ideas to Computers and Back* (written in 1967, see footnote 6) avoids saying that one can communicate information. Rather, it describes how one uses information to communicate.

It could be argued that Brün's 1964 lecture entitled *Music and Information and Communication and Chaos and...* (Brün 2004) reflects his early exposure to information theory and/or cybernetics. In this piece Brün states "When one is speaking about nature and natural laws, then the word *chaos* denotes the end of everything. In talking about the human mind and its efforts, the same word denotes the beginning of the world" (Brün 2004, 48). Still Brün did not take the final state of describing *information as chaos* until *From Musical Ideas to Computers and Back* (Brün 2004, 182-183) which was written in 1967 (see footnote 6). Further, the 1964 text echos another theme of Brün's: the division of human activity from other natural phenomena.

Cybernetics seems to have begun to compete with Brün's other trains of thought in the period between 1964 and 1966. Brün titled his research proposal for the 1964-65 academic year "Research on the conditions under which a system of digital and analog

computers would assist a composer in creating music of contemporary relevance and significance" (Pre-P.W.E. Folder 34). A German text from the same year entitled "Existieren als Komponist" (in English: "Existing as a Composer") illustrates the crossroads where Brün found himself (Pre-P.W.E. Folder 33). Without tenure, or even an employment contract for the upcoming academic year at Illinois, Brün was simultaneously generating material for German language audiences, and dabbling in existentialism.

[123] Pre-P.W.E. Folder 7 in the Herbert Brün Library in Urbana, Illinois.

The folder contains the request for manuscripts dated January 24, 1967 and the acceptance of Brün's manuscript dated April 7, 1967.

[124] "The composer is motivated by a wish of bringing about that which without him and human intent would not happen. In particular, the composer's activity consists in constructing contents, systems, stipulated universes, wherein objects and statements, selected by the composer, not only manifest more than their mere existence, but have a function or value or sense or meaning which without his construction they would not have." (Brün 1986, 49)

[125] Recorded Herbert Brün lecutre from 1977 for the MUS 405 Theory Seminar in the Herbert Brün Library in Urbana, Illinois.

In Brün's conception of music, the composer is the person in the music world who influences or manipulates politics (track 5; 0'30"). A person who wants to "be an input" via "composition" is "politically active" (track 7; 2'00"). He then adds: "All of you, to the extent that you are daily composers in some medium—be it just the order of your breakfast, be it the scheduling of your day, be it some smidgens of thought that comes to you because yesterday you failed in a discussion, it doesn't matter—to the extent that you are thinking people that do not only copy what is delivered anyway, you are politically active." (Track 7; 3'11" to 3'44")

[126] This essay will not foreground Brün's age in evaluating his work, though the reader is advised to remember that during the period in question, it probably was. When UC-Berkeley student Jack Weinberg coined the phrase "Don't trust anyone over 30" in 1964, Brün was 46 years old. He had also lost his parents, and several friends, to war.

[127] From a 1964 lecture, published in (Brün 2004). The quote is found on page 48.

[128] See: Brün, 1970. It was a habit of scholars in the 1960s to define their concept of "information" in contrast to the daily-life usage of the term (Raisbeck 1963).

[129] *Ibid.* p. 49.

[130] *Ibid.* p. 49.

[131] The theory is described in (1970); Pre-P.W.E. Folder #7 contains the original request for manuscripts dated January 24, 1967 and the acceptance of Brün's manuscript dated April 7, 1967. Thus the ideas were developed by Brün several years before their publication, and their use can be detected in the Heuristics courses he taught with Heinz Von Foerster in 1968 and 1969.

[132] If Brün had been talking about physics, all humans would be Maxwell's Demons!

[133] Brün succinctly states, in a 1998 video "You don't get *twice* the first time." Source: Unpublished video entitled "Molecular Traces: Elements of Composition" by Eric Hiltner in the Herbert Brün Library in Urbana, Illinois, 1998. The idea also appears in various forms in the material left from the thirty years in between. Brün constantly emphasized it.

[134] I use the word "positivism" to refer to the idea that any idea can be proven true or untrue, using knowledge backed by observation/experience. In this sense, the Heuristics course described in the following section could be described as a pedagogy that avoided positivism, in that the goal of the course was allowed to change in the process of the dialogue between teachers and students. The mobilization of positivism in education has been critiqued (Giroux 1983); arguably all those opposed to high-stakes testing oppose positivism in educational practice.

[135] Pre-P.W.E. Folder 54.

[136] Pre-P.W.E. Folder 54 includes a short text by Heinz Von Foerster entitled "Comment on Heuristics" dated September 3, 1970 that uses this definition.

[137] Pre-P.W.E. Folder 54 includes the University of Illinois' "Course Outline" form to register the Heuristics class officially in the course catalog. This completed form included the elective areas and the names and departmental affiliations of the instructors. The form was signed and submitted by Heinz Von Foerster on May 30, 1968. The course was listed as an elective in the fields of "Electrical Engineering, Computer Science, Biophysics, Psychology, Education" and the Instructors were Heinz Von Foerster (Engineering/Biophysics), W. Ross Ashby (Engineering/Biophysics), Herbert Brün (Music), Herbert Schiller (Economics/Communication) and Paul Weston (Coordinated Science Laboratory). Humberto Maturana, a biologist from the University of Santiago, Chile was also a frequent guest contributor to the Heuristics course (Müller and Müller 2007). The mixture of different departments, including the arts, engineering, and biology was part of the social climate around Heinz Von Foerster's Biological Computing Laboratory, as well as one of the stated intentions of the Cybernetics movement as a science of systems in general.

[138] Pre-P.W.E Folder 54, labeled "Heuristics", contains the note. Complete transcription:

A Note on the Causes of Campus Disorders

by

Heinz Von Foerster
University of Illinois

Learning is understood as the sum total of the processes by which knowledge is acquired. In times of socio-cultural continuity "knowledge" is treated as a commodity which can be passed on from man-to-man or from generation-to-generation, and in such times "learning" is then thought of as the acquisition and memorization of that commodity.

In times of rapid technological and scientific innovation and progress, and of rapid population expansion, that is in times of socio-cultural discontinuity it is precisely the knowledge of one man, or of one generation, which is contested by another man or the next generation, for new relations between man and objects and between man and man are perceived or discovered.

In such times, as we experience them today, learning must be foremost concerned with the acquisition process of any knowledge--that is learning of learning--rather than with the memorization of (contestable) descriptions of facts.

It is my contention that the lag of our ability to teach how to learn, to perceive and to discover with respect to our ability to teach a specific subject matter is sensed by the younger generation without, however, being identified. This gap between what ought to be done and what is done leads to tensions which, when exploited by politicos for their own purpose, may lead to violent disruptions.

If we wish to regulate we have to learn how to listen.

[139] Student unrest in the 1960s at Illinois has been documented (Williamson 2003, Lee 2010). The Heuristics may have been a space for Von Foerster and Brün to explore their unrest as faculty members.

[140] Pre-P.W.E Folder 54 contains the summary of the first semester of the course. The top of the 6 page document is labeled "HEURISTICS -- FALL SEMESTER -- 1968-1969". The phrase "right or wrong, my desires" was a detournement of "right or wrong, my country" which was current amongst defenders of the Vietnam War in the United States, though it had originated more than a century earlier in a speech by Stephen Decatur.

[141] *Ibid.*

[142] *Ibid.*

[143] *Ibid.*

[144] *Ibid.*

[145] Pre-P.W.E. Folder 6 contains a typewritten lecture notes that are signed by Herbert Brün and dated 1969. The title of the presentation is "Anticommunication: an Attempt, Not a Refusal!". The folder also contains flyers and posters for times when the talk was presented in London and at the University of Cincinnati. Many of the ideas present in (Brün 1989) are present in the 1969 lecture notes. The gesture of signing a typewritten piece of writing with the date was rare for Brün, but it happens occasionally within the papers he left behind. Similarly, he did not sign all of his graphics. When he did, it was a statement of approval, that this was a piece to be understood as a composition by Herbert Brün. It further underscores the fundamental importance of anticommunication for Brün.

[146] Brochures for all sessions of the School for Designing a Society are found in the Herbert Brün Library in Urbana, IL. At time of writing, the School for Designing a Society continues to reference anticommunication on its website at designingasociety.net.

[147] Pre-P.W.E Folder 54 contains the original hand-written text as well as a type-written version with an unusual pagination: some pages of the typewritten version only contain a single sentence, or a fragment.

[148] "Colorless green ideas sleep furiously" is an example of a sentence which is gramatically correct but semantically nonsensical (Chomsky 1957). Thus it makes a distinction about linguistics by means of a not-yet-communicative sentence.

[149] The original *Whole Earth Catalog* itself was inspired by Buckminster Fuller's work and it includes several references and resources on Cybernetics. Digital back issues of the *Whole Earth Catalog* at http://www.wholeearth.com/back-issues.php accessed November 1, 2010.

[150] Syllabus for the Spring 1970 Heuristics show a course listing of Chem 199 for undergraduates, and Chem 490 for graduate students. Pre-PWE Folder 53. There is no course roster.

[151] In Pre-PWE Folder 54, course roster for the Fall 1969 Heuristics course lists Charles Bull as a graduate student. Bull's paper is part of a larger collection of "Desire Papers" from 1970 all of which seem to have been re-formatted to phrase desires as though they are condition or entities. That is, the phrase "I desire..." doesn't appear, though the things desired are listed. This paper is found in Pre-PWE Folder 53.

[152] Brün explains that false statements are meant to be anticommunication in a video in the Maria Silva Video collection in the Herbert Brün Library which is dated to June 20, 1995, tape #2.

Pre-PWE Folder 70 contains responses to a 5-page assignment describing how to write "Unfortunately True" statements. The course was apparently offered through the BCL, as Psych 493 (and likely cross-listed) under the title "Seminar on Cognitive Studies". Responses from 45 students were received Feb. 24, 1971. Why did Brün apparently work

so hard to get students to write a short list of unfortunately true statements? Perhaps it was meant to help complete an anticommunicative dialectical response to the dated categories of "true" and "false", i.e. "desirable but false statements" and "unfortunately true" statements.

