

SILENCE IN THE CONTEMPORARY SOUNDSCAPE

by

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ABSTRACT

Silence exists as an absolute only in a metaphysical sense; otherwise it must be considered relative to sound, or communication in general. Silence is not simply the absence or opposite of sound or communication, it is an intrinsic part of any acoustic or communication system.

Silence is thus a basic part of any culture. It is not monolithic and undifferentiated but perceived and practiced in many different ways, serving many communicative functions. Sometimes it is the 'figure' relative to sound or expression as a 'ground.'

Cultural experience of silence is interdependent with sound expression and conditions of the soundscape. The ecological crisis of the soundscape is a function of the general ecological crisis. A theory of ideology is a useful tool for analyzing how we participate in the domination of the environment and ourselves.

A complex of historical developments have infused silence as a concept and physical state with ideology. The visual bias arising from print literacy marginalized an acoustic model of relations, and thus disguised our relationship with our environment. Hearing being made subject to vision, silence as a concept developed into a logocentric relationship with discourse. The widespread use of silence as a technique of repression further emphasizes this relationship for research concerned with social justice. The economic and technological shift in the mode of production which is represented by the industrial and electronic revolutions resulted in the disruption of the soundscape, and the scientific underpinnings of the scientific revolution have obscured the problem. New acoustic communities have emerged in which the tendency to maximize economic profits has meant that silence is often undesirable, unconsidered, and even feared.

The outcome is that our personal silences have been reduced and are often controlled by the economic interests of others and by technological prerogatives, and silence in the soundscape has become inadequate for communicative health.

For each situation where silence or a shortage of silence means domination and disintegration, an active, skilled use of silence can be used to counteract and correct conditions: as political, cultural, and personal strategic resistance; as a key to personal, cultural, and ecological health; and as a source of philosophical and cultural innovation. This research is an attempt to address the need for groundwork in communication studies which acknowledges silence as a central ecological issue.

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INTRODUCTION

Nothing has changed the nature of man so much as the loss of silence. The invention of printing, technics, compulsory education—nothing has so altered man as this lack of relationship to silence, this fact that silence is no longer taken for granted, as something as natural as the sky above or the air we breathe.

Man who has lost silence has not merely lost one human quality, but his whole structure has been changed thereby.

(Max Picard, 221)

Discussions of silence inevitably circle back to concepts of mystery and enigma.

This thesis is no exception. The word "silence" itself is predicated upon an absolute phenomenon: "absence of sound" (Oxford Paperback Dictionary), and so inevitably carries a metaphysical connotation. The many different contexts the word "silence" is encountered in, however, stretch the concept in various subtle and sometimes ambiguous ways. Much of the ambiguity encountered in the usage of the word to describe relative conditions can be found in this grounding of the word in an absolute condition.

This thesis examines the usage of the word and concept, a social category, and uses various manifestations of silence in the soundscape and discourse as evidence. It is not an empirical examination of a particular form of silence, but of the social patterns which shape and interpret silence. The breadth of the survey covered in the first and second chapters is to impress upon the reader how much is left out when silence is unheard and overlooked in communication studies. In the third chapter, the argument connects power and discourse to technology and cultural development in order to expose the deep, widespread malcommunication through and marginalization of silence. The fourth chapter counters the findings of Chapter Three with possible solutions to the overwhelming disruption of the soundscape and our communicative health, through examining the ways silence can be employed or culturally revalued.

The reason for the overall breadth of this study is simply due to its introductory nature. Silence is so fundamental to communication, to the understanding of systems, that the absence of research dealing with silence in its greater context of discourse *and* sound *and* metaphysics demands a corrective, a more inclusive approach. From here, I hope, it will be easier to develop a framework for further research into silence which accommodates a more holistic and context-oriented approach. This study is unavoidably broad because silence is everywhere, and yet poorly understood.

This is a work of theory. Many of the sources for the research are also theory, and although the list of texts included is by no means comprehensive, most of the research dealing with silence is unselfconsciously limited to silence within discourse, so the list is representative. As theory, philosophical implications become pressing; however this work resists the philosophical reliance upon silence as a function of the speech/silence dynamic and strives to bring the topic repeatedly back to material conditions. It is the material conditions of the soundscape, of speech as a sound act and listening as acoustic sensitivity, which provide the basis for an acoustic model of communication which includes discourse.¹

Silence is to be considered first of all as rooted in the soundscape, as the condition which allows sound to be discerned. The soundscape as the theoretical model for the argument of this thesis leads the investigation away from the acoustic relation of sound-silence alone, to how they are perceived and expressed. Any soundscape as a concept posits a listener or listeners at its center, and so invokes the whole complex set of relations with the acoustic environment which occurs in communication, instead of trying to abstract sound-silence as an unrelated phenomenon. Thus the research draws upon the different disciplinary approaches appropriate to each relation in a soundscape: from the study of physical motion, vibration, and human hearing, through information and context

¹By "discourse" I am referring not just to the use of language but the whole system of human communication in which identity and subjectivity is developed and social reality is constructed.

theory, to socio-cultural and political theories. This holistic approach to communication studies is called for by the acoustic model suggested by the soundscape itself, which places the listener at the center of a sphere of interrelated events.

I write from the conviction that unless silence is addressed in communication studies in general, and revalued to be environmentally inclusive by society as a whole, the degradation of the soundscape and of our ecological integrity will continue to threaten our existence. The crisis situation demands that we reconsider basics, and for communication, nothing is more basic than silence.

CHAPTER ONE PHYSICAL FOUNDATIONS

O.E.D. "Silence"

(*L. silentium*)

2. The state or condition when nothing is audible; absence of all sound or noise; complete quietness or stillness; noiselessness. Sometimes personified. Also const. *of* (the night, etc.). b. Used allusively to denote the state beyond this life. Chiefly in pl. and with initial capital. c. *Tower of Silence*, one of a number of small towers upon the summit of which the Parsees place their dead.

Sound and its absence

The question of physical silence is either answered outside of the biosphere and of interest mainly to physicists or beyond the fringes of consciousness and is the quest of mystics. Thus a number of authors who examine silence as a communicative phenomenon (Bruneau, Hagen, Truax, Ihde & Slaughter) refer to physical silence as an ideal and go on to write of silence in relative or human terms. However this narrowing of the term, while making it wieldy, also moves the sense of it closer to the positivist dream of well ordered experience, and organizes our sense of communication within our environment under the rubric of discourse even more firmly, at a time when we need to collectively listen to the entirety of our soundscapes much more attentively.

vibration as a universal fundament: physics and acoustics

In the prevailing cosmology of science, there was a big *bang*, and nature exists in the swirling expanding patterns and relations of forces which are the consequence. The image is acoustic, and the mystery beyond that point in time and space is a cosmological silence. The theoretical physicist David Bohm (1980) postulates that "what we call empty space contains an immense background of energy, and that matter as we know it is a small, 'quantized' wavelike excitation on top of this background, rather like a tiny ripple

on a vast sea." (191) This is based on the provisional calculation of the shortest possible wavelength (10^{-33} cm) which would contribute to what is now for practical purposes calculated to be the 'zero-point' energy of empty space. In this particular version¹ of quantum reality, "empty space is actually the plenum, which is the ground for the existence of everything, including ourselves", and this paradox of the fullness of what we commonly consider emptiness is the greater vibratory condition of the universe as we are able to know it. (192-3) Our sense of stillness, peace, emptiness and quietude, all encompassed by the term silence, is determined in the rigours of high energy theoretical physics by our position in the order of scale; so that the arbitrary zero-point energy level of space can be considered the provisional absolute of silence, where silence refers simultaneously to the absence of vibration and to the mystery of what is unknowable.

I write of silence here in this broadest of all possible senses, as the absence of all vibratory existence, a contradiction of the evidence. Sound is the propagation of mechanical motion through an elastic medium, whether heard or not, and while silence is its companion term in a semantic dyad, sound is but one of many types of vibration upon which our existence is based, and to which the term silence may be paired. But this is a study of existence in the soundscape, and I am exploring the extended applications of the concept to help us understand its consistent characteristics.

If the epistemology and ontology of the physical sciences has become fraught with ambiguities and discontinuities and embroiled in controversies which struggle with the most philosophical of concepts, it is due to this extensive research into the heart of

¹ Nick Herbert (1985) indicates that there are at least eight prominent versions of quantum reality, but argues that Bell's Theorem (1966) continues to prove that reality is non-local ("unmediated action-at-a-distance" p.213) (consider that Newtonian physics acknowledges only local events, objects exerting force on contiguous objects, and that this made gravity inexplicable). Bohm is part of "a small but prestigious minority" of physicists who argue for some sort of interconnectedness or wholeness of reality that includes objects but not necessarily local causality (i.e. that hints at or considers faster-than-light events). Herbert labels this approach "neorealist" since it relies upon classical physics to assume the existence of ordinary objects (which are however interconnected in hidden ways across great distances). Their views are not orthodox, but I am referring to them here because of the implication that there exists a field or 'plenum' as Bohm puts it which connects all of reality with waves. This flux as the ground of existence continues to deny the physical existence of silence, turning the concept back to its constraints as a condition of consciousness -- a metaphysical reality.

uncertainty undertaken by high energy physics, and it is congruent with the spirit of the age. Similarly, it is no accident that this reality crisis in physics gives rise to theories and cosmologies which resonate with those developed in the ancient philosophical traditions of South and East Asia. Fritjof Capra's popular book The Tao of Physics (1975) explicitly explores these connections, and the general perception of this overlap in traditions is welling up in popular discourse in various ways, to which we will return later in the study. The point to be recognized here is that the tradition of physical sciences has developed its inquiry to the degree that ancient mystical traditions developed the inquiry into consciousness, and both kinds of traditions come up against the point where the physical and metaphysical become indistinct.

... all matter is of this nature: That is, there is a universal flux that cannot be defined explicitly but which can be known only implicitly as indicated by the explicitly definable forms and shapes, some stable and some unstable, that can be abstracted from the universal flux. In this flow, mind and matter are not separate substances, Rather, they are different aspects of one whole and unbroken movement. (Bohm, 11)

It is no longer clear to empirical science where consciousness begins and matter ends, and this is crucial to our discussion of silence, since any absolute use of the term even in this broadest of senses is limited to qualified and provisional definitions. Silence is a question of consciousness. It is, in a cliché, in the ear of the listener.

R. Murray Schafer suggests that perhaps the beginning of the universe made no sound at all, or at least that we have no way of knowing, since we were not there to hear it (27). However he also suggests (following Lucretius) that perhaps an omnipresent, undifferentiated endless sound, the pure keynote of existence, which would condition any measuring instruments and any observer, could be postulated as the underlying condition of silence.

In the tradition of Indian *Tantra*, the complex and context-dependent word *Nada* conveys the sense of "the stir or impulse of the Divine Will which manifests itself to the ear at a gross level as sound". (Singh, 37) This word encompasses a philosophical

understanding of sound as the fundamental form of energy which manifests in myriad ways as the phenomenal world; and *Nada* passes through three stages or levels of becoming until it finally becomes the "gross form" which we are able to hear. There are then at least three forms of sound according to this tradition which we are unable to hear with the ears — a metaphysical interpretation of sound which, to classical physics, is silence.

A state of absolute soundlessness or physical silence would require the absence of all vibration in the observed space. Acoustics primarily studies the realm where classical Newtonian, not quantum physics, applies consistently and predictably. This perspective is nicely exemplified in Juan G. Roederer's Introduction to the Physics and Psychophysics of Music:

If there is no sound at all and if there is no other kind of perturbation, each point of the medium will be at rest and remain so until we do something to the medium. The position in space of a given point of the medium when the latter is totally unperturbed is called the *equilibrium position* of that point. (p. 61)

For the purposes of calculation and illustration it is easiest to assume an equilibrium position, much like the zero-point energy level of space. But where there is matter, it seems, there will be physical vibration; a perfect vacuum is the only space where there is the absence of any propagating medium for sound:

Simple harmonic motions occur practically everywhere in the universe: vibrations of the constituents of the atoms, of the atoms as a whole in a crystal, of elastic bodies, etc., can all be described in terms of simple harmonic motion. (Roederer, 18)

The only time it becomes important to investigate such acoustically marginal phenomena, from a communicational approach, is when the marginal sensory experience of silence is under study. At the quiet extremes of noise reduction, physical silence as an absolute becomes a pertinent question in such technologies as supercooled communications devices which are designed to damp the noise produced by the very

movement of the electrons in the equipment (Hagen, 3). Otherwise, the absence of sound becomes of interest within the limits of the ability of any measuring device. This condition makes silence ultimately a question of *experience*, an unruly field of study at best. Most of this study is devoted to the effects of silence in our lives, or its lack. The experience itself is acoustically grounded, and begins with the ears.

hearing and touch

If one listens carefully and the ears are healthy, silence as the absence of sound is clearly unattainable, a suprahuman absolute. Even in the stillness of deep night or the controlled and damped acoustic environment of an anechoic chamber, where we sit or lay as still as possible and listen attentively, we will still hear at least the heart beating, the flow of the circulatory system, the movement of air in and out of the body, and in many cases, the mild stimulus of the nervous system. Ihde and Slaughter (p. 237) and John Cage (cited from numerous sources) corroborate this from their experiences in anechoic chambers. In my case, a not uncommon condition, the high pitched ringing of mild chronic tinnitus is also a constant companion.

The reason for this continual presence of sound is that our ears are beautifully well-adapted to the ambient sound level of a quiet environment, incredibly sensitive yet in fact not too sensitive. The threshold of audibility at optimum frequencies¹ is around 0 dB, a healthy ear being so sensitive that

for frequencies between 2000 and 4000 Hz, the eardrum has to move only 10^{-9} cm in order for sound to be heard. This amplitude of movement is less than the diameter of a hydrogen atom. ... Thus, for people with hearing that is substantially better than average, having more sensitive ears would be useless because of the continuous thermal background noise present in air. In these cases, the absolute sensitivity of the ear approaches a limit imposed by the nature of sound. (Gulick, 218)

¹approximately 2000 to 5000 Hz, the frequencies most important to speech (Gulick, 217)

Our ears are just sensitive enough that we are able to hear our bodies sounding out in the quietest of conditions, such that we appear to be islands of sound in the silence.

Silence is experienced in relation to our sensitivity. Beyond the range of our hearing, that is silence, whether it be too distant, past the acoustic horizon, or too quiet, below the threshold of audibility. What would be the gentle whoosh of the random movements of 'still' air thus sounds to us as a silence; and when we speak of acoustic silence it is the sound that we cannot hear beyond this threshold which our use of the word gestures towards, which in turn gestures towards the greater silence beyond sound. Our sensitivity itself is relative, and reliant upon the complex interrelations of several acoustic and psychological conditions. Continuous sound levels or drones create aural fatigue and adaptation, and bring about a threshold shift of decreasing sensitivity of the ear (Handbook, 144-5). Habituation is similar and occurs in the presence of repetitive and redundant sound patterns, where excessive predictability of a sound dulls sensitivity (Truax, 16). Most complex of all are the conditions which organize sounds into orders of significance, and this relies upon contextual and cultural conditions to determine the threshold of the heard and the unheard, which we will investigate further on.