In any case, Brün took the assignment very seriously. The 5 pages of rules dwarf the brief 20 statements they call for. The assignment also stipulates, in writing, that Brün will not grade the statements, and that those who cannot generate 20 statements that satisfy all of the rules may instead write a one-page statement explaining why they could not complete the assignment. Brün adds, in rule 5(c) "The request is legitimate because: I am not sure I could come up with 20 so conditioned statements, but I need many of such statements." Curiously enough, Brün uses the word "legitimate" in a sense identical to Von Foerster's later declaration of "legitimate questions" e.g. unanswered or unanswerable questions (Von Foerster 1981, Von Foerster 1990).

[153] In personal communication with Marianne Brün, she mentioned that they were one facilitator short for the groups of people writing desire statements, and thus she had her first experience "teaching", she said, by being assigned the task of facilitating a small group of students writing desire statements.

Pre-P.W.E. Folder 50 contains several loose sheets of paper dated June 17 and 18, 1971 with lists under the title "Right or Wrong: My Desires", including a list by Marianne Brün. Marianne would go on to be very closely associated with the project of asking students to write lists of desire statements (Brün 1985).

[154] The Cuernavaca meetings were the origin of Brün's dialectical distinction between "need" (biological condition) and "necessity" (social construct), which both appear in his canonical set of declarations along with "composition" and "argument" and "nature" and "communication" and "anticommunication" in *my words and where i want them* (1986).

[155] Pre-P.W.E. Folder 50 contains the "Advanced Pages" report on "Seminar on Interpersonal Relational Networks" Cuernavaca, July, 1971 - CIDOC - by Rodney Clough 9/20/71. The discussants refer to (Von Foerster 1972).

[156] The discussion leads to the inquiry about the use of the word "necessity" on page 17. There is also a comment from Ivan Illich on page 23, from the day after the discussion, in which Illich describes other meetings, with Paolo Freire, with Eric Fromm, in which a set of statements or words was used to generate a discussion -- Illich describes a "shared puzzlement" generated by all those including the group present. Illich goes on to say that the "shared puzzlement" initiated by Herbert Brün was stronger than those initiated by Freire and Fromm.

[157] For his part, Maturana has stated that "the time I spent with Ivan Illich in Cuernavaca was not formative for me." (Maturana and Poerksen 2004, 154)

[158] Pre-P.W.E. Folder 50. From a short paper entitled "Comment on Heuristics" by Heinz Von Foerster, September 3, 1970.

[159] *Ibid.*

[160] *Ibid.*

[161] He later clarified that problems always have potential solutions, so if there is no possibility of a solution then it isn't a problem so much as a "condition". In other words, gravity is a "condition", but how to defy gravity is a problem because there exists the potential for solution (anti-gravity machines, outer space travel, etc). This was one of the fundamental points for Brün in later years.

[162] Pre-P.W.E. Folder 50. Untitled text by Herbert Brün.

[163] From the Herbert Brün Library in Urbana, IL. According to the preface, the first draft of this proposal had been completed April 15, 1971.

[164] From a second version of the proposal, also in the Herbert Brün Library. It seems likely that one was formatted for the National Academy of Sciences (this one has a white cover, itemized budget items, and no mention of Herbert Brün as author of the text), and the other was likely formatted for sharing the proposal with colleagues on campus (this one has a orange cover, no mention of money, and lists Herbert Brün as the first author). The document with budget items lists the total amount requested was $917,841.

[165] Once Salvador Allende was elected into power in Chile, Stafford Beer was invited by the government to create an alternative to Soviet Union model, which Beer described as "too centralized" (Müller and Müller 2007, 61-62). Beer entitled his alternative the "Viable System Model". It is described in the final 5 chapters of the second edition of The Brain of the Firm (1981), which lays out what Stafford Beer did in Chile, developing what is known as Project Cybersyn. Beer also makes mention of Humberto Maturana (Beer 1981, 340) in influencing the design of Cybersyn.

[166] The 1970s were the time when Maturana was most willing to risk making overtly political statements. Stafford Beer wrote a preface to the English translation of (Maturana 1972a), while Maturana wrote an introduction which states that the organization of the human organism implies an anarchist society (Maturana and Varela 1980, xxx, 63-72).

[167] There would be later re-incarnations of the concept of cybernetics for society-wide participation and information sharing, including the proposed "Socially-Beneficial Information Processor" that would be described in *Designing Society* (Brün 1985).

[168] Maturana himself described his encounters with Beer and Flores before the coup, albeit in an obfiscatory manner, in (Müller and Müller 2007, 48).

When the author met Humberto Maturana in Chile in 2007, Maturana spoke of meeting with Fernando Flores while Flores was "in jail" years later, and he complained that Flores today uses many of his ideas without giving proper credit. In general, the connections between Beer/Flores and Maturana/Varela seem to have gone sour, and the further away from 1973 one goes the worse they are. This is based on oral communication with the author at conferences of the American Society of Cybernetics in 2004 and 2008.

In any case, Beer said he knew Maturana and Varela, but that "these two were not agreed about the societary implications of their theory; and my own view differed from each of theirs. This must be on the record, both in deference to them, and also to free them from any 'guilt by association' with my views" (Beer 1981, 338). Maturana claims that he only met Beer before 1973 because Beer was looking for a Chilean cybernetician (Müller and Müller 2007, 48).

[169] Maturana's experience of the coup and of his decision to stay are described in (Maturana and Poerksen 2004, 167-169).

[170] See (Maturana and Poerksen 2004, 168). Maturana also reflects on the connection between his life under Pinochet's, and other constructivists' lives under totalitarian regimes—he insisted his theories were not informed by dictatorship but rather, explained how the dictatorship worked (Maturana and Poerksen 2004, 170-72). Maturana stuck by his choice to stay, and he later claimed that it helped him understand what Heinz Von Foerster went through having survived WWII in Berlin (Müller and Müller 2007, 48-50).

[171] Stafford Beer is quoted as saying so much (Müller and Müller 2007, 60-1).

[172] A booklet reprint of Karl Menger's (1959) "Gulliver in the land without one, two, three" can be found in the Herbert Brün Library in Urbana, Illinois. Inside the front cover, in Heinz von Foerster's handwriting it says "Master Copy: BCL Seminar 1975."

The "Biological Computer Laboratory Author Index 1957-1976" (Fiche #0 of the BCL microfiche) lists the authors who were published in the publications of the BCL. The compilation is credited to Kenneth L. Wilson and John D. Day, 1976.

[173] This idea was ultimately refuted: living systems are not thermodynamically closed systems. Living organisms exchange heat and work with their environment, therefore the second thermodynamic law doesn't apply.

[174] In his essay "Against Plausibility" (Brün 1963), he states on page 49: "Of the great number and variety of factors that combine to enliven the general intellectual climate in Europe, the principles of information theory and of modern sociology have been the major influences on the composer's attitude toward their problems." The publication date makes it clear that Brün encountered information theory before he was associated with Heinz Von Foerster or the cybernetics movement in the United States.

[175] Pre-P.W.E Folder 54 contains 1969 student papers citing the phrase, and sometimes mocking it, in response to the Heuristics course. More fully stated in (Brün 1989): anticommunication "is an attempt at saying something, not a refusal to say it." A video in the Maria Silva Video collection in the Herbert Brün Library which is dated to June 20, 1995, tape #2. The footage contains an exposition of "anticommunication" at the third Summer School for Designing a Society in which he uses the sentence "Anticommunication is an attempt, not a refusal".

[176] Many of Brün's contemporaries and students were anticommunicative. Maturana is notorious for writing sentences that are too recursive to speak communicatively. Chris Mann (1990) and Judy Lombardi's (1996) dissertation From What to When is (Not) Violence, for which Maturana and Brün on the dissertation committee.

[177] Pre-PWE Folder 54 contains student lists for these three sessions of Heuristics. There is no student roster for the Spring 1970 course offered through the Chemistry Department.

[178] Even today, "women make up 10 percent of tenure system faculty and 17 percent of undergraduates in the College of Engineering" at the University of Illinois at Urbana-Champaign (Haveric 2010).

[179] Pre-PWE Folder 54. See also: Williamson 2003.

[180] In *What is indigenous knowledge? Voices from the academy* Semali and Kincheloe (1999) challenged objectivity, the idea of cause and effect, and the isolation of research from the act of perception, calling it "one-truth epistemology" and connecting it to white men of privilege. (Semali and Kincheloe 1999, 26-27). They also used similar language to Von Foerster (1973) when speaking of "constructing reality" and how "western science... ...makes the world it studies or describes." (Semali and Kincheloe 1999, 28).

[181] The note is entitled "A Note on Causes of Campus Disorder". Pre-PWE Folder 54.

[182] *Ibid*. Note the mosaic of cybernetic terms intermeshed with ideas that likely came from Illich

[183] After his retirement and return to Westons, England Ross Ashby wrote a letter to Von Foerster in which he spoke of how exhausting he found his final years of teaching at the BCL (i.e. 1968 to 1970). Source: Herbert Brün Library in Urbana, IL.

[184] *Ibid*.

[185] Von Foerster's connection to Wittgenstein is described on page 10 of (Müller and Müller 2007). Quote is from (Wittgenstein 1922).

[186] Consider the manifesto form, taken up by dadaists, futurists, surrealists, and others. The manifesto form descends directly from Marx and Engels (Puchner 2006). Music in

particular was a central force of radical social change for the generation of the 1960s, though Brün never took an interest in popular music *per se*. Atonal music (Brün's field) was a revolt against the established society of interwar Europe; electron tube manufacturing (Von Foerster's field) was not. This shows at least in part how different the 1950s may have been for Brün and Von Foerster.

[187] After 1969, there was only one grant from a military source (the U.S. Air Force) with Von Foerster listed as the principal investigator. The Mansfield Amendment was enacted in 1970 (Umpleby 2003). BCL records do not show substantial military funding between 1970 and 1973. See table 2 in (Müller 2000). The grant written with Herbert Brün was submitted to the National Science Foundation Research Applied to National Needs (RANN), without success. There is no great trail of rejected grant applications.