What of deafness then? In total deafness our brain receives no stimulus from the ear. Yet sound waves are sensed by more than our ears. We "hear" infrasonic and loud sounds with our body, through our sense of touch and through resonance in body cavities (Handbook, 149). Georg von Békésy's study on vibratory skin sensations (1961) reveals that the skin is able to register the magnitude, vibratory pitch, and locale of vibrations when stimulated externally. These three aspects of sensitivity are very similar to the ear's ability to discern loudness, roughness, and pitch, respectively. He concludes that there "is a close relation between vibratory sensations and hearing." (von Békésy, 856)¹ If the ears fail to function, our sensitivity shifts, and we can, despite the prejudices of able-bodiedness, enjoy dancing to music and other sound-related activities. Deafness does

¹also see Ihde, 138

not mean living in total silence, exiled from all sound sensation, however debilitating the communicative condition may be; nor is the soundscape entirely perceived by ear.

Literally, when we are soundscape sensitive, we can be in "touch" with our environment.

Psychoacoustically self-induced experiences of silence can also be observed in oneself. While dozing off I have noted a brief but profound closure of the sense of hearing while still conscious, in the transition state lengthened by my unwillingness to sleep. This experience was accompanied by a feeling of *separation* from sound, rather than a simple dampening of hearing. Pauline Oliveros writes that for her the most silent moments were "the long moment before an accident or an embarrassment" or "when daydreaming when all sensory input is shut down." (108) The mind imposes its own silences. Similarly, while in a sensory deprivation tank or anechoic chamber, one is initially confronted with the sounds of one's own body. Eventually these sounds fade and daydream or hallucinatory sequences follow in which all sound is either suppressed or imagined. I have spent over thirty five hours in isolation tanks, where the condition of muted sensory stimuli enables the awareness to turn to an intensified experience of the imagination, as with daydreaming. Despite the sounds of one's body and small movements of the water in the tank, hearing is easily preempted by the meta-acoustic ability to give attention to the 'deeper', non-sensorial feeling of quietude which is the ontological equivalent of silence. This calls up the realm of the mystic, which will be dealt with more thoroughly in Chapter Four.

ambience and 'quiet'

The period during a threshold shift, when the sound pressure level sensed by the ears suddenly drops, is the brief experience of acoustic silence in which the ambience disappears. While hearing adjusts to a quieter soundscape with increased sensitivity, quiet and acoustic silence become intertwined.

Most verbal interaction occurs above 40 dB, and Carlos Hagen calls this the "threshold of attention."⁽¹⁾ Between 0 and 40 dB we find the everpresent quiet sounds we call ambient noises. Hagen refers to rarely considered sources such as geophysical noise and meteorological processes, as well as wind in the trees, distant human activity, etc. Since these sounds are below the general threshold of attention, he claims that common usage refers to these sounds as being in the realm of silence. I would go further to suggest that since added attention is given to sounds that have communicative significance, the sounds of organic nature are given priority as percept over the sounds of inorganic nature. Thus the barely audible murmur of distant voices may be perceived as 'quiet' while the fluttering sough of wind moving through rocks evokes a greater sense of 'silence.'

Relative to the highly valued sounds of human speech and music, ambient sounds become silence. Or at least, these sounds are close to silence, they are associated with it:

These sounds were not dominating in any sense; rather, they defined the surface of fundamental silence, the way lines on a page or the road-allowance grid of the land survey assert the quintessential nature of paper or land. These small, living sounds, any one of which I can totally recall in an instant forty years later no matter in what cacophonous surroundings I may find myself, anywhere in the world, these indelible sounds were and are for me the affirmation of the fundamental silence of the universe.
(Wiebe, 13)

In this way, the combination of quiet sounds that becomes ambience form the 'ground' for the 'figure' of sound expressions. Both 'silence' and 'sound' become mental constructs, a way of sorting out incoming information (Bruneau, 18). Sounds become salient according to their relevance to the listener and because of the surrounding silence which allows us to differentiate sounds. An alternative way of expressing this relationship between sound and silence is more processual than imagistic:

Silence is the "space" of music. The "motion" which occurs in music is the motion through silence. In (visual) space, movement is a matter of displacement, relocation, or "matter" which is always someplace, comes from someplace, and goes somewhere. In music sounds come "from silence" and "return to" silence. (Ihde and Slaughter, 238)

Silence becomes a pragmatic issue in this sense of sounds approaching across the threshold of attention.

Much of the efforts of developing electroacoustic technology seek to eliminate ambient noise; and while with digital technology we have nearly silenced the encoding/decoding process, the support machinery for this process reintroduces ambient noise, much as in otherwise silent surroundings we hear our bodies (Truax, 140). As well, with modern industrial technology we have introduced many 'flatline' sounds into our environment which border on being undifferentiated, and through habituation become unheard, a new kind of silence (Bruneau, 20, Truax, 125). This contributes greatly to the spiral of escalating noise levels in our living spaces, since our referent point for all other sounds to gesture towards as silence becomes an unhealthy, cluttered, delusory kind of silence.

The silence which defines the limits of hearing and resides as the keynote of a quiet ambience is 'acoustic silence', a relative term which refers to the potential of the absolute term 'physical silence'.

Communication

A communicational orientation to phenomena and experience centers upon *information in context*.¹ Information is, in Gregory Bateson's pat phrase, "the difference that makes a difference", that is, it has relevance, creates new levels of order, and involves some degree of both continuity and discontinuity. Communication occurs when information is processed, which begins as soon as phenomena are identified as information. Communication occurs within open systems, and the context of any information is a function of the relations between the systems which the communicator

¹Most of the information in this section is derived from the "Postscript: Context theory" in Wilden, 1987; "Epistemology and Ecology" in Wilden 1980; and Watzlawick, et al. 1967.

inhabits. In discerning the varieties of information which silence represents, the clearest analysis requires a model of sound as communication which situates the listener in the context of systems of information.

binary codes and analog experience

Communication requires codes to constrain information into understandable messages. Binary or digital codes utilize distinction to constrain information: 0 is distinct from 1, silence is distinct from sound. This distinction allows us to organize our semantic and pragmatic use of the concepts in such a way that a discontinuity is established, and boundaries and analytic propositions to which truth values can be attached. This process simplifies information, makes it more wieldy, compact, and facilitates the use of specific descriptions. In the case of silence, the tendency to place it in a binary relationship with sound is a necessary function of basics like rhythm and the separation of words and phrasing. By association, this tendency leads us to think of silence and sound as an 'on-off' relationship, which is true enough within the constraints of ordering *sound* as communication. However, in a context-sensitive communicational model, living beings cannot *not* communicate, and silence is a communication as well; silence is also an 'on' phenomenon, not a lack of communication but qualitatively different from sound. Binary coding tends to throw us into the opposition of absolutes, but silence has no absolute in human experience, only a distinction *in relation* to a system of sound as meaning. Taken as a whole, silence/sound is also an analog relation.

Analog codes are continuous, connected, qualitative forms of information which are the basis of defining relations. To use an analogy: using real numbers as example, silence could represent 1 (not 0), and sound 2, with experience somewhere in the infinity of numbers between. Or: with heat as the analogue for sound, cold (silence) is a negative (digital) concept which mediates the relative thermal activity or inactivity of molecules. While sensation is primarily analog, to make sense out of it, we need the syntactical

ordering function of digital codes (Wilden 1987, 222-225). Experience is a combination of both kinds of codes, and when using the word 'silence' as an acoustic phenomenon we are generally using its value as a distinction from sound and relying upon its existence in the relative condition of ambience.

context and relevance

Silence is best understood in terms of communication with ourselves, our environment, and others. Whether that communication is ambiguous or meaningful determines the function of the silence, and our prevailing attitudes and cultural identity determine the different responses we have to the occurrence of silence. In short, silence is a condition of consciousness:

Silence appears to be a concept and process of mind which is imposed by each mind on itself and on the minds of others. This imposition appears to be sometimes an automatic, signalic functioning and, sometimes, a willed, mediated, symbolic imposition for the purpose of comparing mind with information input. (Bruneau, 17)

Just as 'silence' becomes complexified to sometimes mean an absence of communicative processes, 'sound' also becomes complexified to sometimes mean the presence of communication. In this way one can 'hear' one's own thoughts. Within a theory of communication, one cannot examine silence without also examining sound, and vice versa; the two concepts exist as a dyad.¹ We tend to think of silence as an absence, a negative phenomenon, because that is its philosophical implication. But since our perception of silence is bound up in our recognition of sound, the occurrence of silence in human communication is an act of will, a positive phenomenon which is an intrinsic part of acoustic communication (Dauenhauer; Saville-Troike, 10).

Silence is thus a condition determined by the relation between the listener and the sound source(s). Whether one is ambiguously alerted by the 'calm before the storm' or is

¹See Saville-Troike, 3; Ihde & Slaughter, 238; Dauenhauer, 27; Bruneau, 18; Schafer, 12.

lost in an intensely meaningful emotion-fraught silence with a loved one, silence is experienced in the context of information being received. The appearance of silence (in discourse) must be accompanied by the presence of another, some "X" which ceases to make sounds. Silence need not be physically noiseless but is in this sense a lack of sound expression (Dauenhauer, 11).

Silence is the essential context for sounds to be discerned as anything but noise. The selectivity of our hearing (the "cocktail party effect") depends upon our ability to control our perception of ambience, to silence ambience by assigning its constituent sounds an order of irrelevance. We do this in situations where we perceive a threat to our interests and interference in the flow of desired information, from fierce concentration on a task to the maintenance of authority and power in society.

As Don Ihde (1986) has noted, "The problem with the voices of things, below the level of expression and communication, is that too much is presented." We are constantly hearing information about the spaces and objects around us. "We have to interrogate with specific question, specific action, if we are to learn the possible lessons of the world. We do this, of course, without necessarily being aware of it" (p. 38).

Communication is essentially goal-seeking, which leads us to continually decide what is relevant to us, and thus what is not. It is a truism that we are better at filtering out the world than we are at perceiving it. A good communicator uses silences skillfully.

systems, constraints, orders of complexity

The information which we derive from our silences exists within a system of communication. Each system is a set of relations organized through different hierarchical levels. At the center of any acoustic system of communication is a listener, and this gives rise to the term 'soundscape', instead of 'sound environment' (Truax, 9-11). The focus of any analysis of such a system is the listener's experience of the environment as it is

mediated through sound. As I have suggested, to refer to sound is also implicitly to refer to silence.

Each system of communication is constrained by the codes which organize it into hierarchical levels of meaning. Codes can be considered rules of usage, such as thinking of silence as the opposite of sound. It is through the codes of acoustic communication that we relate to our environment through sound and silence. Thus we can decode the faint whisper on a shortwave band radio to be a distant Russian voice, or we can discern the difference between the wind moving through poplar leaves and through fir needles. In the first instance, the constraints imposed by the geographic context of listening to a particular radio signal and the strength of that signal combined with the rules indicating the use of language allow us to decode the sound and give it meaning; in the second, it is the remembered shapes of the foliage and our knowledge of their behaviour in the wind combined with their occurrence in our bioregion which allows decoding. Likewise, our awareness of silence relies upon the constraints imposed by the system of acoustic communication which we are using; listening to quiet wilderness with heightened sensitivity is different, if not entirely distinct, from listening to a speech on a tiny radio.¹ The presence of silence in either case exists within a different order of complexity; the first in the relation of the listener to a physical, organic and inorganic system of information, the second in a social and cultural system. Because of this multiplexity in the possibilities of silence in all communicative systems, the different phrases used in this study to refer to silence do so in a way that contextualizes the general word.

Systems are generally nested within different systems (Wilden 1980). The system of human interactions called society, for example, occurs within the system of the planetary biosphere. Society depends upon the continuing presence of the biosphere's ability to sustain its present major systems (such as the carbon-dioxide/oxygen flow).

¹However, this distinction breaks down in circumstances where speech is heard in environmental sounds, especially where such occurrences are culturally organized as sane relations or revelatory. In such circumstances, both decoding contexts are involved.

Similarly, in terms of human perceptions and communication methods, I suggest that the human ability to perceive sound or discern communication depends upon the greater more general presence of an ambient and acoustic silence. I have indicated that silence is a condition of our perceptual constraints. Particular systems of communication infuse silence with their own particularities, and the multitudinous meanings and functions of silence in communication are the result of perceiving an enveloping system through different local systems. It is important to remember that metonymy, referring to the whole via the part, is a condensation of meaning and not a complete description.¹

Silence and sound are not equal, just as they are not opposites: sound occurs *within* silence. Acoustic silences are often metonymically used to refer to metaphysical silences ("it was deathly still") and silences in discourse can be metonyms for acoustic or physical silence.

metaphors of silence

Metaphor is the use of one form of communication to represent another.

Metaphor is also the relation of experiences to one another (Wilden 1987, 198).

Describing experiences of silence is complicated by the predominance of visual imagery in English. Ihde and Slaughter discuss the advantages of auditory metaphor for philosophy, following Heidegger, but are still bound to visual metaphor when describing the relationship of sound to silence. As Ron Scollon points out, metaphor generates ways of thinking, and "changing the metaphor changes the meaning of silence." (28) More appropriate auditory metaphors must be brought into descriptive work on silence if we are to develop clearer research.

¹Neo-realist physics implies that material existence is holonomic in structure, so that each system of organization in some way repeats the patterns of the whole, with reduced information. Holograms are a good illustration of this — each part of the image when viewed presents the entire image, and the quality of the resolution decreases with size. Another example is the repetition of familiar patterns across all discernible scales of size — spirals, bubbles, etc. We observe these representations of the whole by the part, and they become a kind of metonymy in a system of communication about physical structure.

Nevertheless, Don Ihde's metaphor of silence as a 'horizon' for sound is useful in understanding how silence functions as "a limit which constantly withdraws from the center," a limit which is not always evident and beyond which is the unknown (164-165). By donning headphones, for instance, one obtains a relative silence, bringing the 'horizon' nearer by excluding some ambient sounds. This allows one to concentrate on a controlled sound expression and heightens one's selectivity in listening. Ihde and Slaughter call this a "gesture towards silence," further developing their spatial metaphor for sound/silence (237-238). Careful listening to sound, however, rather than the coded information of a specific set of sounds, expands the horizon of silence, so that one experiences an "increased vulnerability" to the soundscape — that is, our selectivity slackens off and sounds are experienced simply as sounds in relation to their ambience, their context (237). Silence is the metaphorical space, the process of consciousness, and the physical tendency which allows us to distinguish sounds.

Rhythm

difference

Since silence tends to open ambiguities, and except for certain explicit semantic uses has a quality of meaninglessness, the silence that emerges as a 'gap' or 'distance' between sound events is a signifier of difference. It signals a change in events, a shift in the energy and information present in communication. The nerves, the brain, and our attention all operate on the principle of discerning change (Truax, 16-17). Silence used meaningfully emphasizes change and facilitates the flow of information, and so is interdependent with speech. It is as necessary as sound for speech; it allows for the sequencing of sound units, and interrupts the continuity of sound (Bruneau, 18-19). Of the many functions of silence in speech (and listening in general), this spacing of sound

events is the most important. Rhythm is not only one of the organizing principles of our understanding of space and time but the key to our individuation and health — the periodic rhythms of the body are healthful and the patterns of our thinking constitute our identity.

continuity and punctuation

Thomas Bruneau makes the case that interrupted ("destroyed") continuity is essential for the proper functioning of memory (19). Acoustic events are punctuated by listeners in order to make sense of them, to achieve closure of a statement or thought or sound (18-19) and so to relate it in its entirety to memory and understanding. Silence is necessary for sanity, and control over one's silences leads to powerful attention skills, a clarity of "percept acquisition." (22)

Closure, akin to death and dissolution, allows for a 'rebirth' of experience, providing the stimulus which keeps the senses alert. This transience of sound is closely related to our aesthetic experience of it (Truax, 110), as we 'gesture' towards silence when listening to sounds die off.

No two categories, and no two kinds of experience are more fundamental in human life and thought than continuity and discontinuity, the one full, complete, compact, dense, and infinitely divisible, the other partial, intermittent, atomic, discrete, and not divisible beyond the individual units that make it up. (Wilden 1987, 222)

time

Rhythm in sound profoundly affects our whole being:

The propagation through cerebral tissue of a cyclically changing flux of neural signals triggered by rhythmic sound patterns may somehow enter in "resonance" with the natural "clocks" of the brain that control body functions and behavioral response. These clocks probably work on the basis of neural activity traveling in closed-looped circuits or engrams, or in any other neural wiring schemes that have natural periods of cyclic response. (Roederer, 165)

Because our experience of time is intensely cyclical, one of the most effective methods of achieving trance is with the use of drums. Drums epitomize the expression of cyclical time and the essence of rhythm in the body: walking, the heartbeat, breath, working with the hands. More importantly, a drum beat frames the silence which is the flow of time; it is the beat which marks the flow, makes it accessible to the ears (and gut) as motion. The drum beat is the binary organization of the analog experience of time into quantity, a measure. In this coding, time as silence becomes a consensual experience, linking members of a community and the individual to the complex patterns of the environment through musical *tempo*.

The cyclical nature of time aids us in developing redundancy through repetition. Redundancy is necessary to the formation of systems of communication because it builds structures of meaning and protects information from confusion with noise (Wilden 1987, 188). Rhythm exists when what we are perceiving is predictable, that is, we have grasped the structure of a sequence, derived information from noise (Fraisse, 150).

Periodicity, the basis of structured sound, is a function of waves and vibration. Silence becomes structured by the occurrence of sound, as in drumming. Different sensations of the movement of time in silence depend both on the function of the silence, such as with intense or barely noticeable psycholinguistic silences, contemplative silences, or sensing the diurnal rhythm of a wild soundscape, and the rate of recurrence of sound as the structure for the silence.

the pulse of life

Whenever two or more oscillators in the same field are pulsing at *nearly* the same time, they tend to “lock in” so that they are pulsing at *exactly* the same time. The reason, simply stated, is that nature seeks the most efficient energy state, and it takes less energy to pulse in cooperation than in opposition. Entrainment is so ubiquitous, in fact, that, as with the air we breathe, we hardly notice it. Yet it offers dramatic witness of the tendency toward perfect rhythm that we discover whenever we examine the roots of our existence. (Leonard, 13-14)

George Leonard devotes The Silent Pulse to exploring the possibilities of harmonizing our intellectual understanding of existence as based on waveforms and holonomically (like holographic) interconnected across distance and even time with our bodily awareness of our position amongst the general flux of things.

All life is constrained by periodic oscillations. This means that the different systems of our internal organs need to synchronize, as do cellular changes and social intercourse.

The order arising out of a rhythm both proceeds from and conditions our comprehension (Schafer, 226), and our rhythmic interaction with our environment (and others) is dependent upon this sense of order. Rhythmic interaction is essential for harmonious social relations, for survival even, and the study of kinesics has shown that humans (like other organisms) have an exacting and incredibly subtle ability to synchronize our movements (Hall, 71-84). Speech, thought, and bodily functions also tend to become synchronized to the presence of others. These facts of acoustic rhythm can either unite individuals into communities, such as through worship (song, oratory, silent prayer), or oppress and enslave people (such as in cults) through enhanced repetition and redundancy and rhetorical coercion (Truax, 36-41, 67).

The presence of noise in the acoustic signal provides some interesting evidence into the functioning of speech perception. Speech interrupted by brief discontinuities of noise is in some cases not perceived as interrupted at all (Warren p. 150), and in some cases actually becomes more intelligible (p. 153-5). Silence inserted into speech disrupts its natural rhythm, whereas brief bursts of broad-band noise maintain the rhythm and can even match the spectral characteristics of speech, so that the listeners' sense of meaning is seamless — such substitutions can in fact go unnoticed. (p. 155).

The prosodic structure (the rhythmic and tonal features) of speech is tenacious. Environmental factors can and often enough do mask or filter out the timbral subtleties of speech, but rhythm in particular generally survives noise interference better. It turns out

that we are incredibly sensitive to rhythm in speech; we make minute movements in synchrony with speech from the day we are born (Condon, 624). We move our body position and gestural expression in various degrees of subtlety our entire lives whether we are speaking or whether we are listening, in a kind of dance which constitutes our social existence through the rhythmic relations of speech patterns. Our identity, our very social being, is inextricably caught up in this recognition and affirmation of patterns, and there is a strong impulse to discern familiar speech rhythms and melodies.

Language

Ye taught my lips a single speech, And a thousand silences.

(Emerson 1847)

O.E.D. "Silence"

(L. *silentium*)

1. The fact of abstaining or forbearing from speech or utterance (sometimes with reference to a particular matter); the state or condition resulting from this; muteness, reticence, taciturnity.

Notice how the first definition of silence by the lexicographers is an emphasis on speech, vocal, lexical existence, or the lack of it. After that comes the more basic, acoustically tuned sense of the word, sound in general. The bias of the communication in this case is both definitive and representative, an entrenchment of communication as speech *first* — *then* the world around, under, and behind the speech. In the beginning was the Word.

Perhaps it is the definite presence of speech and the indefinite ambiguity of silence which leads to the tendency to locate silence in the realm of speech first. Otto Laske points out in his discussion of sonology (the study of sound comprehension) that "INDETERMINACY IN THE ACOUSTIC DOMAIN IS A FUNDAMENTAL PROPERTY OF HUMAN SPEECH AND NOT JUST AN INADEQUACY IN THE ANALYZER" (p. 36, his emphasis). That is, decoding such a complex communication

system as speech is tricky at the best of times (and particularly without the redundancy intensifying and information constraining context of kinesic and proxemic communication to aid us, such as when listening to a taped voice).¹ Having a goal helps: "humans listen to, and understand, sound only in reference to an explicit semantic goal structure they try to realize" (Laske p. 36). Because of the context of frequently knowing, perceiving, and articulating the world through language, we have a set of cultural priorities which we use when determining what is speech. These priorities are linked with a facility for observing the particular acoustic features which belong to speech. Speech is more destabilized by a change in the pattern of silences than a change in sound quality. Fundamental to speech, as with any form of acoustic communication, is the patterning of silences which it relies upon. These patterns are complex and varied, and we can only touch upon them here, although it is a more thoroughly studied aspect of silence than any other.

linguistic study of silence: failures and successes

The field of linguistics has largely overlooked the study of silence, concentrating on the 'figure' of speech at the expense of the 'ground' of silence (Bruneau, 18). However, this is changing as non-verbal communication comes to be investigated further, and ethnography becomes more meticulous and sensitive to cultural preferences influencing research and contextual influences on meaning (Scollon; Saville-Troike, 13-15). The book Perspectives on Silence (eds. Tannen and Saville-Troike) is largely dedicated to the sociolinguistic functions of silence — silence as it occurs in speech patterns. While speech is often perceived as the basis of human communication, the overall presentation of the book suggests that silence in speech is all there is to the topic. (Appendix A shows Saville-Troike's classification of silences, the most comprehensive such scheme I have

¹"Kinesic" can refer to communication through body movement, and "proxemic" to communication through the use of space, as well as (primarily) the study of these forms of communication.

encountered — yet it is still excessively verbal-centered.) Bruneau's study "Communicative Silences" is more wide-ranging, but still has a similar bias: solitary experiences or musical experiences of silence are hardly mentioned, for instance. I believe this is because they use an anthropocentric communication model, assuming that humans can only communicate with humans, not with our environment. The soundscape is not at issue in their versions of communication. I also interpret this as a form of logocentrism, where an acoustic phenomenon is rendered adjunct to semantic motives. The tendency to link silence to Logos has a long tradition in Judeo-Christian society, where meaning has come to be centralized and derived from spoken and (especially) printed text. The significance of intertwining Logos with silence is discussed further on in the study.

The different categorical schemes employed by Bruneau and Saville-Troike, while both attempting a comprehensive overview (a "taxonomy" according to Saville-Troike) of silence, arise out of different specializations: Bruneau approaches the topic with psychological / sociological interests, while Saville-Troike approaches it with sociolinguistic / anthropological interests. Bernard Dauenhauer (1973), with a phenomenological approach, arrives at yet a different scheme, a discussion of "three prominent profiles" of silence within speech: intervening silences, fore-and-after silences, and deep silence.

framing and sequencing

Intervening silences punctuate utterances, 'rhythmically' establishing a sense of 'timing,' and 'melodically' linking sound phrases together (Dauenhauer, 10-13). This is the form of silence most associated with rhythm and tempo of an utterance, the verbal corollary of punctuation such as commas, ellipses... and semicolons; and it is with these varying pauses that we create distinctions between different qualities of semantic content. This digital coding of speech gives it both rhythm and accessibility. For Dauenhauer,

intervening silences are less semantically sequential and significant than the sound phrases divided by them; they have no clear "unitary totality" (11). Dauenhauer is a phenomenologist who is writing in English, so I don't know to what degree his conclusions are constrained by the cultural specifics of his use of language. Perhaps there are languages spoken in which the intervening silences bear just as much semantic weight as the sound phrases. However, he makes a distinction between the rhythmic and melodic functions of intervening silences:

...in its "melodic" [semantic] function intervening silence is subordinated to the sound phrases. But in its "rhythmic" function intervening silence is as weighty as the sound phrases. So far as I can tell, there is no good reason for according to "melodic" function primacy over the "rhythmic" function or vice versa. (12)

Similarly, fore-and-after silences which 'frame' an utterance, or serve as the 'ground' against which the 'figure' of our speech is set, establish rhythm, but it is the rhythm of the broader order of conversational dynamics. Intervening silences operate within an utterance, while the silences which begin and end the utterance relate it to other utterances. With fore-and-after silence we gain a sense of opening and closing (14-18).

non-verbal discursiveness

Silence often functions as a linguistic unit much the same way as an utterance. Saville-Troike argues that propositional silences, silences which have a communicative goal ("illocutionary force"), ought to be considered "a basic formational unit of linguistic communication" (6). These silences can even be used to deceive; they have a truth value (7). Depending on the context of cultural traditions and linguistic codes, we can perform through silence most basic speech acts.¹

¹ This use of silence may or may not include gestures. Are gestures silent? They lack significant acoustic content, for the most part, but if one is using the word to indicate an absence of communication, they are not silent, but quiet. See Dauenhauer "On Silence", 11 fn. Also see Saville-Troike (5) on syntactic and interactive silences (such as closing the eyes) in sign language.

psycholinguistic silences

Psycholinguistic silences are cognitive mechanisms of managing time-experience during acoustic communication, according to Bruneau (26-27, also see appendix B). 'Fast-time' silences are short-lived pauses and hesitations which allow us room to decode the syntactical and grammatical configuration of the preceding utterance (or plan the encoding of the next), and 'slow-time' silences are those with which we register the complexities and semantic contexts of an utterance. These silences are, respectively, a compression and an expansion of time-experience (although Bruneau is careful to qualify his model as dynamically variable, with no easy differentiation of the two). 'Fast-time' silences signal sequence ("temporal-horizontal") of speech patterns, in quasi-awareness ("automatic processes"). 'Slow-time' silences carry the symbolic significance of an utterance in an "organizational, categorical, and spatial movement through levels of experience and levels of memory." (26)

It is the expansion of time during psycholinguistic 'slow-time' silences that is intuitively acknowledged during cinematic slow-motion shots, for instance, or in the design of art galleries, or in the respectful empathy towards the powerful emotions of another. "Highly sensory events" stimulate this kind of silence (21-22). Bruneau also suggests that 'slow-time' silence is necessary for metaphorical extension, which is perhaps why reading can almost suspend time-experience (23).

Psycholinguistic silences in speech take the form of hesitations, pauses, and juncture. They are an essential part of the structure of language, and exist at the 'micro' level of communication. Muriel Saville-Troike refers to these as "non-propositional speech silences" and generally affective and connotative (rather than denotative) (6), but this categorical move glosses over any discussion of time-experience and blurs Bruneau's distinction between psycholinguistic silences (personal) and interactive silences (interpersonal). Interactive silences, in Bruneau's scheme, involve a conscious

recognition of their communicative function by the communicators. Other than this, they can be difficult to distinguish from psycholinguistic silences (28). The category covers most of what we would notice as silence in a conversation: turn-taking pauses, pondering an idea, "the silent treatment," a stunned silence, an awkward silence, the silence in a full elevator, etc. (for the breakdown of goals for different interactive silences, see appendix B). These silences are highly context dependent, because in them we negotiate the presence of others according to each unique relation.

CHAPTER TWO CULTURAL FOUNDATIONS

Silence is generally 'performed' during communication in a culturally determined way. Even micro silences in speech which occur largely on the edge of awareness are performed according to conventions and codes of conduct. Our use of these hesitations is in a signature pattern which identifies us, but we do this within the frame of reference supplied to us by our culture. We learn to use our silences just as we learn to use sound. Because silence is fundamental to communication, it could be said to be a global human constant; however, the differences between cultures means that silence is valued, performed, and interpreted in hugely different ways.