[188] The ASC meetings from the 1980s and 1990s spotlighted Von Foerster and Maturana, as is clear from the programs left from these conferences in the Herbert Brün Library. It is unclear what the ASC was doing in the 1970s. There was a publication entitled ASC Forum that was produced throughout the 1970s.

[189] Personal communication at the Matriztic Institute in Santiago, Chile.

[190] Brün's 1965 lecture *Teaching the Function of Time in Art* (Brün 2004) echoes Thomas Mann (1942): "An art whose medium is language will always show a high degree of critical creativeness, for speech is itself a critique of life: it names, it characterizes, it passes judgment, in that it creates."

[191] After Brün's death, a book of his formulations was published (Brün 2003a) in which he was quoted as saying "Parataxis came to my attention when I read the preface to Aesthetische Theorie by Theodor W. Adorno. Adorno died before having decided on the sequence in which the parts of the tractate were to be ordered in the book. He quarreled with the form 'book' because this medium forces parts to <u>follow</u> one another, even though the author means to have the parts be mutually independent and quasi strewn <u>around</u> the subject matter. <u>Not</u> the syntactic gathering of connected aspects was to <u>make</u> <u>the</u> <u>point</u> but <u>rather</u> was the paratactic constellation of disconnected points to allow for the <u>drawing</u> <u>of</u> <u>many</u> <u>lines</u>." (Brün 2003a, 17. Underlining original) It would seem that *Drawing Distinctions Links Contradictions* (1974b) was organized paratactically instead of syntactically.

[192] In *my words and where i want them* Herbert Brün writes "Where words are said to mean what people take them to mean there things are what is said about them." (Brün 1986, 22) It should not be an unreasonable request then to apply this formulation to the things said about the Sixties, as well as what people take these words to mean. Nor is it extraordinary. When Brün writes that *my words and where i want them* was written between 1968 and 1986 (Brün 2003b, 94) there is no difference between what was said about the book, and what it is.

[193] Brün's defense of so-called "new music" (Brün 2003a, 264) and rejection of tonality (Brün 2003b, 76) lasted long into the era in which it was recognized as a thing of the past. His graduate students explored the subject in their dissertations (Parenti 1987). He even acknowledged the fact himself (Brün 2003b, 72). Nor did he apologize for it. "Yesterday's contemporary is not today's conservative" (Brün 2003b, 352).

Other proposals such as the "cognitive technology" proposed in 1972 (Herbert Brün Library in Urbana, IL) which seems to have become the "Socially-Beneficial Information Processor" or "SBIP" (Brün 1985) effectively anticipated the internet. The idea of SBIP was to be a "computer system" that "consists of a large number of interconnected, technically equal components distributed all over the world" that would be "so programmed that its response to any and every user's input will be based on the current network generated by all and any previous users' inputs" (Brün 1985, 22).

[194] Carter G. Woodson put it well in 1933: " When you control a man's thinking you do not have to worry about his actions. You do not have to tell him not to stand here or go yonder. He will find his 'proper place' and will stay in it." (Woodson 1990)

[195] Herbert Brün was blatantly used as a major source for this essay. The essay begins with the following dedication: "for and from Herbert Brün —M.B., March 17, 1980" Furthermore several of the sentences found in the essay reflect, or in some cases replicate, sentences used by Herbert Brün. This is not to detract from Marianne's intellectual labor in writing the manuscript, but to acknowledge that this text, as well as *Designing Society* (1985) borrow heavily from the words of Herbert Brün.

A specific example would be Marianne Brün's statement "I use the word 'need' when I wish to speak of conditions that must be met continuously and unconditionally if living organisms are to be able and to be motivated to maintain themselves, their identities, their existence." (Brün 1980, 296). The same sentence appears in Herbert Brün's *my words and where i want them* (1986, 42). It is the same, word-for-word.

[196] Nancy Fraser unearthed the gendered roots of the terms *public* (pubic) and *testify* (testicle) in "Rethinking the Public Sphere" (1992) to show how participation in public sphere discourses has been contingent upon one's physical anatomy. One could equally well find such examples with words using the Latin stem "semen". While this may say much about the history of the word, it may at the same time tell us very little about present usage. It is the function of a word in social discourse, not a dictionary entry, by which language enters into the power politics of human affairs.

[197] Interviews with Mark Enslin and Susan Parenti.

[198] Transcription of an audio recording done by the author. Another transcription, as well as the original audio, may be found online at http://www.herbertbrun.net/1977/

[199] From the Herbert Brün Library. Also found online at http://www.herbertbrun.net/1977/

[200] *Ibid*.

[201] It may not be heretical to call music "political" in an era in which "all things are political" however the School of Music represents a protected space. It is a conservatory focused on developing skills which do not require a consensus that music has "meaning" or a "message" let alone that its message is a political one. Nor does such a consensus exist today. It is instructive to observe the difference between a school of visual art and a school of music, to ask their students to speak about the politics of their work, to search their journals for explicit political references.

[202] The letter from Ben Johnston is in "Education Folder 8" in the Herbert Brün Library. William ("Bill") DeFotis is described as a member of the notice group in notice #3 in "Notice Group Folder 1" in the Herbert Brün Library.

[203] The album, "Switched-On Bach" by Wendy Carlos, was released in 1968 (Holmes 2002, 178).

[204] Presentation by Susan Parenti at the Opening Reception for an Exhibit of Computer Graphics by Herbert Brün at the University of Illinois Music Library, May 6, 2007. Presentation notes are in the Herbert Brün Library in Urbana, IL.

[205] The "Cognitive Technology" proposal was taken up in the preceding chapter. During Spring 1977, Brün submitted a proposal for an "Interactive Computer Context for the Exploration of Ideas"; Pre-PWE Folder 60 in the Herbert Brun Library in Urbana, IL.

[206] *Ibid.*

"A primary impediment to change in society is the inability of people to perceive the effects their ideas and actions have on society..." (page 1)

"...participants' propositions would be submitted to simulated execution so that the general results of their particular propositions will allow them to evaluate their propositions." (page 2)

[207] The Performers' Workshop Ensemble, Performance History 1981-1994, PWE Folder 4 in the Herbert Brün Library in Urbana, IL.

[208] *The Politics of the Adjective "Political"* was "first performed at Gregory Hall, University of Illinois, March, 1984, by Mark Freeman, Maria Grillo, Marina Manetti, Mark Enslin, Candace Walworth, Maul Musial, Kirk Corey, Lesley Olson, David Friedman, Sarah Wiseman, Pamela Richman, Frances Day, Robert Maffia, Samuel Magrill, Megan Lyden" (Parenti 2000, 7).

Poster for the performance at Allen Hall is dated March 19, 1984. In Seminar Reserve File 1a (page 256) in the Herbert Brün Library in Urbana, Illinois.

[209] Interview with Mark Enslin.

[210] It is unclear whether they even meant what their proposal said. According to Mark Enslin, "[Marianne Brün] made up the name Institute for Global Education in the Systems Age explicitly to include several current buzzwords that might seem attractive to potential funders." When the funding did not materialize, the phrase and the proposal vanished.

[211] There was a proposal for a music program for children entitled "Young music for new people" in PWE Folder #34 in the Herbert Brün Library. The folder is dated "Fall 1988" and it contains a trifoliate brochure complete with photographs of members of the ensemble playing instruments with children: Lesley Olson, Paul Musial, Ya'aqov Ziso, and Mark Enslin.

[212] House Theater Folders in the Herbert Brün Library in Urbana, IL.

[213] Interview with Susan Parenti, part 6.

[214] Interview with Susan Parenti, part 15.

[215] Interview with Susan Parenti, part 10.

[216] According to Parenti, Herbert Brün brought a friend to town to consult with the ensemble about how to take their work to the next level. These discussions didn't organize anything, but the idea of the European tour seems to have come out of that time period.

[217] Interview with Marianne Brün. Her father was Fritz Kortner (1892-1970) and her mother was Johanna Hofer (1896-1988).

[218] Interview with Susan Parenti, part 10.

[219] Interview with Susan Parenti, part 10.

[220] Interview with Susan Parenti, part 12.

Susan Parenti: "It also ended up making a lot of hostility around us because we only had plane tickets for ten people, and the Performers' Workshop Ensemble had been about 35 people. I mean people that would do one concert with you, and then you wouldn't see them for a couple of months, and then they'd show up. But we had to tell people "no", and there was a lot of talk about who was "in" and who was "out" and, yeah, that wasn't

so good. I started to understand what that meant to have a professional ensemble. That made a lot of bitterness amongst people I dearly liked to work with."

[221] Interview with Susan Parenti, part 12.

Susan Parenti: We came to Germany and we showed Manni [Marianne Brün] the proposals, and she said "No—this is not good, this is not interesting, it's not distinct, it's not..." She said "what about Susan's dissertation piece?... ...do that piece." Leslie, who wanted to do [performances by Stefan] Wolpe and all these, like... Manni said "No, it's a piece by a woman. It's got humor and satire. It's very odd. That's the one I want to see." ...It wasn't because she was my friend. It was because, being in Germany, I think she saw...
Rob Scott: ...doing Wolpe wasn't going to be that distinct...
SP: No because they do Wolpe there already. We actually, surprisingly to Manni, we had a few people who were tremendously confused because the combination of theater, music, mime, was for the Germans extremely puzzling. So we went from billing ourselves as "new music" into billing ourselves as "cabaret", because people were just like "what is this?"

[222] Interview with Susan Parenti, part 14.

[223] PWE Folder 5 from the Herbert Brün Library in Urbana, IL. The brochures for the Performers' Workshop Ensemble circa 1990 and 1991 begin to resemble the later brochures for the School for Designing a Society. Line drawings by Mark Enslin float around pages describing workshops that blend ideas of composition, performance, language, and cybernetics in multiple different domains.

[224] Pre-PWE Folder 45 in the Herbert Brün Library in Urbana, Illinois.

The folder contains newspaper clippings about the Committee Against War in the Gulf which had organized in response to the United States' mobilization to invade Iraq after its August 2, 1991 invasion of Kuwait. Newspaper articles describe Susan Parenti, Mark Enslin, Susanna Belovari, Rick Burkhardt, and Keith Johnson as members of the group, and show them participating in theater to dramatize the costs of war.