Negotiated silences

The feedback involved in all cultural processes becomes negotiation in the adjustment to that feedback. This occurs at various levels of consciousness, continuously and in most if not all communication. When this ongoing negotiation breaks down, social disrhythmia and patterns of abuse appear (Watzlawick *et al*, E.T. Hall 1983). Since this negotiation is primarily situational and dependent upon physical relations, it occurs frequently in the realm of silence.

social constraints: kinesics

Kinesics is the way we communicate with the movement of our bodies (E.T. Hall 1981). One significant finding of kinesics is that the majority of the information in face-to-face interaction actually occurs in the context of the situation, rather than in the semantics of the spoken message (as is commonly assumed); and a large portion of that

information is expressed through gesture, body position, and minute muscular movements. Vocally, kinesics are silent, although it is not clear to what degree sound plays in their observation (aside from the obvious, such as the impatient drumming of fingers or foot tapping). This pushes kinesics into the realm of visual communication, and silence becomes a visual property over the acoustic.

We are incredibly sensitive to even the subtlest shifts of position of other face-to-face interactants. Condon suggests that we are able to synchronize our movements with others with an accuracy of *fifty milliseconds* of response time — a finding that challenges our assumptions about known channels of communication, since it is much faster than reaction time for mechanical tasks (Condon 1982). Fascinatingly, much of this sensitive observation of others' movements occurs out of conscious awareness. A vast amount of the information we receive from one another comes in a form that is subtle beyond language-filled observation. Culture resides primarily in communication which is not language and is thus not easily accessible to analysis (E.T. Hall 1981) — which means that most cultural expression is silent.

Much of what we would call non-verbal communication or 'body language' is kinesic, and it is crucial to the development of our identity — different cultures have considerable variation in their interpretation of kinesics, and this is founded on basic cultural patterns of rhythm.

One's concept of self, of identity, is derived from culture as a means of self representation and expression.¹ Manfred Clynes' study of minor muscular responses by conductors to different composers' music indicates a consistent and identifiable difference in rhythmic emotional intensity and expression (Clynes 1977, cited in Leonard, 60). Many studies on cross-cultural communication and kinesics have found that a major distinction in cultural interaction styles comes out of different uses of rhythm.²

¹The interplay of culture, identity, and representation is discussed by Wilden 1987, and E.T. Hall 1981, in a manner consistent with my writing.

²For example see E.T. Hall 1976; Lomax 1982.

The interpretation of and response to the kinesics of others is the cultural codification and constraint of movement. Silence is particularly important for kinesic communication: the rhythmic function of silence is essential to the development of entrainment, and vocal silence in interaction facilitates sensitivity to the quiet movements of the body and increases our reliance on visual cues. Within this mode of communication, there is a corollary to acoustic silence, 'postural silence', the immobilization of the body to refrain from exhibiting clear visual information (Key, 117).

Encoders and decoders are able to influence each others' use of slow and fast-time experiences of silence through kinesic signals. This is a use of silence in which individuals develop either synchrony or a sense of difference (Bruneau, 27).

roles

Each interaction involves roles, which involve rules of expected behaviour for each of the participants. Roles are negotiated by cultural codes of rank and formality. With vocal silences we are able to establish and emphasize the formal distance between individuals, such as between strangers or between those of different ranks or family positions. Ambiguity in roles often draws out intense silences until the ambiguity is resolved. Shyness and reserve typify this response (Basso 1972).

The roles set out within the rules of discourse are often negotiated through silence. Turn-taking in conversation is the best example of this, where a pause varies in significance. Fore-and-after silences can provide an opening for others to speak, if the accompanying kinesics of the speaker indicate a closure of the utterance, or if the context directs the conversational weight to another speaker. Turn-taking is an obvious case where the cultural rhythms of groups come into play, since the range of different rhythms is quite broad, from a tendency to allow for extremely long pauses (minutes, hours, even days) to being comfortable with overlapping speakers, an 'interlocking' conversational style (Lomax 1982, 170).

emotions

In the description of a couple whose furious fights are hidden from the rest of the household, Denis de Rougement has a psychiatrist describe the nervous symptoms of their daughter in terms of the emotional intensity of the silence around the fights:

"I tell you [the children] know everything without hearing anything. What they hear best is everything you don't say, when you are before them at the table, so polite. Little Mary is not mad, but how could the nerves of a child stand the sound and fury which are unleashed in your conjugal silences?" (from *The Devil's Share*, cited in Leonard, 167)

Silence is a frequent, culturally wide-spread response to emotional intensity.¹ During periods of mourning, many different peoples respond with deferent silence to the mourner's pained silence (Nwoye, Basso, Bruneau). This is not merely ceremony, for emotional intensity defies words; its ambiguity demands a linguistic silence.

Silence is also a means of *managing* intense emotions, where a 'grim' vocal silence, such as in the generally emotionally expressive northern Italians, is the last resort before violence in unresolvable, angry conflicts (Saunders). It is a strategy which asserts the seriousness of the matter through the context rather than the usual means of verbal negotiation, and allows for the volatility of an emotionally expressive cultural manner to 'cool off'. Likewise, as a response to unreasonable or violent behaviour, the Apache purportedly respond with the kind of reticence reserved for strangers (Basso). Saville-Troike cites the Japanese word "haragei - 'wordless communication'" in reference to preferred Japanese modes of communicating emotional issues (7).

Emotional intensity draws the person inward, which can create a kind of psychic isolation which involves an involuntary silence and silencing of events around one, through repetitive sounds or psychoacoustic closure (Bruneau, 34). Oliveros' experience of silence during embarrassment or impending disaster is a good example of this.

¹Though by no means universal. Some cultural tendencies and norms are to act out emotional distress in very public ways.

symbolic uses

O.E.D. "Silence"

(*L. silentium*)

2. The state or condition when nothing is audible; absence of all sound or noise; complete quietness or stillness; noiselessness. Sometimes personified. Also const. *of* (the night, etc). b. Used allusively to denote the state beyond this life. Chiefly in pl. and with initial capital. c. *Tower of Silence*, one of a number of small towers upon the summit of which the Parsees place their dead.

3. Omission of mention, remark, or notice in narration. b. Neglect or omission to write (about something); failure to communicate or reply.

5. *Mus.* A rest.

Although I am asserting in this research that silence remains underconsidered in communication studies and undervalued in many dominant cultural modes, silence carries considerable symbolic significance. The caesuras, pauses, rests, and gaps of musical and verbal arts are effective in various ways beyond their rhythmic emotional effect when they suggest to us a greater silence. More than the syncing of nervous systems or facilitating clairaudience, symbolic silences rely on deeply complex cultural codes and require participation in the shared meanings of performers and audience.

In aesthetic considerations, the underlying ubiquitousness of silence as a fundament of communication often becomes interwoven with its signifying functions as a sign of the ineffable. In writing, rhythm and the interplay of expression and omission are crucial:

It doesn't seem to matter whether the writer is a "hard-hitting journalist" or the farthest out constructor of experimental poems. All the writer's noise is finally an attempt to shape a silence in which something can go on.

Call it the silence of interpretation, if you will; but even that's too restrictive. The silence of response is probably better — if not just silence itself.

The writer tries to shape it carefully, conscientiously; but both forming and hearing it today can be equally hard. . . .

The writer will mold it differently in terms of what she or he wants us to do with it, do in it, using a variety of codes. And the variety of codes that make that writing meaningful will differ here, will overlap there, depending on the writerly mode. Nevertheless, we can still, when it is useful, designate all writerly enterprises with the same terms: shaping the silence. (Delaney, 164)

E. T. Hall (1983) introduces the Japanese concept of 'MA' as an example of the deep differences between the European-american and Japanese experiences of time, context, and expression. He maintains that "in the West we pay particular attention to the arrangement of objects, and in Japan it is the arrangement of the spaces — the intervals, MA — that are attended. (189)" He gives this as the reason for the greater sensitivity of the Japanese to the silences which arrange speech, and thus to the context of any expression. Although MA is a basic principle of Japanese culture, and thus beyond simple explication (it is a cultural, contextually supported, experientially substantiated concept), Hall attempts this description:

MA is time-space. The two cannot be considered separately. Like everything else [cultural], and particularly Zen, MA does not lend itself to technical description. MA apparently underlies almost everything and is an important component of communication. . . . MA is much more than a silence between events (our interpretation) or events punctuated by silences. (ibid.)¹

In this description MA seems very much like the overall sense of silence that I am using in this thesis, which integrates the silence referred to both physically and metaphorically in discourse with the silence inherent in the soundscape as well as the silence as the horizon of theoretical physics' observations.

¹I find his claim that MA does not lend itself to technical description dubious, more likely a conclusion based on his own cultural limitations and filters, since he goes on to outline briefly how it is categorized in "nine different varieties of experience: Himorogi, Hashi, Yami, Suki, Utsuroi, Utsushimi, Sabi, Susabi, and Michiyuki." His source is the documentation accompanying a exhibition in the U.S.A. by a Japanese artist.

Institutions

silent spaces

Much of the space that we occupy is organised, even in the acoustic realm, by institutions. Whenever we organise space we are engaged in some form of acoustic design, for sound gives us a sense of the volume and interiority of spaces, and any space we create has its own acoustic character (Ihde 1986).

Sound does not obey physical boundaries as tidily as light (for lightproofing, heavy curtains will suffice, but soundproofing is much more challenging). If we design our spaces solely for the eyes, we are inept, or happenstance, acoustic designers. Unfortunately we have lost much of the cultural acoustic awareness, as builders, which led to the magnificent acoustics of many ancient buildings (see Schafer's *clairaudient* descriptions, chapters fifteen to eighteen). In all of these ancient structures, as in the modern auditorium, the concern is to design a space such that the soundscape contains enough silence to maintain acoustic clarity as well as utilizing natural resonance and reverberation to amplify and carry sound.

We can design ambient and vocal silence into a space both by its physical arrangement and the rules or codes of conduct in it. Ihde's 'gesture towards silence' is implicit in the design of buildings where sound calls attention to itself, such as in cathedrals, mosques, and other reverberant spaces filled with grandeur. Generally, however, these are also spaces where quiet behaviour is expected. Libraries and study areas, museums, hospitals, tombs, and prisons are also 'silent' spaces where vocal restraint is encouraged, requested, or enforced (Bruneau, 44).

ritual

Vocal silence (and kinesic quietude) is explicitly required in certain highly structured circumstances. During worship, silence can be an important expression and

symbol of respect and awe, and facilitates contemplation. The Igbo require ritual silence of participants during sacrifice and naming ceremonies, and during spiritual consultation with ancestors (Nwoye). Quakers are well known for their taciturn worship, in order to emphasize the profanity of daily speech in contrast to the inspired words which come from inspired spiritual unity with God (Jaworski, 45). Monastic discipline often requires reticence as daily practice, and even the chants of Catholic vespers gesture towards silence in their gentleness and quietude.

The national 'custom' of silence on the eleventh hour of the eleventh day of the eleventh month in remembrance of the war dead is instituted by the State as a patriotic ritual. Occasionally this ritual is enacted in parliament on other occasions to honour the dead, such as in the aftermath of the 'Montreal massacre' of female engineering students.

Silence as restraint in order to facilitate public proceedings is also common. The silencing power of the judge's gavel is an acoustic signal for reticence. Artistic performances where there is a clear audience-performer separation further enhance that separation by the rule of giving silence to the performers to perform in.¹

authority and submission

Respect for authority generally demands vocal deference. Hierarchies become deeply encoded with the use of silence to mete out expressive privileges in interpersonal relations: teachers, clergy, judges, elders, bosses and others commanding respect are allowed both silence as emphasis of their position at the center of attention and the option of breaking or keeping that silence, and are usually given the power to enforce those privileges.

Fearful silence before the Authority of God is a socio-cultural version of authority-subordinate interactive silences: "conceptions of authority are often conceptions

¹Of course, where high noise levels are required for the performance, such as rock concerts, or where the action is primarily visual and demands verbal encouragement, such as sports contests, the reverse is true.

of what can or what cannot be said; when one should appropriately maintain ^[COPU]restraint, or the manner in which ^{おまじり}utterance appropriately breaks silence." (Bruneau, 37)

Not only is silence before authority acoustic and vocal, but semantic as well. Certain topics, opinions, or perspectives are inadmissible within the norms and strictures of each hierarchy, and censure maintains that hierarchy. Ideologies capitalize extensively on this process, as I argue in Chapter Three.

Cultural difference

variations in contextual sensitivity

Culture as a naturalized set of learned behaviours has been investigated by E.T. Hall, who claims that one's cultural frame of reference is largely hidden to oneself until it is compared as such with other cultures. Silence is an excellent example of 'hidden' culture: it is so context-dependent as communication that the holistic processes of interpreting and responding to silence are difficult to access in linear, slow, constrained language (E.T. Hall 1981). We resist making such rapid, non-linguistic high-context processes explicit because to expose context introduces uncertainty, signals a hitch in relations, and slows interactions down (85-103).

Cultural variations in the use of silence can be as vast as the difference between languages. The meaning of each silence depends not only on the situation, but upon the value assigned by cultural convention to silence in each situation. This is the bulk of the context that allows us to comprehend specific intentions and motives, or derive explicit codes, from silence.

Clear examples of radical cultural differences towards silence are plentiful. Deborah Tannen observes how, in New York Jewish conversational rules, silence (perceived as an excessively long pause) is valued negatively as a sign of social malfunction, to be avoided to the degree that interruption is tolerated and even encouraged — a nearly constant flow of speech signifies a desirable interaction. Dean

Barnlund's cross-cultural study of verbal patterns among people of Japan and the United States reveals that speech is not highly valued in Japan as it is in the U.S.A.; verbosity is considered shallow and eloquence can be mistrusted, while speech is not an appropriate medium for profound emotions and thoughts to be communicated (165)¹ Other cross-cultural studies cited in this thesis are Basso 1972, Gilmore 1985, E.T. Hall 1981 & 1983, Lehtonen and Sajavaara 1985, Lomax 1982, Scollon 1985, Tannen 1985, and Ishii and Bruneau 1991.

Variations of the pragmatic use and interpretation of silence are likely to be related to contextual sensitivity. There are considerable differences in this, of course, between individual characteristics, but cultural differences are largely consistent (Ishii and Bruneau, 314). One measure of contextual sensitivity is the degree of conscious awareness of kinesic and proxemic information, information discerned mainly in silence. I suspect that the more organized, codified, and respected silence is as communication, the higher the contextual sensitivity.

For traditional societies who live in a close and sensitive way with 'nature', high quality acoustic conditions are of paramount importance. Safety and the overwhelming presence of natural events demand that sounds be clear, detailed, discrete and well defined, audible over as great a distance as possible and in as great a dynamic range as possible, and interpretable. High fidelity soundscapes are generally accompanied by attentive listening and careful soundmaking, which means an abundance of acoustic silence. This silence can be maintained by cultural codes which demand and enforce the silence of individuals, and prescribe particular times (such as celebrations and ceremonies) for loud soundmaking (Truax, 75; Schafer, ch. 19).

¹I must mention here that Barnlund's research is itself ethnocentric in its weighting of the research questions towards european-american interests in self-disclosure.

cross-cultural encounters

Misunderstanding by assuming shared contexts is all too common and easy. We need to acknowledge and understand silence as a fundamental and culture-specific form of communication in order to develop a healthy rapport with another culture. We likewise need to acknowledge cultural difference to understand silence. Scollon raises the problem of researchers who interpret the silences of others according to their own cultural standards, citing the case of Athabaskan people who have suffered ethnocentric malignment in research on speech patterns, due to their use of silence. For those from a verbose culture, especially a low-context culture where self-disclosure is expected, dealing with people from a culture which favours reticence and ambiguity is risky.

Different norms of appropriate communicative behavior exist [across cultures], and a variety of intercultural misunderstandings can occur if one does not know when, where, and how to remain silent. To promote natural and effective interaction, especially with Japanese, people in the United States need to learn to feel more comfortable in situations where silence and vagueness prevail. Learning the general rules for silence plays a more important part than generally thought for all people attempting to communicate successfully across cultures. (Ishii and Bruneau, 317)

Failing to understand both one's own cultural frame of reference for silence — the values which inform the structures of silence one participates in — and the frame of reference of another culture one is in contact with, will surely result in interpersonal misunderstanding and can lead to serious prejudice.

Sensitivity to silence (and context) can be increased with training and cross-cultural exposure (E.T. Hall 1981). Ishii and Bruneau go so far as to conclude that

Whereas verbal communication plays a very important role in promoting intercultural as well as interpersonal understanding, we should recognize that the ultimate goal-stage of communication — interpersonally or interculturally — may be communication through silence. Silence lends substance to speech and gives it tensive direction — being supports becoming.¹ (318)

¹"being" and "becoming" are terms to identify psychological orientation towards action. This is discussed further in Chapter Three.

silence is both differentiating and unifying

Chapter Four is extensively devoted to the integrative and unifying possibilities of silence as a practice and cultivated feature of the soundscape. At root, cultures hang together because of a consistency in communicative practice and the need for much of the information in any communication to be internalized in the communicants — to be interpretable from the context. Silence carries a privileged position in this as a communicational constant, and a sign of contextuality.

Between cultures, silence can signify inexpressible and unbroachable differences. In Lewis Nkosi's novel Mating Birds (as analyzed by Ashcroft, et al), the communication between a white woman and a Black man which occurs over the segregation line on a South African beach is characterized as an intercultural (and deeply political) silence:

The gulf of silence — the absence which is indicated in the man's surrender of speech and his entry into the linguistic vacuum of the situation iconized by the divided beach — stands as the signifying difference of the post-colonial text. It captures that profound silence between cultures which finally cannot be traversed by understanding. Only by denying the authenticity of the line and taking control of the means of communication can the post-colonial text overcome this silence. (86-87)

The silence of difference permeates every aspect of life. Even while we speak we are engaged in a silence beyond pauses and hesitations: the unsaid. "In everything said there is the latent horizon of the unsaid which situates the said. Yet . . . the horizon is that which withdraws." (Ihde, 166) That is, what goes unsaid is the context crucial to understanding a word — the cultural programming and the lexical cross-references which give meaning yet remains indescribable without creating new meanings.

However, to the uninitiated, those who don't have access to this unsaid group information, it is experienced as a silence, an exclusion. All that is implied in a statement and not understood becomes a signifier of difference, a social gap (Ihde, 166-167). The physical interactive silence in response to diversity (Bruneau) is an extension of the

mental and social silence of misunderstanding. These interpersonal gaps can either expand to become, or are derived from, massive cultural rifts. This is particularly true where there is a denial of the need for mutual yielding, which is another way of defining oppression.

* * *

Overall, the complex cultural codifications and structures of silence provide ample depth for reinterpreting human behaviour in respect to silence as a communicational fundament. This brief and partial overview has merely served to demonstrate that silence *can* be understood in many different ways from different cultural positions, and that these differences must be acknowledged. Hopefully, this chapter has also revealed that the cultural treatments of silence in discourse and in the soundscape are intertwined and originate interdependently. That is, silence as an acoustic state is cultivated in a manner directly related to how silence is cultivated in discourse.

CHAPTER THREE DOMINATION

Sound and power

Silence in all its forms suffers degradation under the communicative pathologies of domination. By domination I am referring in general to the abuse of power relations, which implicates most contemporary social conditions, from global tyrannies to subtle interpersonal situations. However, since I am investigating a topic of broad theoretical scope, the approach to power will be broad-based too: this is a general discussion of the conditions of power in the soundscape as they affect silence. My theoretical assertion in this chapter is that silence is so fundamental to communication that no theory of power relations can reasonably exclude its consideration, and that more specifically, silence as a category of communication must be considered in respect of power conditions in the soundscape and of discourse about it.

The urge to dominate, to control, suppress, exclude, rule, exploit, and displace, if it is to be fulfilled, requires some degree of deceit, consent, and force, in varying proportions. Now that I have outlined in the preceding chapters a complex definition of what silence is, and how it is used, I intend to discuss the complex manner in which different ideological, cultural, and technological historical developments have used silence in programs of domination. These strategies of abuse include tactical redefinitions of silence, the sonic drowning out or displacement of silence, coercive silencing, the enclosure, expropriation, and commodification of silence as a resource, and the emphasis or suppression of cultural attitudes on silence. Some of these conditions were not arrived at as intentional strategies of domination but occurred as conditions which arose out of and facilitated domination.

The bottom line is that silence is becoming rarer. Physically, healthful silence has been banished by the pervasive sounds of the mechanical and electronic products which surround us, from the loud machinery of the factories to the humming of 'quiet' homes, and the frequent presence of sound reproduction technologies such as moozak, broadcast media, and recorded music. This is both a domination of the soundscape, and, as with any ecological disaster, a domination of humanity and other lifeforms. The reasons for this damage to the quality of the soundscape are abundant, but generally they can be ascribed to a number of overlapping historical processes: the shift in the perceptual emphasis of European culture to sight from hearing; the developing technologies and institutions of exclusion and silencing; the scientific drift towards the digital, the discrete, the atom, and the object, and the cultural fallout from this; the sudden mastery of machines, electricity, and economic growth; global imperialism; new control over sounds and new listening habits which radically changed the way we relate through sound. All of this occurs within certain overall constraints, particularly the *mode* of production, or how we produce what. The relations played out in the material world of production are recursively reproduced or threatened in the cultural realm of discourse and representation. Ideology occurs primarily in this realm.

Attitudes towards silence are strongly affected by cultural and personal dispositions which associate silence with death and inactivity as fearful states, or which emphasize the particulars of communication over the context, or which are intolerant of ambiguity. I do not wish to oversimplify and suggest that there is a monolithic 'Western' attitude towards silence which holds that silence is simply undesirable. Ron Scollon tends towards this argument in his article "The Machine Stops...", and Jaworski is right to call him to account on this (46). Obviously, there are many attitudes towards silence even within one of the myriad cultures in Canada.

However, conditions of extreme domination have emphasized silencing in the imagination of social researchers, who justly take it on as a prime concern. And on the

other hand, the same dominant forces which find silence a useful gag discover that silence is an impediment to industrialist 'progress'. Ultimately, in the new broadcast communities, silence has no exchange value to speak of, so it is discarded as carefully as possible. These material conditions are expressed and spread as ideology.

ideology

Ideology is a form of communication which, among its other effects, disguises contradictions and reproduces systems of dominance in the primary mode of production.

The reason that ideology is a useful concept for emancipatory research and social justice strategists is that it can give us a particularly elegant explanation for the way in which a society of generally well-meaning individuals seems intent upon destroying itself and all others. Other explanatory frameworks for this situation are unsatisfactory because they either tend to collapse consciousness into a mechanical model of history where human agency is subject to inexorable economic forces of progress, or they tend to collapse the tangible world of objects and economic conditions into the almighty realm of will and consciousness. These tendencies themselves have ideological facets. My point in emphasizing ideology in this context is not so much that silence is a heavily ideologized word or idea (although it is), but that the condition of silence is a casualty of a heavily ideologized society.

The problem with dealing in the terminology of ideological analysis is that there are so many variant readings on the uses of the word "ideology", and the vernacular usage of it is so rife with emotional and propagandistic connotations that the word is overburdened and confusing. What follows, then, is an attempt to briefly summarize various meanings of the word as I am using it.

For my purposes, ideology is best used to describe the ways in which dominance is reproduced in society. First of all, ideology operates in the realm of ideas (as the root suggests) which are organized and propagated in social discourse. This includes the

obvious case of propaganda, but also much more: the whole set of relations and signification which we use to develop identity and make decisions about social organization is inflected by ideologies.

Ideology is a key factor in establishing and securing hegemony.¹ A simple outline of hegemony (as formulated by Gramsci) is as follows: hegemonic leadership operates by a combination of coercion and consent, rather than simply domination through force and economic control.² In a hegemonic conceptualization of society, the leadership of society is achieved by realizing that the relations of forces go beyond sectional class interests, and thus forming alliances across the spectrum of social groups through compromise in political and economic agendas in order to become the representative of a bloc of social forces. Since power rarely resides solely within the State, this leadership must be grounded in the sphere of production, and extended through civil society (the massive complex of social institutions which make up society). Storming the palace gates, on its own, is not sufficient. Legitimacy must be established.

For Gramsci, ideology is not simply the reflex of thoughts (mistaken or not) derived from material conditions, or the expression of class interests (formulations of the concept inherited from Marx and Engels), or a system of ideas; ideology is instead the more expansive field of communication which occurs in the daily practice of living out our various relations. The structuralist Louis Althusser picks up on this: ideology is expressed in all of our lived relations, is inescapable, *it speaks us*.

I do not want to suggest, however, as Althusser does, that "there is no practice except by and in an ideology", that we are mere conduits through which ideology is expressed. It is far more useful to conceive of ideologies as specific kinds of discourse and lived relations, for if everything is ideological, the word loses the ability to designate

¹For me the use of ideology as a form of struggle within hegemony calls up a series of theoretical problems which I cannot address in this study — particularly around the way it demands an approach to social relations which is agonistic and implies the inevitability of dominance.

²Since this summary of the concept is necessarily overbrief and simplified, I refer the reader unfamiliar with Gramsci to Roger Simon's comprehensive and accessible introduction, Gramsci's Political Thought.

communications of varying significance to central issues of power in society. Sitting in the back yard to listen to the birds carries less ideological weight than being there in order to guard against intrusion by squatters. So, resisting the structuralist tendency to universalize (itself an ideological practice), the study of ideology seeks a sense of how specific discourses become infused with political interests in general, in order to understand how oppositional discourses are constructed and constrained.

According to Roland Barthes, myth, conceived as semiotic closure, depoliticizes discourse, makes it innocent of historical intentions, and thus makes it appear 'natural'. The process by which it achieves this sleight of mind is through an abuse of metacommunication (the ways in which we refer to communication itself).¹ The naturalization process requires the deflection of the meaning of a sign from its common reference to an object or concept (subject) to a *second* set of meanings which serve particular political needs. The original meaning is preserved as an alibi, and the ideological function of the new signifying system is disguised.

The process of constructing narrative is a central function of the human mind, and narratives are the interpretive frameworks through which ideology is articulated. Just as for Althusser, Fredric Jameson understands ideology to be relatively autonomous from the economic yet retaining the mode of production as the primary influence on the ideological. But where Althusser perceives the mode of production as the one transcendent structure, Jameson posits overlapping modes of production.² There is no 'pure' narrative, influenced by one dominant mode of production. Many modes of production exist simultaneously in society and are expressed in texts, and the observation and critique of these texts is a form of class struggle at the theoretical and cultural level.

¹Please note that this term is a corrective to Barthes' use of 'metalanguage' to refer to metacommunication, and 'language' to refer to communication in general, which in the present context is confusing, as it subsumes all communication into one general form. Where I use the term communication, I am substituting it for Barthes' term 'language' or 'speech'.

²Jameson, p. 36.

Jameson points out that one must use an axe handle to hew another, and a strong interpretation must be used to replace a weaker one. This resonates with Gramsci's calls for an organic ideology appropriate to the historical moment and largely derived from the good sense available in common sense through reinterpretation. Ideology, thus understood in the structural sense as a compelling aspect of a society in struggle, is a contested realm of meaning within the larger contested realm of hegemony.

There are a multiplicity of tactics employed by dominant and sometimes by oppositional ideologies, many of which may be operating at once. But one feature seems to be constant: contradiction. Ideologies inevitably attempt the imaginary resolution of real contradictions or to dispel conflicts of interest. This basic feature of a complex concept is best kept in mind when undertaking the cultural intervention Gramsci details as effective political struggle within hegemony.

As Althusser has asserted, ideology serves to reproduce a dominant mode of production. If we are to understand the material conditions of domination, we must understand that

in any society, there are manifold relations of power which permeate, characterise and constitute the social body, and these relations of power cannot themselves be established, consolidated nor implemented without the production, accumulation, circulation and functioning of a discourse. There can be no exercise of power without a certain economy of discourses of truth which operates through and on the basis of this association. (Foucault, 93)

The discourse of truths about silence and which employ silence are in this society heavily inflected by ideological tendencies.¹ It may be assumed, on the one hand, that "silence is golden" (which may be reflected in urban real estate values, or by the maintenance of subordinate/authority relationships), while on the other, silence can be the malfunction of a supposedly seamless and happy conversation, or can be redefined to refer to louder and louder ambiences.

¹by "this society" I mean Canadian, and by extension the overdeveloped nations.

To take an example already presented: silence as "reticence" and as the "unsaid" are linguistic and philosophical *special* cases of silence which are often universalized, naturalized, and generalized as silence per se—which is a reduction of the general case of acoustic references to silence, from which all metaphors of silence extend. This reduction is anthropocentric and logocentric, and may serve as ideology when 1) it excludes acoustic consideration, 2) it disguises communicative reliance on silence, 3) it obscures a soundscape's fundament of silence, 4) it narrows our consideration of acoustic needs to human, sociocultural, or industrial contexts. If ideology serves to reproduce domination, then these four conditions are informed by ideology to the degree to which anthropocentrism and logocentrism are methods of domination. They are also expressions of ideology to the degree which they themselves further domination. They are, largely, ideological conditions with respect to the overall domination of the soundscape (and the listeners within it) by contemporary capitalism and its products, and with respect to the ways in which our domination in the soundscape parallels or even serves our domination in other ways.