Protests took place on the Quad at the University of Illinois, and rallies took place outside of the Post Office in Urbana. Images from the articles show Susan Parenti dressed up as a doctor operating on an artificial corpse, Mark Enslin wearing a George H.W. Bush mask while rolling an enormous dice on the quad, and various protest actions involving local labor groups and the Vietnam Veterans Against the War.

[225] PWE Folder 1 from the Herbert Brün Library in Urbana, IL.

[226] *Ibid.*

The brochure lists the teachers as Herbert Brün, Arun Chandra, Rick Burkhardt, Jeff Glassman, Mark Enslin, Drew Krause, Keith Johnson, Lori Blewett, and Susan Parenti.

[227] Education Folder 14 from the Herbert Brün Library in Urbana, IL.

[228] This course is listed on Susan Parenti's resume of 1999, as part of a sequence of courses offered under course listing. It was listed after MUS 199: Composition between Disciplines, and before MUS 199: Composing Music... and Beyond.

[229] Education Folder 45 in the Herbert Brün Library documents the Fall 1997 course offering. I personally enrolled in the Fall 1998 course when I moved to Urbana, but declined to enroll in the Spring 1999 offering. In the year 2000, Brün's health made it difficult to travel to the music school, which was only a few blocks away from his apartment. He continued to offer his Seminar for Experimental Composition out of his apartment (!) but the discovery class was cancelled.

[230] Personal communication with Larry Richards, who was a student of conference organizer Klaus Krippendorf, of the University of Pennsylvania.

[231] The different journals were all listed as available from the ASC in the back of the ASC Cybernetics Forum of 1976 and 1979. The 1976 *Forum* indeed asks that "gentlemen" reading the issue renew their membership to the ASC by mailing a check to Dr. Roy Herrmann.

[232] Personal communication with Larry Richards.

[233] 1984 also marked the first Gordon Research Conference on Cybernetics, held in the summer in New Hampshire, and co-chaired by Heinz von Foerster and Leo Steg (who made the entre into the Gordon Research Foundation for funding). Humberto Maturana and Francisco Varela were reportedly in attendance.

[234] Maturana's participation is captured in the dialogue transcribed in (M. Brün 1985).

[42] Source: Unpublished video entitled "School for Designing a Society" by Eric Hiltner in the Herbert Brün Library in Urbana, Illinois, October, 2001.

[236] Marianne Brün Interview, part 10.

Rob Scott: I wonder if [Stafford Beer was] an inspiration a little bit to things like SBIP.
Marianne Brün: I think a lot of people, historically, come around to similar things at the same time. I didn't know Stafford Beer's project 'til after I had my classes. When I went to the [1984 ASC] meeting, that was the beginning of my being involved in cybernetics. I was not involved with it. But they said that what I was doing in my class was something that's of interest to people, and that's what drew me to it.

[237] At the end of the transcribed discussion from the ASC discussion, the participants from the Designing Society courses stood up to be acknowledged (M. Brün 1985, 59). They were: Mark Sullivan, Paul Musial, David Freedman, Mark Enslin, Arun Chandra, Lesley Olson, Keith Johnson, Mark Freedman, Larry Ende, and Marianne Brün.

[238] Source: Unpublished video entitled "School for Designing a Society" by Eric Hiltner in the Herbert Brün Library in Urbana, Illinois, October, 2001.

[239] Ibid.

[240] In 1985 an ASC conference planned for Montreal fell apart when the designated organizer backed out.

[241] In the summer of 1986, another Gordon Research conference on Cybernetics, again in New Hampshire, was co-chaired by Heinz von Foerster and Ernst von Glasersfeld. Maturana attended, but Brün and PWE did not make it. Reportedly, the subject of language took center stage at the conference.

[242] There are competing versions of this story. Susan Parenti maintains that Larry Richards proposed the "School for Designing Society" (citation needed). When asked by email about the proposal, Richards replied "I asked if there would be interest in creating a school for cybernetics. Sensing little positive feedback about the suggestion, I asked what idea for a school might be of interest to the group. Leslie Olson suggests a School for Designing Society. Everyone reacted favorably, and we agreed to think about it."

Then, the next day, Richards sent another email: "Just for clarification: in 1986, Leslie Olson didn't suggest the name of the school, just the topic, around which if organized, she would be interested. Of course, she left Urbana before this could happen. I'm not sure when the decision to call it the School for Designing Society was made."

[243] There was also an ASC conference in Spring 1987 in St. Gallen, Switzerland. Herbert Brün did not attend but several members of the Performers' Workshop did. Marianne Brün again offered a workshop on "Designing Society", with different parts of her book (Brün 1985) recited by members of the Performers' Workshop scattered around the room. It created an uproar, with a European attendee yelling out that the proposal is totalitarian -- reportedly someone shouted back calling him totalitarian.

[244] Education Folder 1 in the Herbert Brün Library in Urbana, Illinois. Adams' talk was entitled "Cybernetic looks at health care."

[245] The "cybernetics fair" was a variation upon Stafford Beer's "agendaless meeting" which he later called "problem jostle" (Beer 1979, Schecter 1991).

[246] The conference program looks like a School for Designing a Society brochure in many ways. It used line drawings by Mark Enslin, invoked a utopian flair, described a program

that played with discussion format, provided a mélange of performances, assignments, and presentations on social issues, as well as biographies of presenters, reading references and a town map. If the program were stretched into three months, with course proposals from the PWE, it would basically be a proposal for a School for designing a Society

[247] Larry Richards also mentions that the third Gordon Research Conference on Cybernetics was held in January 1988 on the coast of California, co-chaired by Ernst von Glasersfeld and Paul Pangaro. According to Richards, "Bill Powers attends this one, and claims the cybernetics community doesn't understand control systems, to which Heinz responds with some movements of his arms. Leo Steg befriends Powers and they later do the last Gordon Research Conference on Cybernetics a couple of years later, which I [did] not attend."

[248] The call for a children's book was at least *concurrent* with the "Young music for new people." Traces of that project can be found in PWE Folder #34 in the Herbert Brün Library. Richards' children's book on cybernetics, entitled "House of Change" can also be found in the Herbert Brün Library—it was self-published in 1995, with limited distribution.

In my interview with Arun Chandra, he mentioned a course on literature for children led by Marianne Brün at Unit one at Illinois in the early 1980s.

[249] Personal communication with Larry Richards.

[250] Personal communication with Larry Richards.

[251] Personal communication with Larry Richards.

[252] The American Society for Cybernetics website lists the conference as "Cybernetics in the Art of Learning", Nov. 3-7, Philadelphia, PA (chair: Frank Galuszka). Herbert Brün is listed as the 11th recipient of the Wiener Medal since 1968, along with other recipients such as Warren McCullough, Gregory Bateson, Stafford Beer and Humberto Maturana.

Conference information was retrieved (November 12, 2010) from http://www.asc-cybernetics.org/organization/events.htm

Information about the Wiener Medal was retrieved (November 12, 2010) from http://www.asc-cybernetics.org/organization/awards.htm

[253] Conference information was retrieved (November 12, 2010) from http://www.asc-cybernetics.org/organization/events.htm

[254] For instance, Steve Sloan organized a group of SDaS students to produce a document, entitled "Doing Cybernetics and Doing the School for Designing a Society" which was

presented at the 1999 ASC Conference. The document may be found in the Steve Sloan Collection at the Herbert Brün Library in Urbana, IL.

[255] PWE Folder 33, from Herbert Brün Library in Urbana, Illinois.

The Performers' Workshop Ensemble booklet from 1988 states, on page 2, "We are a troupe of musicians and actors who have been working with each other since 1978. In order to establish connections between art and society, we take as a point of departure the desirability but insufficiency of making concerts. Therefore we create not only compositions and concerts, but also projects that question in art the status quo of society."

[256] "Systems Theory" has a close relationship to Cybernetics historically, and is emphasized here in the spirit of a paragraph of recap. The term "systems theory" carries the flavor of interdisciplinarity that was at the core of the Performers' Workshop Ensemble vocabulary that carried the discussion to the School for Designing a Society. The overlap with Cybernetics can be seen in the "Glossary on Cybernetics and Systems Theory" produced by the American Society for Cybernetics in 1980. A copy can be found in the Herbert Brün Library, Seminar Reserve File # 3, pages 145-193.

"Political Activism" is no exaggeration. Susan Parenti and Sarah Wiseman were unionizers at a local whole foods store called Strawberry Fields in 1984 (Susan Parenti Interview, part 16). Members of PWE took part in the movements to end United States support for the apartheid regime in South Africa and the Contra War in Nicaragua. In the 1980s, members of the Performers' Workshop Ensemble disrupted recruitment activities of the US Central Intelligence Agency (CIA). Susan Parenti described two episodes in which CIA recruitment events were shut down on the basis of their theatrics (Susan Parenti Interview, part 7).

"Community Organizing" is meant here at least in the sense of bringing "house theater" to Urbana-Champaign. This is described in the article by Parenti, Enslin, and Brün (1995). Other aspects of community organizing involved pulling together a Diaspora of politicized artists and intellectuals, which was described in the preceding chapter as well as further on in this chapter.

[257] The Performers' Workshop Ensemble brochure from 1988 lists the members of the ensemble on the back cover: Arun Chandra, Susan Parenti, Jeff Glassman, Lesley Olson, Keith Johnson, Lori Blewett, and Mark Enslin. PWE Folder 33, Herbert Brün Library in Urbana, Illinois.

In my interview with Susan Parenti, she discussed several meetings that were organized to brainstorm how people could continue to work together as a group. The following is an example of the role that Larry Richards played.

Susan Parenti Interview, part 15, 2'35"

Susan Parenti: In '91, we had a could everyone come to Urbana, so Larry Richards who was in Virginia Beach...
Rob Scott: Yes, the ten day thing where you didn't have time to get from one event the other...
SP: No, no that was a consequence. No, we had like a three day, that was where we learned the problem jostle thing, and Larry didn't propose a school he proposed a dinner theater. That's what he thought would do it. Herbert was the one who proposed what now the IMC, which is: a "garden of projects". And then we needed a title, and the "Designing Society" class I think Larry and I and Herbert said "Why don't we call it the School for Designing Society"?