My claim that silence is often an ideological tool of domination is particularly evident in the instance of oppressive silencing in discourse; but on the whole, this study is concerned less with the minutiae of how silence is described in ideologies than with the more general conditions of how ideology has affected the availability of silence to the contemporary listener.

the visual bias

Silence, recorded [in print] as an interval, does for language what the knife will do for the anatomist. (Illich and Sanders, 122)

It is clear from the way most North American english speakers (myself included) use language about our epistemological condition that our sense of truth, our preferred configuration of knowledge, is modeled upon the eye, its abilities, and the kind of

information it brings to us. This is the visual bias of the dominant collective (social and cultural) epistemologies. The mode of perception reiterated this way in language conditions epistemological constraints and barriers in each of us based upon that mode. It thus also contributes greatly to our ontological orientation, how we perceive our relations with other beings, how we express this relationship to our environment.

Much of Marshall McLuhan's ground-breaking work in communication is founded upon the assertion that the widespread reliance on print has created a typographic society where a visual model of knowledge and reason clouds our thinking and misdirects our behaviour, a model which is totally inappropriate for the electronic information age well under way.

Oral cultures, who do not rely on writing or print, use an acoustic model to organize information from the senses, since to use oral language is to be highly aural. Speech is an acoustic event, first and foremost. As the primary source for complex information, speech in an oral culture has profound effects on how information is organized, and even prior, what information is relevant. Purely oral cultures generally live in close alliance with wilderness and what urban folks call 'nature', and an oral basis for culture allows them to retain the necessary sensitivity to the acoustic environment for enhanced survival. Walter J. Ong's extensive study Orality and Literacy examines the role of our primary means of expression in shaping our perceptual bias and thought processes: "most of the characteristics of orally based thought and expression ... relate intimately to the unifying, centralizing, interiorizing economy of sound as perceived by human beings." (p. 73)

The visual model which reigns in our society is the result of a few centuries of writing and printing. The technology of print enables us to vastly diversify and expand the lexicon and increase the efficiency of explicit language. It allows discourse to be removed from its context and appear autonomous, and asserts an excessive authority over its readers. It also enlists the eyes as the primary sense organ for complex linguistic

information. The constraints and tendencies of vision as a sense combined with the demands of print as a medium have restructured our means of knowledge, and have naturalized sight as the reference point for truth.

Ong makes the case (along with McLuhan) that the effect of a visual bias is to limit thought processes towards linearity, fragmented and specialized systems of knowledge, standardization, and a sense of closure. The two senses have drastic differences in their effect upon us:

Sight isolates, sound incorporates. Whereas sight situates the observer outside what he views, at a distance, sound pours into the hearer. Vision dissects, as Merleau-Ponty has observed (1961). Vision comes to a human being from one direction at a time: to look at a room or a landscape, I must move my eyes around from one part to another. (Ong, 72)

How does this affect our relationship with nature and our soundscape?

Christopher Manes argues that nature is silenced by our exclusion of the sounds (and other communicative aspects) of nature as a non-subject.

Nature *is* silent in our culture (and in literate societies generally) in the sense that the status of being a speaking subject is jealously guarded as an exclusively human prerogative.

The language we speak today, the idiom of Renaissance and Enlightenment humanism, veils the processes of nature with its own cultural obsessions, directionalities, and motifs that have no analogues in the natural world. . . . It is as if we had compressed the entire buzzing, howling, gurgling biosphere into the narrow vocabulary of epistemology, to the point that someone like Georg Lukács could say, "nature is a societal category"—and actually be understood. (339)

The ability to examine discourse visually, to make it discrete and eternal,

encouraged the epistemological inference, apparently impossible in oral cultures where language exists only as evanescent utterances, that meaning somehow resides in human speech (more particularly in those aspects of it susceptible to rational analysis), not in the phenomenal world. Down this road lies the counterintuitive conclusion that only humans can act as speaking subjects. (343)

On the same page he suggests that texts supplanted our animistic relationship with our environment, as while nature no longer speaks to us, texts do:

As cultural artifacts, texts embody human (or ostensibly divine) subjects, but stand conspicuously outside nature, whose status as subject therefore becomes problematical in ways unknown to nonliterate, animistic societies. (343)

Exegesis, the interpretation of divine messages embodied in the Logos of the world, "swept all things into the divine net of meaning." (344) All aspects of our environment, Nature, are mute in themselves except as the voice of God-the-transcendental-subject. This study is, in part, addressed at the omission of the soundscape in discourse oriented research on silence, an omission which I believe stems from this humanist logocentrism which narrows the realm of communication to language and its nearest accompaniments.

repression as silencing

O.E.D. "Silence"

(L. *silentium*)

1c. *To put to silence*, to silence by argument or prohibition; to put to death; also. . . to reduce to silence. d. Used imperatively, =Be silent; make no noise.

"Silence" {as verb.}

1. *trans.* To cause or compel (one) to cease speaking on a particular occasion; also, to overcome in argument. b. To cause (an animal or thing) to cease from giving out its natural sound; to still, quieten. c. To stop, suppress (a noise or sound).

2. To reduce (a person, etc.) to silence by restraint or prohibition, esp. in order to prevent the free expression of opinions. b. To put down, repress (any expression of feeling, etc.).

3. a. Mil. and Naval. To compel (a gun, battery, or ship) to cease firing; to disable by superior fire; to stop (the fire of a gun). b. slang, as in *To silence a man*, to knock him down, etc.

4. To leave unmentioned or unnoticed; to pass over in silence, to omit.

Obs.

'Silencing' is so central to issues of oppression that in critical writings it tends towards a cliché. Almost all of such investigation focuses on silence as a condition of exclusion from discourse, as imposed, induced, or self-restraint. As with linguistics, silence is made by this approach to exist primarily in the abstraction-filled realm of discourse, and acoustic experience becomes subordinate to social interaction. There is a practical reason for this: the struggle for social power is most unruly in discourse, and

the struggle for social power is most unruly in discourse, and

those who have been denied access to material power can often begin to change the balance in the cultural realm, especially in societies with a ^{pretense} pretense to democratic access. The struggle for hegemony is most obvious in the struggle over legitimacy and freedom (privilege) of expression. ^{去過 去配} This is a vast topic and well examined elsewhere; for this discussion it is merely introduced in order to assert a balance and tie in 'superstructure' or discourse oriented arguments about the abuse of silence with 'base' or sound and production oriented arguments.

The 'brank' is an instrument of torture which enjoyed wide use in England and Scotland for at least two hundred years. It consists of a cage for the head to hold a ^{去過 去配} gag or blade inside the mouth and was largely used to silence women¹. Today subtler methods are the norm but the silencing of women is arguably the most pervasive form of oppression in the world. ^{去過 去配}

From Shakespeare's plays "where men are expected [by society] to be aggressive in action and word and women are expected to be submissive and reticent" (Rovine, 51) to contemporary notions of femininity, the domination of women requires that they be convinced to be silent (on this topic at least), and if not, then silenced forcefully or by exile. "Madness, not just physical abuse, was the punishment for too much talk if you were female. (hooks, 7)"

The feminist linkage of voice and silence brings us directly to the extension of acoustic silences into the realm of discourse as an ideological struggle. In the study Women's Ways of Knowing (1986), the authors found that women's description of their own lives commonly invoked voice and silence together as metaphors and experiences of their social and personal conditions. 'Voice' is a term often used to denote strength of self-expression, and 'silence' is often associated with that self expression, either negatively or positively, in the form of repression or resistance to oppression. The

¹an illustration can be seen in Wilden 1987 p. 49.

acoustic basis of these metaphors, the authors claim, is in the difference between women's ways of knowing and those of the dominant forces in patriarchal, fraternal society:

The tendency for women to ground their epistemological premises in metaphors suggesting speaking and listening is at odds with the visual metaphors (such as equating knowledge with illumination, knowing with seeing, and truth with light) that scientists and philosophers most often use to express their sense of mind. Physicist Evelyn Fox Keller (Keller and Grontkowski 1983), tracing the metaphorical uses of vision in the history of Western intellectual thought, argues that such analogies lead to a favored model for truth and the quest for mind. Visual metaphors, such as "the mind's eye," suggest a camera passively recording a static reality and promote the illusion that disengagement and objectification are central to the construction of knowledge. Visual metaphors encourage standing at a distance to get a proper view, removing—it is believed—subject and object from a sphere of possible intercourse. Unlike the eye, the ear operates by registering nearby subtle change. Unlike the eye, the ear requires closeness between subject and object. Unlike seeing, speaking and listening suggest dialogue and interaction. (18)

Silence, as ^{the 0, 2nd)} reticence, becomes a gag for those who must speak out in order to demand change or must exercise verbal faculties to fully develop a sense of self and a healthy subjectivity. While the emphasis may be on discourse, the metaphor is acoustic, and the struggle is over who has the right to airtime, to speak aloud, within unequal power relations. From there the argument extends to the entire soundscape, as we consider who or what has a voice, and how far communication can be extended beyond discourse and considered relevant.

Repressive silences combine deterred expression (from codes of courtesy to ^{the 0, 2nd)} censorship to murder) with omission and exclusion.

The silence of oppression is a desirable state for all power groups that are afraid that the mere expression and exchange of opinions or the free flow of information will threaten the existing status quo. This is why there are often legal measures introduced for not allowing political opponents to speak out. For example, before communism in Poland collapsed, underground publications were destroyed because their contents "posed a threat to national security"; small fliers and pamphlets of a political nature, which were distributed in the streets, were confiscated and the people distributing them were charged with littering. (Jaworski, 116)

On a smaller, more local scale, the Vancouver City policy of expending large sums of money on eradicating graffiti and 'unauthorized' posters is a silencing which controls access to public discourse along the lines of capital-intensive legitimacy—one must pay to advertise, or express opinion through establishment media.

If I tune my radio in Guatemala to a local station and I only hear songs, beer commercials and a single item of news from the world saying that Siamese brothers have been born in India, then I know that this radio station works in the service of silence. (Kapusinski, 1976, trans. and cited by Jaworski, 116)

While this description seems glib, it is illustrative of many of the real and justified frustrations of agents of social justice in the face of mass media complicity with oppression.

Subjectivity, as Manes identifies, is the ideological battlefield where silencing is carried out. Hegemony is developed and maintained by the occupation of circles of legitimacy, and the domination of legitimate discourse. When the word 'silence' is used as a verb in the context of a discourse-centered epistemology, the greater context of oppressive silences is implied. Who has the right or ability to express, especially publicly, opinions on the conditions of power in society depends on their status as a subject. "For human societies of all kinds, moral consideration seems to fall only within a circle of speakers in communication with one another." (Manes, 340) What is not within the circle of speaking subjects is denied moral consideration, as would otherwise be its due.¹

Heidegger is surely correct when he argues that all language both reveals and conceals. However, our particular idiom,² a pastiche of medieval hermeneutics and Renaissance humanism, with its faith in reason, intellect and progress, has created an immense realm of silences, a world of "not saids" called nature, obscured in global claims of eternal truths about human difference, rationality, and transcendence. (342)

¹Unless it is in relation to the moral condition of those within the circle. This establishes grounds for a great threat to the exclusive, since to accept the excluded as subjects would inculcate those within the circle who treat the excluded immorally as themselves immoral; and this invests greater interest and stronger resolve in the thorough exclusion of dominated subjects.

²That of "scholars, bureaucrats, citizens, and writers" in the humanist traditions (350).

Domination by exclusion of the marginal is aided in our society by cultural tendencies to ignore, to repress our problems; in the words of Lillian Allen, we live in "the culture of exclusion." It strikes at the identity of the excluded.

When we are talking about women being silenced historically, we are stating that in a power-structured language their voice is absent, not heard, and consequently their identity is missing. Speaking does not assume meaning apart from the social and cultural circumstances from which it arises. We are always facing the question of who is telling the story, in whose presence and whose name? Who is listening and through what means is the voice disseminated? Who speaks aloud? Who preserves what? (Lewandoska, 56)

Michel Foucault examines practices of exclusion through historical particulars in European-based bourgeois society, and concludes that

the mechanisms of the exclusion of madness, and of the surveillance of infantile sexuality, began from a particular point in time, and for reasons which need to be studied, to reveal their political usefulness and to lend themselves to economic profit, and that as a natural consequence, all of a sudden, they came to be colonised and maintained by global mechanisms and the entire State system. (101)

Oppressive silences are very much a matter of who or what is absent, of what kind of exclusion is being carried out, of what is inadmissible. During the Gitksan-Wetsuweten land claims case in the B.C. Supreme courts (1990-1991), Chief Justice Allan McEachern, while challenging the existence of the people before him as a valid culture, ruled that oral histories were inadmissible as factual evidence in his court.¹ When certain histories were nevertheless presented, and necessarily so as songs, he protested that he had a 'tin ear.' This court silenced an entire people, their means of discourse, their collective histories, their very existence, in the effort to silence any legitimate claims to sovereignty and land.

When cultures develop characteristics (such as racism) which deny other cultures self-representation, a profound cultural silencing occurs. This is the condition through

¹If my memory of the proceedings serves me right.

much of the world today, largely the legacy of colonialism. Cultures in this kind of relationship coexist in a silence as a gap which "cannot be traversed by understanding." (Ashcroft et al., 86) Control of the means of communication by one culture through the State (such as in South Africa) silences individuals in two ways: first, through literal censorship and physical suppression (exclusion is a kind of censorship); second, by imposing a language, thus bringing about a metaphorical condition of languagelessness, where the means of representation offers no identity (ibid., 84). Silence as a prime strategy of domination takes many subtle forms, not the least of which is the denial of the presence of silencing, or hate literature which silences even as it is championed under banners of 'free speech.'

We are often deceived (yes, even those of us who have experienced domination) by the illusion of free speech, falsely believing that we can say whatever we want to say in an atmosphere of openness. There would be no need to even speak of the oppressed coming to voice, articulating and redefining reality, if there were not oppressive mechanisms of silencing, suppressing, and censoring. (hooks, 16)

At this point it is necessary to emphasize the brutality of colonial strategies. While armed force is nearly always a necessary aspect of colonization, the most effective tactics for domination are indirect and involve psychological assault and deception (Wilden 1987). The colonizer obtains a degree of consent from the colonized, otherwise foreign minority rule is impossible; this involves the acceptance of an ideology by the colonized which weakens their unity and affirms the superiority of the colonizers.

The colonizer must control and conceal the strategy of colonization. The colonized must be taught to respond to this strategy, not by a countervailing strategy, but by a variety of tactical behaviour that serves to maintain and reinforce it. ... In this way the colonizer not only controls the economic, social, and political life of the colonized, but *he also controls their sense of identity as well* -- and with that, their self-esteem, the most important of personal values. The colonizer so convinces the colonized of their inferiority that they come to think, act, and live out their lives as if they really were inferior. (Wilden 1987, p. 209, my emphasis)

Control the culture, and the people will be controlled, because we are largely unaware of the dictatorial qualities of our own customs, habits, and patterns of thought (E.T. Hall 1981). We think that the order of things is inevitable; our own oppression becomes naturalized; hegemony is established. The enemy is difficult to resist because the enemy becomes unidentifiable, diffuse, hidden, internalized. Power, as Foucault maintains, takes on a circular, redundant pattern. Silencing becomes totalitarian to the extent that we are effectively colonized, to the extent that our identity is manipulated by interests which require our cooperative domination.

In sum, silencing as repression is coexistent with domination, and often relies on ideological effects to reinforce this domination. Thus where silence is banished as part of a domination of the soundscape, there is a repressed silence: silence is silenced. Here the silence of exclusion, omission, repression is made apparent as a higher logical type than acoustic (ambient) silence: silencing is a form of control over discourse, a set of rules which bring about the grounds for the absence of certain sounds, of any expression or communication which is denied validity, which is denied subjectivity at its source.

morality and taboo

I Corinthians 14: (order in worship)

33 For God is not the author of confusion, but of peace, as in all churches of the saints.

34 Let your women keep silence in the churches: for it is not permitted unto them to speak: but *they are commanded* to be under obedience, as also saith the law.

35 And if they will learn any thing, let them ask their husbands at home: for it is a shame for women to speak in the church.

The silence of judicious omission on a societal scale is

a powerful ideological tool. It is an effective, if not necessarily admirable, way to avoid the unwelcome implications of refractory reality, to avoid discussing the gap between ideological perfection and preference, and the imperfections of the real world. (Halperin, 466)

This is a silence in discourse, thus it is easily identified when it becomes ideological. In the process necessary for ideology to develop, contradictions must be either explained away or inadmissible; this relegates the processes of communication themselves to the unsaid, since ideology revealed as strategic or political ceases to lay claim to nature and eternity. Omission—disavowal, denial, dissociation and tact, the whole range of self-repression—is a coping mechanism for systems of subjectification which are threatened by internal conflict. When this becomes fixed in culture, a more or less stable and enduring, absolutist silence in discourse and action, it is a taboo.

Acoustic and psychic silence itself becomes a taboo when we are prevented from achieving it or meaningfully protesting its absence. Hildegard Westerkamp investigates how silence is a taboo in the moozak saturated consumer environment, and relates it to Protestant standards of behaviour in respect of authority. Since for children in Protestant families the experience of social silences tends to be oppressive, signifying obedience, she suggests that the common acceptance of 'music-as-environment' is eased, as it

simply reminds us—through our ability to recall words of the songs—of silence and stillness. It makes it possible for us to have a romanticized image of silence, without having to go through the experience of silence.
(92)

Moozak is a perfect example of subtle technological forms of domination by the manipulation of silences. This 'background music' maintains passive listening, is pervasive, and is truly a product of the Global Village, blending many musical styles into a dominant theme and packaging it as a desirable commodity. In fact its everpresence denies consumers the discontinuity of thought which is necessary for memory and a sense of closure, fulfillment (90). Requests to shut off the Moozak are futile; the marketplace does not yield to any need for silence, since silence would threaten the status quo with its possibilities for change and autonomous desires.

The European (Catholic) version of Puritan repressions of silence, according to Jacques Attali, is the tradition of Lent, the austere and penitent behavioural code used to

try to maintain authority over the riotous, noisy tendencies of the populace, or Carnival.

"One does not penetrate [one's] own silences easily when they are structured within various rituals and ceremonies." (Bruneau, 38)

As with Bruneau, it is my position that "much of the manner in which cultures manage silence relates to cultural conceptions of God and life-hereafter." (ibid.) The persistence of Puritan values in the dominant cultural framework in North America (which is spreading globally via commercial culture) is a key obstacle to establishing a more careful, widespread appreciation of silence:

The conceptions of authority in Puritan America appear to be very much present today—but they appear to be highly unconscious, out-of-awareness, habitual forms of global authority and habitual communicative style. Socio-cultural conceptions of highest authority appear to transfer unconsciously into the uses of certain interactive, socio-political silences in organizational hierarchies of many cultures—especially Western cultures. (Ibid.)

As E.T. Hall argues throughout his work, the vast majority of cultural communication is out-of-consciousness; and where that culture has been infused with ideological agendas of oppressive hierarchies, naturalized conceptions of 'common sense' communication become standard practice—and self-oppressive.

noise as symbol of power

Attali's theoretical political economy of music traces the use of noise, music and silence by state, church and industrial complex to maintain and extend power and authority in society. To him Moozak represents the silencing "monologue of institutions," an example of his maxim that "mass production compels silence." (121) The deafening monotonous noise of machines and low-information, undifferentiated commodities produces a paradox: "repetition in a society that talks so much about change, silence in the midst of so much noise, death in the heart of life." (120) The silence imposed by repetition is the death of meaning, the suppression of difference; and

in the marketplace or the larger realm of society this means control over the consumer. Directly linked to this is the control of sound production: in the politically best controlled cities, "silence and the centralized monopoly on the emission, audition and surveillance of noise" are imposed to repress "the emergence of a new order and a challenge to industrial capitalist repetition."(124)

R. Murray Schafer describes the transference of the symbolic power vested in natural sounds such as thunder to institutionally derived sounds such as bells and pipe organs in European history. This shift in the power of 'Sacred Noise' suggests the naturalization of institutional authorities through the domination of the soundscape.

The association of Noise and power has never really been broken in the human imagination. It descends from God, to the priest, to the industrialist, and more recently to the broadcaster and the aviator. The important thing to realize is this: to have the Sacred Noise is not merely to make the biggest noise; rather it is a matter of having the authority to make it without censure. (76)

In the practice of sound imperialism, where one is situated in the pattern of censure, of social silence, is indicative of one's privilege. While the aviator may operate the roaring, grumbling jets which fill the soundscapes of the world, it is the executives of the aerospace industry who gain the greatest privilege from a general tolerance of aircraft sounds. They reside at the heart of progress in the capital-heavy world of big technology, and their machines, and the noises they make, are irresistible symbols of the power of the culture of progress.

As the factories and the airports of the world multiply, local culture is pulverized into the background. Everywhere one travels today one hears the evidence, though only in the more remote places is the incongruity immediately striking. (ibid., 77)

Sound imperialism, in its key strategy of turning sound symbols to ideological purposes, is also implicitly and explicitly silencing. The loudest sounds in human hands are the infernal obliterating blasts of nuclear weapons, which are also the ultimate instruments of social silence. During the thirteenth-century Catholic conquest of

Valencia, the Christian minority, in order to consolidate a shaky hegemony, had to maintain the previous institutions and adopt a position of cultural tolerance. But both dominant groups' dogma denied spiritual and thus cultural validity to any other faith, and ultimately demanded exclusion. In the process of reducing the Moorish majority to an insignificant minority, the Catholic Church employed "militant policies... in Valencia the bells in mosques converted to churches rang out a message of Christian superiority to Islam rooted in naked power." (Halperin, 445) The muezzins were displaced and made silent; the keynotes of the soundscape were reorganized around a shift in political power, and the central institutions which geographically and culturally placed the Moors in the world were pushed aside. The Moors soon followed. Likewise, the Ottoman sultan, in his conquest of Constantinople, "turned Hagia Sophia into a mosque and forbade ringing of the Christian church bells which sullied the purity of Islam..." (453)

Sound symbols are ripe for myth¹ status and naturalization, as their roots are in the experiences which locate listeners in a geography, give us a sense of our 'nature.' Further study is required on the use of the call of the loon, for instance, in stirring nationalist feelings during Canadian government television vignettes. And although I occasionally participate in hideously loud concerts of anti-authoritarian music, I am concerned about to what extent the mood of resistance is underlaid by the very ideological processes which it opposes: the cult of total, annihilating power which is infrastructurally possible due to a web of electricity (and its production), technology and its ability to dwarf the individual, the damage to biological processes (e.g. hearing) in the interests of profit, communicative distortion and aggressiveness (and its companion, nihilism), the complete domination of the soundscape. It is not just a question of loudness; it is a question of the ways in which opposition takes on the effects of the oppressor—a "negative identification." (Wilden 1980) While taking on the expression of

¹n Barthes' limited sense of the word.

defiance, punk and its unruly relatives grasp at the same means of power symbolically, through sound, as exercised by those who silence politically.

Technology and development

The technologies arising out of the industrial and electronic revolutions drastically altered the global soundscape. Suddenly the air became full of new, powerful sounds and urgent rhythms to accompany or even signal the massive socioeconomic changes under way. As our lives have become increasingly full of hums, thrums, roars, whines, disembodied voices and ubiquitous music, silence has been crowded out. I hang up the telephone and suddenly realize that I am in a noisy room; shut off the yawping television and the air conditioner still thrums, and once that is shut off the refrigerator whispers and grinds; unplug the fridge and the wall clock buzzes under the hum of fluorescent lights, but at least now I can hear the birds outside—and the traffic. The proliferation of meaningless sounds and the commodification of much of the remaining soundscape clearly disrupts our sensitivity and degrades our awareness of our immediate surroundings, pushing the direction of our relations further into the realm of social discourse (and away from the context of those relations, the environment) and destructively altering the balance between listening and soundmaking. The roots of this process lie in the ground of cultural, ideological, and economic influences on the development of technology, the reflexive flow of ideas from the evolving and fractured cosmology of mechanistic science to the economic imperatives of the new capitalist societies.

new devices and sounds 1: the industrial revolution

Schafer describes how, as power shifted from religious institutions and sovereigns to industrialists,

they were granted dispensation to make [Sacred] Noise by means of the steam engine and the blast furnace, just as previously the monks had been free to make Noise on the church bell or J.S. Bach to open out his preludes on the full organ. (76)¹

The power of the industrialists was more than the power over human relations symbolically denoted by the town criers and king's messengers and bells; there was a massive surge in the power to alter, control, and dominate the natural world and all its inhabitants, and this power can be heard in the soundscape.

The industrial revolution brought forth the previously sporadic, rare, or nonexistent sounds of intensive production through machinery. New metals, sources of energy, and faster and larger machines in prolonged operation meant that the new sounds were loud, prolonged, and unrelentingly regular and rapid. The acoustic profile of production expanded with the increased sound level; more and more of the soundscape includes machinery as the dominant sound:

Increase in the intensity of sound output is the most striking characteristic of the industrialized soundscape. Industry must grow; therefore its sounds must grow with it. That is the fixed theme of the past two hundred years. (77)

This imperialism is by nature silencing. Not only does it drown out the voices and sounds of those under its suffocating blanket, but the utilitarian ideology which served the priorities of efficiency and mass-production meant the imposition of a 'rule of silence' on the workers, under pain of physical punishment or deprivation (Sadler, cited by Schafer, 75). The connection between work and song had been broken, as the sounds of

¹most of this and the following section is directly informed by Schafer's The Tuning of the World.

machines and bosses now mediated the relations between workers, and regulated their pace.

Along with the spread of machine sounds from the proliferating factories of the cities and the acoustic incursion into rural soundscapes of trains, farm equipment, automobiles, then aircraft, the speed demanded by the new production sped up the tempo of sounds and increased their regularity. This, with non-animal power sources providing relatively unvarying and unflinching energy, resulted in the ubiquitous introduction of the flatline sound. When the tempo of machinery speeds up past the tempo of 20 repetitions or so per second, the rhythm becomes suprabiological: it develops pitch, becomes a kind of note.¹ The discontinuity between discrete sound events, rhythm, which is such an essential organizer of activity, blurs into the undifferentiated inarticulation of constant stimulus. The visual metaphor 'flatline' refers to graphic measurement of amplitude over time, where the effect of little variance in energy output results in a sound with a consistent intensity level. These sounds contain too much redundancy, too little difference to contain relevant information to the human organism, with the result that they are communicatively disruptive, and our hearing systems adapt to them. Their compounded presence in the soundscape destroys acoustic fidelity; they become the ambient ground against which we have to hear relevant sounds, many of which are masked or obscured. With the increase in the quantity of acoustic information in the soundscape past the point of balance comes a corresponding decrease in quality.

Silence as the ambient ground, the boundary of relevance, is filled to overflowing in such an unbalanced soundscape. Flatline sounds destroy the general relation of sound to silence, which is that sounds decay, fall back into the silence out of which they arose. The musical drone has derived its hypnagogic power from the illusion of overcoming this decay, of simulating the Eternal Sound. The drone of the acoustic byproducts of

¹Even at lesser frequencies, highly regular sounds are relatively easy to adapt to, and carry the danger of becoming habitually accepted despite degradation of the soundscape.

industrial production adopted the sacred status of the musical drone, and it is from this profane spread of Sacred Noise that these sounds derive what little meaning, in general, that they may have: they announce the presence of the modern miracle of mechanization, and call out the power of their owners and makers. Meanwhile, silence itself is desacralized, an opposition to the presence of active machinery.

new devices and sounds 2: the electronic revolution

Electricity seems to be a quiet form of energy, but it has extended the sounds of the industrial revolution into every corner of our soundscape. The flatline sounds of machines were vastly expanded and further organized around the standardized and pervasive hum of alternating current. All the rooms of my home are filled with the hum of lights and appliances; as I walk in the quiet streets at night the streetlights buzz and sputter; walking in the countryside brings me to the deep ominous buzz of high-tension wires; and as I reach my friends who live kilometers from the nearest portion of the electrical grid, where the arid grassland gives up a keynote of silence and the only hum is the seasonal, intoxicating, shifting calls of insects, batteries provide the power for their daughter to dominate the soundscape with heavy metal music.