[258] The preceding chapter covers all of these events in greater detail.

[259] PWE Folder 1, Herbert Brün Library in Urbana, Illinois contains the proposal for a "group professorship."

[260] This statement is supported by the responses of Susan Parenti, Mark Enslin, and Arun Chandra from their respective interviews.

[261] Susan Parenti Interview, part 15, 2'35"

During the interview, Parenti described Richards' proposal as a "dinner theater," however in an email Richards referred to himself as proposing a "cabaret."

[262] Mark Enslin Interview.

Rob Scott: When, according to your memory, was the proposal for a School for Designing Society first mentioned? Did it have another name? Who were the original organizers of the School for Designing Society, or other-named school?

Mark Enslin: The school didn't have a name. It was discussed along with ideas from Mark Sullivan about activist projects that would 'infest' a community -- he cited a project, maybe in Chicago, that started on a block as a center offering tools and material for people to create posters, organize events which took its name from its zip code. The participants in these discussions included Lesley Olson, Mark Sullivan, Manni, Paul Musial, Carol Pazera, me, and at some point also Rachel Rubin, Robin Cohen, others. There's a collection of writings about potential curricula from that time. Manni made up the name Institute for Global Education in the Systems Age explicitly to include several current buzzwords that might seem attractive to potential funders.

[263] Video number 28 in the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. 0'01" begins with Parenti speaking about Richards.

[264] I asked Larry Richards about the origin of the SDaS. Richards replied "I asked if there would be interest in creating a school for cybernetics. Sensing little positive feedback about the suggestion, I asked what idea for a school might be of interest to the group. Leslie Olson suggests a School for Designing Society. Everyone reacted favorably, and we agreed to think about it."

Then, the next day, Richards sent another email: "Just for clarification: in 1986, Leslie [sic] Olson didn't suggest the name of the school, just the topic, around which if organized, she would be interested. Of course, she left Urbana before this could happen. I'm not sure when the decision to call it the School for Designing Society was made."

[265] Arun Chandra Interview.

[266] Mark Enslin Interview.

Mark Enslin: That same summer [1992] were the three Urbana-Gesundheit trips, first Keith Johnson, then Susan and Keith, and then a three-car caravan (we performed two evenings during that trip--Theater Therapy and a PWE with pieces from the lecture-performance we had made as part of our residency in the U of I's Center for Advanced Study). Right after the return from GI was the two week experiment in a student-made curriculum taught in our homes in Urbana.

[267] Schedule for the 1992 school in the SDaS files at the Herbert Brün Library in Urbana, Illinois.

[268] Arun Chandra Interview.

[269] Schedule for the 1992 school in the SDaS files at the Herbert Brün Library in Urbana, Illinois. The course titles include: Environmental Sensuality; "Shared Bugs"; Capitalism Described; Responsive Listening and Reading; Politics of Language; Gadgets!!; Lust-Porn; Seductive Frictions; Laboratory of Everyday Movement; Acting Studio; Movie Delicatessen.

[270] "Summer School '92 – Urbana" Folder in the SDaS Files at the Herbert Brün Library in Urbana, Illinois.

There were three attributed essays in the folder: Karl Krauss' (1909) "The Cross of Honor" on the construction of prostitution laws in Austria, George Orwell's (1946) "Politics and the English Language," and Benjamin Lee Whorf's (1956) "The Relation of Habitual Thought and Behavior to Language" about how the name of thing predisposes people to treat it a particular way.

[271] Schedule for the 1993 school in the SDaS files at the Herbert Brün Library in Urbana, Illinois.

[272] Video Number 3 from the Maria Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

The recorded responses to the assignment make it clear that the group was reading Karl Marx, with some stating it explicitly that they were introducing Marx's vocabulary in their responses.

[273] Brochure for the 1993 school in the SDaS files at the Herbert Brün Library in Urbana, Illinois.

[274] Ibid.

[275] Mark Enslin Interview.

Rob Scott: How did the Summer School for Designing Society in 1993 end up at the Gesundheit Institute in West Virginia?
Mark Enslin: During that visit to GI, someone had pointed out the abandoned hospital building (now the women's prison) down the road, and Susan suggested to me: why don't we have our school here? The thought as I remember it was that after 5-6 years of intention bogged down, an outlandish idea might provide the needed impetus. We had the impression that GI which was already established as a kind intentional community, could be a help to our fledgling project. As it turned out, the hospital building wasn't available. Susan, Lori Blewett, Susanne Belovari and I made trips from Urbana to GI to check out other possible places to rent. During a tour of PWE to New College in Florida in January, we stopped at Gesundheit there and back to break up the drive. Between those to stopovers, the then caretakers, J.J. Eve and family, decided they wanted to leave, and suggested we have the school at GI itself.

[276] Susan Parenti Interview, part 17.

Susan Parenti: ...I remember after that Summer [of 1993] and all the unexpected problems we had. You know, problems I didn't want to have happen. I didn't want Lisa to leave with Asher because she felt no one was babysitting.
Rob Scott: Oh yeah, I've seen, and people not knowing if it was safe for children to swim and just completely non-... not on the page...
SP: ...Manni [Brün] wanting to leave for the second session because she didn't want to be there. She didn't like community. I remember after those—you know, it was really, it was difficult. We were sleeping on the floor. And, you know, Herbert was sleeping in the kitchen of the wood shop on a little cot.

[277] Video number 8 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. This tape chronicles the swimming debate, which centers

around the swimming-capable young people wanting to swim without a life-vest on. Susan Parenti's class "You could live differently" takes up the issue, and there are debates on the issue, with the children, and amongst the adults. It became a moment in which the group inadvertently started testing itself on whether they were capable of living together and changing their ways of thinking at the same time. There were attempts to organize group swim time thereafter, and for his part Patch Adams offered a swimming lesson. These solutions can be found in the schedule to the Summer School for Designing Society 1993, also in the Herbert Brün Library in Urbana, Illinois.

[278] Video number 7 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

[279] Ibid.

[280] Ibid.

[281] Videos 23 and 27 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

These tapes are dated August 3 and 6, respectively. The two sessions of the SSDS were June 13 to July 10, and July 18 to August 14.

[282] Schedule for the Summer School for Designing Society 1993 in the Herbert Brün Library in Urbana, Illinois.

[283] Video number 8 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

29'09"

[284] Video number 9 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

The end of this video shows people clustered around little tables, Herbert Brün playing the piano, and generally all enjoying a summer evening together. Other videos show pieces being debuted at the Wired Fox, as well as performances of accumulated repertoire. The space was not so adorned as the upstairs space; the performances themselves marked the space.

[285] Ibid.

The footage on "the swimming issue" spans from 58'55" to 1.58'10".

[286] Ibid.

1.03’55”

Rick Burkhardt: If we make all these rules, that is not going to make sure they follow them. If we say they have to swim with a supervisor it doesn’t mean they’re going to swim with a supervisor. If we say they can’t jump on each other in the water it doesn’t mean they’re not going to jump on each other in the water. The life and death situation is there anyway. No matter what we do, the life and death situation is there.

[287] Ibid.

1.08’33”

[288] Ibid.

1.27’25”

[289] Video number 23 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

Danielle Chynoweth (who was an undergraduate at the time at New School of Sarasota Springs, Florida) had been given the role of “shape-shifter” at the SSDS which meant that she was invited to propose changes to the schedule. She proposes a discussion about the power dynamics at the school to the elder organizers at 1.30’40” in the video.

[290] Ibid.

1.18’54”

[291] Brochure for the 1994 Summer School for Designing Society in the Herbert Brün Library in Urbana, Illinois.

[292] Video number 23 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. Steve, a member of the residential staff at the Gesundheit Institute, described the alleged robbery.

1.45’31”

Steve: Two days ago, I went to get some money out of my bus—we were going to purchase a dump-truck for the Gesundheit Institute—and I had $3,500 in a money-belt in a drawer in my bus in the dresser drawer and it was not there. There were a few hundred dollars in the same money belt that were still there, but... a bundle of money, it was a stack of 35 hundred dollar bills, was gone as was one loose hundred dollar bill, there was $300 left behind. I was kind of surprised that it wasn’t there, I’d last seen it there about a week ago, and looked around, looked in a few places I normally put valuables and did not find it.

[293] Ibid.

Rick Burkhardt and Patch Adams both question whether the group is "capable of handling" the robbery. I take the phrase to mean "handling" in the idiomatic sense of "able to respond reasonably or responsibly." For example "Joe can't handle peer pressure" or "Frida couldn't handle the bad news."

[294] Brochure for the 1994 Summer School for Designing a Society in the Herbert Brün Library in Urbana, Illinois.

[295] Mark Enslin Interview

Rob Scott: When, according to your memory, was the proposal for a School for Designing Society first mentioned? Did it have another name? Who were the original organizers of the School for Designing Society, or other-named school?
Mark Enslin: The school didn't have a name. It was discussed along with ideas from Mark Sullivan about activist projects that would 'infest' a community -- he cited a project, maybe in Chicago, that started on a block as a center offering tools and material for people to create posters, organize events which took its name from its zip code... Manni [Brün] made up the name Institute for Global Education in the Systems Age...

[296] Brochure for the 1994 Summer School for Designing a Society in the Herbert Brün Library in Urbana, Illinois.

[297] Video number 50 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

[298] Mark Enslin Interview.

Rob Scott: What were the origins of Herbert Brün's "Fundamentals"? Did someone ask him to present a basic course on language and composition or something?
Mark Enslin: In preparing for the summer school we had meetings about curriculum even though we were trying a variation of Beer's problem jostle as way of generating curriculum. As I remember it, Lori Blewett asked Herbert and all of us to write what we consider fundamentals or indispensables of designing society.

Video 27 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

While presenting his "fundamentals," Herbert Brün describes himself as lucky to have been invited to speak that day, while gesturing at Lori Blewett, who nods in reply.

[299] "Proposed Weekday Schedule for July 5-29, 1994" in the Herbert Brün Library in Urbana, Illinois.

[300] Video 51 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

[301] Ibid.

Brün leads a discussion of the "establishment of connections" concept over the hour.

[302] Video 51 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

1.36'20"

[303] From my personal notes from my participation in the School for Designing a Society, dated April 10, 1999 "Andre Gunter Frank talks to SDS" [sic].

[304] Video 52 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

0'39"

Susan Parenti: The acoustic portrait assignment had some constraints. The idea was to find some language that you think uses yourself, or uses people. It should be around a minute long. There should be a decrescendo crescendo in it somewhere, and some kind of a mechanical sound that isn't produced by your own voice.

[305] Ibid.

1'30"

[306] Ibid.

1'47"

[307] A description of an acoustic composition is no substitution for the piece itself. A listener hears the sound of Parenti's voice saying "No, honey, I can do it!" in a dozen different ways, juxtaposed against the sound of her voice apologizing for various things, begging "please", crying hysterically, yelling in anger, and singing a broken melody of "silent night."

[308] Early competition came from "General System Theory" (Von Bertalanffy 1955; Von Bertalanffy 1968) which tended to cite many of the foundational texts of Cybernetics as its own. In the 1960s "Artificial Intelligence" (Minsky 1961; Winston 1988) began to grow in significance as a field which researched regulation and communication in both biological and mechanical systems. This bridge between living systems and mechanical

systems was a crucial step preceding the bridge between "hard" and "soft" sciences which Cybernetics would later attempt. The latter continues to grow in importance under the more general title of "interdisciplinary research".

[309] Video 51 of the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

Judy Lombardi is present at the discussions. Steve Sloan appeared for the "intensive workshop" that took place during the final week.

"Proposed Weekday Schedule for July 5-29, 1994" in the Herbert Brün Library in Urbana, Illinois.

Larry Richards was a guest presenter the first week of the SSDS.

[310] Schedule and Roster from the 1995 School for Designing a Society in the Herbert Brün Library in Urbana, Illinois.

[311] Brün had a single sheet of paper with three lists of words on it: "Herbert's List A," "Herbert's List B," and "Herbert's List C."

Video 58 in the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

16'14"

Herbert Brün: [Showing the list to the room...] ...these are lists of words, each of which I could give you an hour's worth of highly interesting lectures. [Reads from the page...] humans, nature, belief, language, need, necessity, evidence... that is just the beginning of List A! [Laughter in the room.] List B: anticommunication, retardation of decay, creation, displacement of a void, nit nyt it nit noot, retroactive correction, ah! [Looks up, more laughter.] Power of the respondent—we had that! Declarations—I just snuck in here and there. Compound statement—you were spared that one. Paradigms, concepts, and change—we nibbled at. Education, morals to emulate, morals to avoid, and so forth. Every one of these terms [showing the page of lists again...] could be a strong subject matter for good conversation, if you know where they sit in the social system, how they function, what the dynamics are, what they're used for, what they're used against, how you can use them in self-defense.

[312] Ibid.

[313] "Horizons School: Alternative Education That Works" brochure and "Pajo Kaj Justeco" booklet of poetry in the SDaS Files in the Herbert Brün Library in Urbana, Illinois.

The 22-page brochure presents Horizons School as a multicultural K-12 community-based school that focuses on developing well-rounded students via an emphasis on performance, academics, work days, and the "real world." Elementary school, middle school, and high school shared the same building complex.

The booklet of poetry "Pajo Kaj Justeco" (Volume IV) was copyrighted in 1995 by the Horizons School, and the poetry was attributed to "Atlanta High School Students." The phrase "pajo kaj justeco" is Esperanto for "peace and justice," and the poems contained in the booklet are politically charged, and focus on themes of racism, sexism, and other oppresisions. Page 4 of the booklet is a drawing of a black man in hand-cuffs, page 5 is a poem contradicting the notion that the United States is "the promised land," and page 6 is a poem challenging stereotypes about African-American women. The works are attributed to Horizons School students, which suggests that the themes were still echoing in the buidings where the 1995 SSDS took place.

[314] In the time after September 11, 2001 the SDaS was involved in anti-racism efforts manifested in the building of bridges with the Muslim community in Urbana-Champaign.

In 2002, the SDaS co-organized "School of Our Own Path" in Durham, North Carolina with Liberation Education.

In 2003-2004, Firestarter Press, one of the only African-American oriented anarchist press organizations was based out of the School for Designing a Society.

[315] 1996 Roster for the School for Designing a Society in the Herbert Brün Library in Urbana, Illinois.

[316] Full disclosure: I lived at Dreamtime Village from March – June 2000 where I was a Permaculture Intern during the spring.

[317] Schedule for the 1996 School for Designing a Society in the Herbert Brün Library in Urbana, Illinois.

[318] The "roster" for the 1996 SDaS at Gesundheit is in the Herbert Brün Library in Urbana, Illinois.

[319] Schedule for the 1996 SDaS at Gesundheit is in the Herbert Brün Library in Urbana, Illinois.

[320] The "roster" and the schedule for the 1996 SDaS at Gesundheit is in the Herbert Brün Library in Urbana, Illinois.

[321] PWE Folder 1 in the Herbert Brün Library in Urbana, IL.

[322] A March 29, 1995 article in the *Village Voice* featured a prominent picture of Jeff Glassman Lisa Fay performing as a duo, as well as descriptions of two of their pieces: "Coffee Cup Duet" and "Triangle". Photocopy of the article in PWE Folder 28 in the Herbert Brün Library in Urbana, Illinois.

See also: "Six Works by Lisa Fay and Jeff Glassman" DVD, in the Herbert Brün Library in Urbana, Illinois.

[323] Video Number 78 in the Maria Silva Video Collection: October 12, 1996 "Utopia Train: The Learning Play."

Video Number 80 in the Maria Silva Video Collection: December 7, 1996 "Utopia Train."

Video Number 83 in the Maria Silva Video Collection: march 2, 1997 "Utopia Train. Ave Maria. Tense."

All videos in the Herbert Brün Library in Urbana, Illinois.

[324] Susan Parenti Interview, part 19.

Rob Scott: Was there anything different in '97? You guys start getting a place in Urbana—I mean, aside from the fact that Herbert's health made it difficult to do the touring schedule you're talking about—um, did your image change at all? Were you still thinking 'school-as-a-means-to-something-else'? I mean, was that still the hope at least?
Susan Parenti: Well, you have to understand: part of that was in '96 I gave up on the ensemble. And you know I really worked for that ensemble...
RS: ...for a decade...
SP: Yeah, I mean, you know my level of when I concentrate, I really... you know, getting people for the Health Care Intensive?
RS: ...that was your "it."
SP: Yeah, and I would had that apartment over there, and I would wake up at seven and I had little stars of places we had visited and all these grants and all this material. In 1996 the mixture of Danielle and Sam Markevich—people that I, were like my young protégés—basically saying that the ensemble was not democratic, and they wished it well but they did not want to be part of it, made me just think I had to give up.

[325] Mark Enslin Interview.

Rob Scott: How would you describe the decline of the Performers' Workshop Ensemble? Has it declined? Has it merely changed form?
Mark Enslin: The Performers' Workshop Ensemble as a nest for projects was crucial for the creation of the School for Designing a Society, another nest for projects. They coexisted in the first half of the 90s: SDAS as a summer program, PWE during the school year teaching as team in the U of I Campus Honors Program and Discovery program

freshman seminars, plus touring and residencies. Around the time when Herbert's health made travel too difficult, we stopped touring as an ensemble and shifted the summer school, which had been in different locations every summer, to the fall/spring school year sessions of SDAS. Some of the nesting functions that had been taken by PWE were taken up by SDAS, including occasional performance tours and participation ASC conferences. PWE remains as a potential nest.

[326] Arun Chandra Interview.

Rob Scott: How would you describe the end of the Performers' Workshop Ensemble?
Arun Chandra: I wouldn't describe it as having an "end". It continued in 1993 with "The History and Future of Political Song", with tours to Florida and elsewhere in 1992, and has reappeared occasionally since then. It has not had as strong a presence as it did in the 1980s, mostly, perhaps, due to the loss of those members who loved performing music and pushed for it (myself, Lesley Olson, Sam Magrill, Pam Richman, and others). Much of its energy was sapped by the other interests of the composers (for example, Susan's fund-raising performances with Patch Adams) as well as the energy it took to maintain SDaS.

[327] Video 89 in the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois.

[328] Booklet proposing the 1998 living lab in the SDaS files at the Herbert Brün Library in Urbana, Illinois.

It was also re-printed in Sloan (1999) pp. 29-30.

The proposal came from participant/student Sky Hall and emphasized the Situationists' concept of "detournement" which refers to the collision of two worlds or independent expression that produces a synthetic world or expression that super-cedes the former. In the case of Hall's proposal the living lab itself was to bring together concepts from different worlds such as Humberto Maturana's idea of "perturbation" and Herbert Brün's notion of "floating hierarchies."

[329] Spring 1998 schedule for the School for Designing a Society in the Herbert Brün Library in Urbana, Illinois.

The schedule actually lists the course under the title "Performance as a Political Tool." The Fall 1998 schedule re-titles the class "Performance as Social Design."

[330] Taken from the course description for Jeff Glassman's "Experimental Movement Theater Laboratory". Retrieved April 1, 2008, from http://www.designingasociety.net/performance.html

[331] Taken from the course description for Susan Parenti's "Performance as Social Design: Presentation of Self in Everyday Life". Retrieved April 1, 2008, from http://www.designingasociety.net/performance.html

[332] A few of the people, projects, and institutions in Urbana from the 1970s up to present: Herbert Brün - a professor of Music at the University of Illinois; the Performers' Workshop Ensemble - an ensemble of experimental composers, activists, and teachers who worked out of Urbana from the late 1970s up to the mid 1990s; cyberneticians who worked in Urbana including Heinz von Foerster, Humberto Maturana, Gordon Pask, and others. Later connections include, perhaps most importantly, the Gesundheit Institute headed by Patch Adams M.D. who first met the Performers' Workshop Ensemble at a cybernetics conference in Urbana in 1987 entitled "Creative Cybernetics: Our Utopianists' Audacious Constructions", and Larry Richards, engineer and educational administrator at Indiana University East. Both Adams and Richards teach at the School for Designing a Society up to present, though neither live in Illinois.

[333] Marianne Brün Interview.

Rob Scott: A few of the only recordings I've heard (of Herbert Brün form the 1960s and 1970s, he says) "the composer is the person in music who is most likely to be involved in politics" uh... "to be a composer is a political action" it seems to be...
Marianne Brün: That was a pipe dream, but OK.
RS: What do you mean there, because that's an interesting comment...
MB: Well, I know too many composers who, like everybody else, is out for the money, for the jobs...
RS: ...doesn't want to be involved...
MB: ...who knows like everybody else that you have to keep your mouth shut. And then of course I know some who are not like that.

[334] The pattern from the 1990s was similar to that of the 1968 Heuristics class, in which students were chiefly undergraduates, new to activism and social critique.

[335] John Rice, the bombastic founder of the Black Mountain College, didn't like the word "progressive" (Zommer and House 2007, 7'30").

Similarly, when asked if they were "Marxists" members of the Situationist International responded "Just as Marx was when he said 'I am not a Marxist'" (Knabb 1981, 141).

[336] Roster for the Fall 1998 School for Designing a Society in the Herbert Brün Library in Urbana, Illinois.

[337] Susan Parenti's *Playing Attention to Language* booklet refers to clichés as formerly formulated statements. The 1997-1998 SDaS schedule included a course called "anti-idiomatic music." Larry Richards repeatedly taught alternatives to goal-oriented problem

solving at the SDaS. Various traces from the SDaS files in the Herbert Brün Library in Urbana, Illinois.

[338] Nel Noddings visited the Summer School for Designing a Society in 2006. Peggy Claude-Pierre was a friend of Patch Adams and her work was frequently presented at the SDaS by Susan Parenti in the later 1990s and early 2000s.

[339] I know of no documentation of this, but I was personally involved. I saw Brün a few days before he died, as we were taking turns staying with him throughout the night and holding his hand so that he always had human touch while his vital functions were being monitored and maintained by machines.

[340] Pre-P.W.E. Folder 50 in the Herbert Brün Library in Urbana, Illinois, contains the "Advanced Pages" report on "Seminar on Interpersonal Relational Networks" Cuernavaca, July, 1971 - CIDOC - by Rodney Clough 9/20/71. The discussion of the word "necessity" appears on page 17.

[341] The Instituto de Formación Matriztica offered its first courses in the year 2000. They maintain a website at http://matriztica.cl/ and there is additional information at http://en.wikipedia.org/wiki/Humberto_Maturana (accessed March 1, 2011).

[342] Cassette tape in the Herbert Brün Library in Urbana, Illinois: Herbert Brün and the Performers' Workshop Ensemble Monday Evening Composers' Forum: Composition in Response to Invitation, Provocation, and Contempt.

Track 5, 0'15"

Education Folder 2 in the Herbert Brün Library in Urbana, Illinois contains a flyer for the event. The flyer dates the Composers' Forum to September 29, 1986.
[343] Video 1 from the Maria Isabel Silva Video Collection in the Herbert Brün Library in Urbana, Illinois. From the trial run of the school in August 1992.

Mark Enslin: I think capitalism is a terrible system. What I have against it is the profit motive... When you get a wage, that's not a profit that's the money you get for working. The profit motive can only be had by someone who owns a factory or some other business—something that employs workers. So, it's only an owner (a capitalist) that can get profit, and that's what the profit motive is.

[344] SDaS files in the Herbert Brün Library in Urbana, Illinois.

The SDaS recruited students through a website, brochures, word of mouth, performances and speaking engagements. Commercials simply were not a mechanism that the organizers were interested in exploring.

[345] The School for Designing a Society is not, itself, an "intentional community" though there have been many connections made with such groups. Landed communities of the United States range from inherited 1960s communes to more recent experiments in ecology and alternative living. The School for Designing a Society tended to be hosted at the latter. A sense of the milieu in the mid 1990s is available in the 1995 *Communities Directory: A Guide to Intentional Communities & Cooperative Living* printed in Langley, WA by the Fellowship for Intentional Community.

[346] A conundrum of "finishing" a project: is one at least fulfilled by the incompleteness, or is one diminished?

TABLES

Table 1.1 Videos footage digitized and logged for this study.

Session of SDaS	videocassettes	Total hours footage
1992 Trial School	1	0.8
1993 Summer School	25	49
1994 Summer School	3	6
1995 Summer School	14	28
1996 Summer School	0	—
1997-98 School Year	3	5.5
Total	46	89.3

Note. Different quantities of footage were available for the different sessions of the School for Designing a Society. Thus, descriptions of certain years relied more heavily upon other forms of documentation.

Table 1.2 A list of experimental art schools

School	Years	City
École nationale supérieure des beaux-arts	1671-	Paris
Drawing School	1751-	Geneva
University of Applied Arts	1867-	Vienna
Académie Julian	1868-	Paris
The Flying University (various incarnations)	1883-1981	Warsaw
Ox-Bow	1910-	Michigan
Ealing Art College	1913-	London
Merz Akademie	1918-	Stuttgart
Vitebsk Art School (Marc Chagall)	1918-1920s	Belarus
Bauhaus (Walter Gropius)	1919-1933	Germany
Vkhutemas School of Architecture	1920	Moscow
Black Mountain College	1933-1957	North Carolina
Skowhegan School of Painting and Sculpture	1947	Maine
Independent Group seminars at the Institute for Contemporary Artists	1947-1955	London
John Cage at New School for Social Research	1956-1960	New York
Ray Johnson's New York Correspondence School	1960s	New York
Bauhaus Situationniste	1963	Sweden
Free International University of Creativity and Interdisciplinary Research (Joseph Bueys)	1974	Europe
School for Designing a Society	1992-	Urbana, Illinois

Note. This is not an exhaustive list. It includes many institutions that, at the time of their conception, did not use the word "experimental art". However, particularly with the earliest entries on this list, the notion of a school for applied art techniques was itself an experiment. The non-European world is not represented here. It seems likely that, in the history of other countries, particular schools would stand out at experimental in the sense that the Académie Julian was experimental for admitting women in the 1800s. In this sense, there may have been hundreds of art schools that applied the artist's point-of-view to the design of the school itself.

Table 3.1 Early Cyberneticians at the University of Illinois

Warren McCulloch (1941-1952) Professor of Psychiatry; Clinical Professor of Physiology; Director of the Laboratory for Basic Research in the Department of Psychiatry.
Heinz von Foerster (1949-1974) Professor of Electrical Engineering; Director of the Biological Computer Laboratory.
Gotthard Günther (1960- Researcher in the Biological Computer Laboratory.
W. Ross Ashby (1961-1970) Professor of Electrical Engineering; Researchers of the Biological Computer Laboratory.
Herbert Brün (1963-2000) Professor of Music Composition; Researcher of the Electronic Music Studio.
Gordon Pask (1974-1979) Visiting Professor

Note. Some of the early pioneers of the cybernetics at the University of Illinois. Parentheticals give the years of their employment at the University of Illinois.

Table 3.2 Early English Texts by Herbert Brün

1952	Teaching the Function of Time in Art
1962	The Function of Time in Art
1962	Wayfaring Sounds
1963	Against Plausibility
1964	Music and Information and Communication and Chaos and ...

Note. Five English language papers written by Herbert Brün before 1968.

Table 3.3 Some statistics on student enrollment in the Heuristics Course.

Course listing	Fall 1968	Spring 1969	Fall 1969
EE 497	21	21	9
EE 271	15	36	43
sit-ins	13	?	?
ENGL 199	--	--	76
Total Enrollment:	49	57	147

Source. Course rosters for "Heuristics" in Pre-PWE Folder 54 in the Herbert Brün Library in Urbana, IL.

Table 3.4 Herbert Brün English publications from 1968 to 1975.

1968	Composer's Input Outputs Music
1968	Symphony no. 9 by Gustav Mahler
1970	The Listener's Interpretation of Music: An Experience between Cause and Effect
1970	Technology and the Composer
1970	From Musical Ideas to Computers and Back
1973	Choosing the Connections You Make
1973	to hold discourse –at least– with a computer...
1974	Drawing Distinctions Links Contradictions
1974	The Establishment of Connections
1974	The Need of Cognition and the Cognition of Needs

Note. Titles of essays published after 1970 do not explicitly reference music.

Table 4.1 Herbert Brün English publications from 1977 to 1991.

1977	As to the Computer
1979	Toward Composition
1979	On the Treatment of Complex Entities
1980	My words but where I want them
1984	As to Percussion...
1984	Sentences Now Open Wide
1985	Guest Editorial in *Keyboard* Magazine
1986	my words and where i want them (book of formulations)
1988	Drummage
1989	For Anticommunication
1991	The Invecticide

Note. The textual channels by which Brün disseminated his ideas during this period was more diverse, including interviews, essays, collections of formulations, and brief scenes with music.

Table 5.1 Participants in the 1992 "Trial Run" of the School for Designing a Society

Susanne Belovari
Lori Blewett
Herbert Brun
Rick Burkhardt
Adam Cain
Arun Chandra
Bethany Cooper
Mark Enslin
Joe Futrelle
William Gillespie
Keith Johnson
John Knapstein
Susan Parenti
Scott Peters
Larry Richards
Maria Silva

Note. Names provided and checked by Susan Parenti and Mark Enslin, and generally correspond to the schedule and map for the 1992 school found in the SDaS files at the Herbert Brün Library.

Table 5.2 Sessions of the School for Designing a Society

Year	Session(s)	Location
1992	Summer	Urbana, IL
1993	Summer	Gesundheit Institute in West Virginia
1994	Summer	Sioux Falls, South Dakota
1995	Summer	Atlanta, Georgia
1996	Summer	Dreamtime Village, Wisconsin
1997-98	Fall-Spring	Urbana, Illinois
1998-99	Fall-Spring	Urbana, Illinois
1999-00	Fall-Spring	Urbana, Illinois
2000-01	Fall-Spring	Urbana, Illinois
2001-02	Fall-Spring	Urbana, Illinois
2002-03	Fall-Spring	Urbana, Illinois
2003-04	Fall-Spring	Urbana, Illinois
2004	Summer	Gesundheit Institute in West Virginia
2005	Summer	Gesundheit Institute in West Virginia
2006	Summer & Fall	GI (WV) and Urbana, Illinois
2007-08	Summer & Fall-Spring	GI (WV) and Urbana, Illinois
2008-09	Summer & Fall	GI (WV) and Urbana, Illinois
2009-10	Summer & *	GI (WV)
2010-11	Summer & Fall-Spring	GI (WV) and Urbana, Illinois

Note. Sessions of the School for Designing a Society. Included are all sessions organized under the banner of "School for Designing a Society" that lasted for more than one week. *Spring 2010 there was a 10-week course at the Evergreen State College with the same courses and curriculum as the SDaS, but it is not counted as a "session of the SDaS" because it was organized by another school.

APPENDIX A

LINEAGE OF CYBERNETICS MEETINGS

Much of this came from http://www.asc-cybernetics.org/organization/events.htm

March 1946: First conference sponsored by the Josiah Macy Jr. Foundation, New York, NY.
October 1946: Second Macy conference, New York City
March 1947: Third Macy conference, New York City
October 1947: Fourth Macy conference, New York City
Spring 1948: Fifth Macy conference, New York City
March 1949: Sixth Macy conference, New York City
March 1950: Seventh Macy conference, New York City
March 1951: Eighth Macy conference, New York City
March 1952: Ninth Macy conference, New York City
April 1953: Tenth Macy conference, New York City
1959 Conference on Self-Organizing Systems
1961 Conference on Principles of Self-Organization, Allerton Park, Monticello, IL (Pre-ASC)
1962 Conference on Self-Organizing Systems, Chicago, IL (Pre-ASC)
1964 Inaugural Meeting of ASC, Cosmos Club, Washington, DC
1964 Conference on Cybernetics and Society, Georgetown University, Washington, DC
1967 First Annual Cybernetics Symposium, "Purposive Systems", National Bureau of Standards, Gaithersburg, MD
1968 Second Annual Cybernetics Symposium, "Cybernetics and the Management of Large Systems", National Bureau of Standards, Gaithersburg, MD
1969 First International Congress of Cybernetics and Systems, London, England
1970 ASC Conference on "Cybernetics, Artificial Intelligence and Ecology", Washington, DC
1970 ASC Conference on "Cybernetics and the Management of Large Systems", Sheraton Park Hotel, Washington, DC
1971 ASC Conference on "Cybernetics Technique in Brain Research and the Eductional Process", Washington, DC
1972 First European Meeting on Cybernetics and Systems Research, Vienna, Austria
1972 ASC Conference on "Biocybernetics and Complex Systems: Cybernetics and International Relations", Washington, DC
1972 Second International Congress of Cybernetics and Systems
1972 ASC and IEEE International Conference on "Cybernetics and Society", Washington, DC
1972 ASC and AAAS Meeting

1973 Conference on "Fragmented Society and the Physically Disabled", Brookings Institution, Washington, DC (associated with ASC)
1974 Second European Meeting on Cybernetics and Systems Research, Vienna, Austria
1974 IEEE conference on "General Systems, Environment and Man", Dallas,TX (a joint meeting with SGSR)
1974 (October 31-November 2, 1974) ASC conference on "Communication and Control in Society", Philadelphia, PA (chair Klaus Krippendorff)
1975 Third International Congress of Cybernetics and Systems, Bucharest, Romania
1976 Third European Meeting on Cybernetics and Systems Research, Vienna, Austria
1977 NATO's First International Conference on "Applied General Systems Theory", Binghamton, NY (chair George Klir)
1978 IEEE International Conference on "Cybernetics and Society", Tokyo, Japan
NATO's Third Advanced Study Institute on Information Science, Maleme, Chania, Crete
1978 Fourth European Meeting on Cybernetics and Systems Research, Vienna, Austria
1980 Fifth European Meeting on Cybernetics and Systems Research, Vienna, Austria
1980 ASC planning conference, April 18-20, GWU, Washington, DC
1981 ASC conference on "The New Cybernetics", Oct. 29 - Nov. 1, GWU, Washington, DC (chair Larry Richards, local arrangements Stuart Umpleby)
1982 ASC planning conference, March 26-27, GWU, Washington, DC
1982 ASC conference on "Cybernetics and Education", Oct. 18-20, Columbus, OH (chair John Hayman, local arrangements Jon Cunnyngham)
1983 ASC conference, Oct. 6-10, San Jose, CA (chair Bill Reckmeyer)
1984 ASC conference, Vancouver, BC (chair Kathleen Forsythe)
1984 Gordon Research Conference on "Cybernetics", Aug. 27-31, New Hampton, NH (co-chairs Leo Steg and Heinz von Foerster, coordinator Stuart Umpleby)
1984 ASC conference on "Autonomy, Dependence, Intervention", Nov. 1-4, Philadelphia, PA (chair Fred Steier)
1986 ASC conference on "Conversations in Cybernetics", Feb. 19-23, Virginia Beach, VA (chair Larry Richards)
1986 Gordon Research Conference on "Cybernetics", June 9-13, Wolfeboro, NH (co-chairs Heinz von Foerster and Ernst von Glasersfeld)
1987 ASC conference on "Development of Social Systems", March 15-19, St. Gallen, Switzerland (chair Gilbert Probst)
1987 ASC conference on "Creative Cybernetics", Dec. 2-5, Urbana, IL (chair Mark Enslin)
1988 Gordon Research Conference on "Cybernetics", January 18-22, Oxnard, CA, (co-chairs Ernst von Glasersfeld and Paul Pangaro)
1988 ASC conference on "Intelligent Networks... and Beyond", June 15-20, Victoria, BC (chair Larry Richards)
1988 ASC conference on "Texts in Cybernetic Theory", October 18-23, Felton, CA (chair Rod Donaldson)
1989 ASC conference on "Connections", Nov. 9-12, Virginia Beach, VA (co-chairs Chris Berendes and Fred Steier)
1990 ASC conference on "Ecological Understanding", August 8-12, Oslo, Norway (chair Per Helmersen)

1990 ASC conference on "Art, Cybernetics: Society", October 18-22, Montreal, Quebec, Canada (co-chairs Carole Ip, and Gary Boyd)
1991 ASC conference on "Cybernetics: its Evolution and its Praxis", July 17-21, Amherst, MA (chair Sandy Blount)
1992 ASC conference on "Language, Emotion, the Social and the Ethical", October 28-Nov. 1, Seabeck, WA (chair Rod Donaldson)
1993 ASC Mini-conference on "The Teaching of the Teaching of Cybernetics", January 28-31, Norfolk, VA (chair Larry Richards)
1993 ASC conference on "Cybernetics in the Art of Learning", Nov. 3-7, Philadelphia, PA (chair Frank Galuszka)
1995 ASC conference on "Circularity", May 17-21, Chicago, IL (co-chairs Steve Sloan and Lou Kauffman)
1997 ASC Conference on "Continuing the Conversation", March 8-12, Urbana, IL (co-chairs Judy Lombardi, Mark Enslin, Arun Chandra, Herbert Brün, Stuart Umpleby)
1998 ASC Conference on "Design, Planning, and Human Understanding", April 2-5, University of California, Santa Cruz (chair Frank Galuzska)
1999 ASC 1999 International Syntegration Workshop and 32nd Annual Conference, March 29- April 1, Falls Church, Virginia (chair Ern Reynolds, syntegration coordinator Allena Leonard)
2000 ASC Conversational Conference on Cybernetics, a Circularity in Praxis and Ethics, July 15, Ryerson Polytechnic University, Toronto, Ontario (co-chairs Pille Bunnell and Kathleen Forsythe)
2000 World Congress of Systems Sciences, July 16-19, Ryerson Polytechnic University, Toronto, Ontario (conference organizer Peter A. Corning, local organizer Helmut Burkhardt). This Congress was co-hosted by over 20 organizations including the ASC. There were plenary sessions each morning, followed by afternoon panel discussions and evening events. The ASC contributed a Plenary talk "Conservation and Change" by Humberto Maturana, a Panel on "Conservation and Change, a Circularity in Ethics and Environment."
2001 ASC workshop on Treasures of Second-Order Cybernetics, May 23-25, University of British Columbia, Vancouver, British Columbia (coordinator Scott Carley)
2001 ASC conference on Cybernetics of Practice and Practice of Cybernetics, May 27-29, University of British Columbia, Vancouver, British Columbia (chair Pille Bunnell, grants and promotion Kathleen Forsythe, treasurer Diane Levings, Registrar Felisa Fullerton, media relations Colin Wright, site logistics Jean Paul Froidevaux, event logistics Teresita Tubianosa, co-sponsor representative Fleurette Sweeney)
2001 public forum on Remaining Human, May 26-28, University of British Columbia, Vancouver, British Columbia (co-sponsors American Society for Cybernetics, the Center for the Study of Curriculum and Instruction at the University of British Columbia, the Sweeney Family Foundation, and Common Ground Magazine)
2002 ASC Conference "Ecological Understanding II: Design and Conversation", Santa Cruz, CA [University of California] (June 13-16)
2003 two part ASC Conference PART I Organizing Organizations: Variations on Three Imperatives by Heinz von Foerster. PART II Knowledge - Organization - Society: Heinz von Foerster and the Biological Computer Laboratory. Vienna, Austria (November 13 - 15).

2004 ASC Conference on "The Well-Being of Systems." Toronto, ON [Ryerson University] (August 4-8)
2005 ASC Conference on "The Many Interpretations and Applications of Cybernetics" Washington, DC [George Washington University] (October 27-30)
2007 ASC Conference on "Constructivism, Design, Cybernetics: Radical, Social, 2nd-order." Urbana, IL [Independent Media Center] (March 29-April 1)
2008 ASC Conference on "Our Cybernetics." Urbana, IL [University of Illinois] (May 11-15)
2009 ASC Conference entitled "Cybernetics - Talk - Dance – Anticommunication." Olympia, WA [Evergreen State College] (March 12-15)
2010 ASC Conference entitled “C:ADM - Cybernetics: Art, Design, Mathematics.” Troy, NY [Rensselaer Polytechnic Institute] (July 30-August 2)