As the new powers of electricity made the telephone, the radio, and recorded music possible, explicit and analytical control over the soundscape came into its own. Sound can now be recorded, processed, and transmitted into any soundscape. Schafer describes how mythologies have expressed the "*authority* in the magic of captured sound" (90), and links this with the sound imperialism of our expanding way of life:

the territorial expansion of post-industrial sounds complemented the imperialistic ambitions of the Western nations. The loudspeaker was also invented by an imperialist, for it responded to the desire to dominate others with one's own sound. ... "We should not have conquered Germany without . . . the loudspeaker," wrote Hitler in 1938. (91)

Among the many effects of the ability to decontextualize sound and reshape soundscapes is the redefinition of silence as noise. Communication through electronic media made the transmission of information subject to technological limitations of the control and isolation of the signal, and its amplification above the background noise levels of the equipment sufficient for accurate decoding by a listener. Simultaneous with the search for ever higher fidelity equipment with minimal background noises and accurate reproduction came the widespread use of equipment with high background noise levels, such as telephones and pocket radios. Silence, as noiselessness, was impossible in this realm of synthetic soundscapes. Electroacoustic soundscapes came with the addition of ambience from its own technology, an ambience not imported from the original context of the recorded/broadcast sound, and an ambience which signaled the mundane, mechanical origins of the miracle of captured sound, against the claims of its makers. The silence which underlies all ambience in natural soundscapes was replaced by the noise of technology's limits as the ground of our listening lives.

the 'modern' soundscape

The concept of soundscape posits a listener at the center of an acoustic environment, but it does so in terms of an acoustic community; listening and soundmaking are intimately tied to the frequent and deep mediation of our relationships with one another through sound. Acoustic models have long been essential to the constitution of communities (and thus individual identities). Bells, drums, or callers have been traditionally used to denote the boundaries of a community as the acoustic horizon of such a sound signal. (Nowadays, you can't say you've truly left the city until the sound of traffic fades.) Plato suggested that the ideal republic be around 5000 people, the number that could be addressed by a single speaker (Schafer, 215). But the acoustic community has become in general unbalanced in conjunction with the rise of industrial

capitalism, to the point where 'quiet' itself becomes a commodity which is reflected in land values, and bells are replaced by sirens.

Even more disturbing is the way in which the soundscape is commoditized. The broadcasts of the commercial mass media, the *electroacoustic* soundscape, is but one example of this. More fundamental is the ideological justification of loud or incessant industrial and transportation sounds as the inevitable prerogative of economic progress. "Wherever Noise is granted immunity from human intervention, there will be found a seat of power" (ibid., 76). The power, in the case of airports, construction, roads, factories and the like, resides in the capitalist mode of production. What is the *value* of these sounds? Their exchange value lies in the amount of compromise, compensation and tolerance the affected communities are able to negotiate with those who benefit most (economically or via the product) from the activities which create the noise. Their use value will most likely be found in the point of view of the listeners: the sweet sound of progress and modernization, the comforting sound of profits, the infernal ruckus across the street, the numbing necessary roar of making a living, the thunder which makes some communication impossible, which isolates us.

Jameson reminds us that while one mode of production dominates, other previous modes coexist and survive, at the same time. It is much the same with the soundscape: contemporary soundscapes are in fact overlapping soundscapes: urban, rural, and wild. As in other forms of communication and production, the urban dominates. The city is loud, which is both its allure and its gruelling deprivation. However, power's recursive qualities, as Foucault argues, makes domination difficult to reduce to absolutes, and the selectivity of hearing enables us to find joy in a sudden birdsong even amongst roaring traffic, or sense the suprahuman silence of wild soundscapes underlying even city soundscapes.

There is a sense in which all of this cacophony must be considered natural. To separate the human from nature is to follow the humanist solipsism of the transcendence

of Reason over the animal, a hubris which ecological thinking seeks to rectify. There is also the dangerous ideological tendency to eternalize the explosion of the soundscape as a natural and *inevitable* consequence of technological progress and human evolution, much the same problem which the counter-hegemonic struggle of ecological activism everywhere must meet—the domination of nature is ideologically and culturally underpinned by centuries of coordination between science and imperialistic desires.

'science' vs. 'nature'; reductionism

Abundant scholarship has been devoted to accounts of the evolution of scientific, rational thought in Europe into institutions and attitudes which facilitated the domination of nature. Much of this literature centers upon the epistemological foundations laid by Cartesian emphasis on 'entities' and 'substance' rather than 'relationships' and 'process;' the common result of this ontological preference for a fixed subject was the reification of relations into things (cf. particularly Wilden 1980, 212-225, and Mathews, 15-21). Atomism, in its modern form, which supposes the world to be analyzable into discrete units which are the essence of existence, is the epistemological framework arising out of this foundation. When combined with the 'functional analysis' of the Aristotelian method which reduces a whole to the aggregate behaviour of its parts, the new 'clockwork universe' physics of Kepler, Galileo, and Newton, and an increasing admiration for the structure of intricate machinery, a mechanistic worldview developed and became, to date, ascendant (Botkin, ch. 7; Mathews, 16). This worldview led to the mistaken "*perception of the biosocial universe which describes the unit of survival as the individual*" (Wilden, 218), which is the fragmentation of the social body into indissoluble, fixed, entirely discrete individuals. The massive task of exploring how atomism evolved into social Darwinism ('survival of the fittest'), bourgeois individualism, positivism, and a whole range of ideological arguments is generally being carried out in the context of a critique of the new developments in physics and ecology.

When the provisional nature of theory is forgotten and our perceptions are believed to coincide directly with things as they are, we have achieved the reduction of suprahuman complexity to the human scale in such a way that analog experience becomes enclosed by the bars of digital boundaries. David Bohm suggests that this is a habit of mind which reifies information: "Since our thought is pervaded with differences and distinctions . . . such a habit leads us to look on these as real divisions, so that the world is then seen and experienced as actually broken up into fragments. (3)" In other words, scientism is a kind of reduction which rationalizes reductionism.

Reductionism is the method used to make the complex and unwieldy interconnectedness and continuity of nature into wieldy, discrete, independent and autonomous units (of information) in ways consistent with the machine metaphor.¹ Briefly, the result has been the "Imaginary opposition" of humanity and nature, the "schizoid epistemology of western culture" which expresses the rule of exploitation to be the just domination of 'other' by 'self' (Wilden, 220). Science has been at the heart of the subjectification of (some) humans and the subjugation of our environment:

The Great Chain of Being,² exegesis, literacy, and a complex skein of institutional and intellectual developments have, in effect, created a fictionalized, or more accurately put, fraudulent version of the species *Homo sapiens*: the character "Man," what Muir calls "Lord Man." And this "Man" has become the sole subject, speaker, and rational sovereign of the natural order in the story told by humanism since the Renaissance. (Manes, 346)

Bill Leiss argues in The Domination of Nature that the urge to control our environment is in reality an urge to control ourselves, or other humans, and that this is

¹"A particle is set in motion solely under the action of an external force and its motion may be altered only in the same fashion. The only 'force' allowed within the mechanistic framework is that of kinetic energy — the energy of motion by contact — all other purported forces, including action at a distance, being regarded as occult. Forces and particles are logically mutually independent, in the sense that the particles are not self-moving, and are not *necessarily* subject to motion." (Mathews, 17)

²The conception of divine order in nature, a hierarchy with Deity, angels, and humans on top, Nature beneath. Botkin (ch. 5) points out how this belief combined with the mechanistic view of nature rationalized human dominion.

often a utopian vision which facilitates dystopian action. Likewise Freya Mathews identifies the conflation of two 'others' for science—women and nature:

Bacon, the ideological father of science, was notoriously explicit on the need for men to 'subdue' Nature, the enemy. Bacon's imagery was militaristic—he called on men to 'unite forces against the Nature of Things, to storm and occupy her castles and strongholds, and extend the bounds of the human empire'. (The overtones of sexual aggression in the scientific attitude to Nature have been pointed out by many recent feminist writers. Bacon describes himself as 'leading to you Nature with all her children, to bind her to your service and make her your slave.' . . .) Bacon's ruthlessly exploitative attitude towards Nature would of course be morally indefensible were matter not viewed as inert, devoid of agency and interests. 'The men of the new science,' writes [Brian] Easlea [in Liberation and the Aims of Science], 'had provided an image of nature totally appropriate for the emerging society in which nature . . . [was] to be exploited for the enhancement of private profit and personal power.' (32)¹

Bacon's connection of nature and women as objects of imperialistic desire was more than analogy. Women's ways of knowing were (and are) silenced by the epistemological monism of science. Beginning with the persecution of witches and furthered by the march of colonialism, the ideological reductions of 'science' were both cause and method for the suppression of women's indigenous knowledge of the complex context of relations of human settlement with its environment (Shiva, ch. 2).² Women as primary sustainers and gatherers throughout the world, and the indigene in general,³ have carried the knowledge of ecological coevolution as their daily experience and basis for sustained survival, knowledge in opposition to the ambitions of unlimited growth and human dominion.

The silencing of contextually-oriented knowledge is a silencing of the acoustic perceptual model as a metaphor for reality. The visual bias and reductionist analytic work like clockwork together within a mechanistic cosmology. Both the communicative and ecological approach to our relations requires an understanding of science as

¹See also Leiss, chapter 1.

²'Divide and conquer' — science as a strategy of political power interests.

³See Wilden 1987, Spivak's The Postcolonial Critic, and Shiva (passim) for an introduction to the interconnection of women, the indigene, and nature as objects of conquest in patriarchy.

theoretical and provisional and reduction as an expedient but qualified method.

Tentatively, I suggest the involvement and intersubjectivity of careful listening as an epistemological model and corrective to the allure of reductionism.

The tendency to perceive the soundscape (or speech, or music, etc.) as full of holes caused by silence, is a reduction of experience. Silence as a positive, relativist phenomenon is not purely an absence, but communicatively present, and as such, not an emptiness, but a difference. To consider what is in fact full to be full of holes is to reduce an analog condition to a digitized set of distinctions. While such reductions may be useful for analyses, they become communicatively debilitating when they are extended or overgeneralized to the universal, and result in the intellectual repression of holistically organized systems. Thus, conflating all silences into a single category such as reticence, or fixing the dyadic relationship of sound/silence into a dualistic opposition is a miscommunication which allows the real relationships organized in and around silence to be obscured and disguised.

the unscientific application of science

Science participates in ideology when it is assumed that culture and society or even biosystems are as accessible (reducible) to us in their complex interworkings as inorganic nature appears to be, so that reductionism is used as a guiding policy in the application of technology. Ideology restructures science away from steadfast awareness of it as provisional knowledge; that is, there are concrete rewards and cultural reinforcements for research which reproduces the power of the ruling classes (Wilden 1980, xlvii; Gramsci, 301-311).

The easy alliance of power and reason that sustains those institutions involved in environmental destruction also sustains their discourses.
(Manes, 341)

Christopher Manes and Freya Mathews, in the spirit of deep ecology, argue that the emancipatory claims of humanism are overblown, as they collude with the very basis of domination: the conceptual domination of nature through the union of the scientific discourse of evolution and ecology with the *telos*-based Chain of Being inherited from Judeo-Christian traditions of hermeneutics (which subsumed all conditions of meaning under the textuality of God's creative Logos).¹ If nature is no longer a congregation of speaking subjects, but an unruly, meaningless wilderness which requires "Man" as a fount of meaning, there is no 'other' in nature to dominate, only objects to manipulate. The discourse of American slavery relied upon the manipulation of the concept of what constitutes "Man" from referring to humankind to civilized Europeans in order to naturalize the brutal domination of others as merely the utilization of natural resources. Both the human-as-object and nature-as-non-human discourses effect the abusive silencing of some part of ourselves by disguising subjectivity as objectivity, by reducing a complex, communicative subject to a mute object. The object is mute because it is without agency; it cannot act of its own accord, it is either endowed with action by human intervention or by the Universal or God-forged laws of nature (as described by experts). This mistakenly fixes communication into the realm of discourse, constrained by the notion that information is what is relevant to 'us.'

The most obvious expression of reductionism as a creed is in the proposal for a grand-scale technological 'fix' to ecological problems. Birch and Cobb call this the "cornucopian view of the future,"

the view that still governs most of the affairs of men and nations. This approach considers that all problems of ecological sustainability can be solved through technology and that some measure of justice will be achieved through unlimited growth and hence by the rejection of all limits.
(252)

Such views can be easily identified as mechanistic:

¹Note that this implicates the book as a silencing technology, as well as linking the visual bias with notions of dominion.

A mechanistic "nature" can also be re-engineered by us Not only has it been customary to use civil-engineering approaches to environmental issues, but it is consistent with the mechanistic perception of nature that, as a machine, nature is better improved by using novel engineering devices than by employing organic approaches. (Botkin, 105)

The soundscape, not surprisingly, is likewise dominated. The mechanistic approach to the control of sound pollution (itself a profitable industry) relies upon the containment, not elimination, of noise (Truax, 85). Noise is framed as the problem of those who are disturbed by it—the complainants—or a problem of technological underdevelopment which is studied and addressed by 'experts' and specialists whose mandate lies in their qualifications in the technological disciplines. Thus noise is not generally considered in its human, communicative context, but reduced from that context to the specifics of eliminating complaints, not maintaining and facilitating higher quality acoustic communication (Truax, ch. 6). Silence is unprofitable, unattainable, and irrelevant to the functioning of the machine, except as a signal of some kind of dysfunction.

accelerated pace

It is no mystery that contemporary urban life is directly linked to the abundance of high-speed mechanical rhythms in the soundscape, as part of the competition for greater profitability, efficiency, influence and responsibility—the 'rat race.' If Condon, Lomax, Leonard and Hall are right, and entrainment and synchrony are at the root of human rhythmicity, then no-one in urbanized environments remains untouched by the industrial speed-up. Schafer notes how the transition to a fast-paced society is accompanied by a shift in emphasis from discrete sounds to continuous sound, as with the change in mechanical pace to a flatline sound, or from telegraph to telephone. In addition, machines have such an incredibly regular, 'inhuman' rhythm because they operate without feedback from an organic context (Truax, 67). This means that entrainment, which must

happen for co-workers, will occur on the part of humans. As everyone knows, we adapt to the machine, not vice versa, and the designers and owners determine its speed.

Moozak was originally designed for the factory (Westerkamp 1988), as factory operators recognized the need to coordinate workers to machines: "In an office, or in a work area of any kind, people are encouraged to work harder and to be more relaxed at jobs which by nature may not be exciting or motivating."¹

An accelerated pace means shorter rhythmic silences: less time to listen carefully, less time for introspection, less time to make decisions. In the electronic world there is only signal and noise, and silence is death. The paradigm shift signaled by the move in dominant social rhythms from the subtle, feedback-sensitive human pulse to the mechanical thrum to the continuous modern hum of electricity has put silence and "civilization" in opposition.

new acoustic communities

The electronic revolution appears to have freed us from our bodies. The voice, music, any sound at all can be packaged and sent to almost anyone, anywhere. Last spring a friend left a message on our answering machine—he was calling from Antarctica. Already, to many, this seems commonplace, or at least comprehensible. We accept quite easily the way that telephone nets, the radio, television, taping and recorded music have changed our community structures. The definition of an acoustic community must now take into consideration not the spatial constraints of a region, but the social organization and technical infrastructure of electroacoustic soundscapes as well.

The broader constraints of electroacoustic communication, its greater control over distance, loudness, sound quality (and the context of the sound), information storage (time), and simultaneity (the same message in many places at once), offer the grand

¹"William C. Rogers Jr., regional manager for Muzak Corp., quoted in *Hardlines Wholesaling*, April 1978 p. 39": cited by Westerkamp, 40.

promise of democratization of communication. In many cases, such as two-way radio, telephones, and home studios, this is true;¹ however, the market-driven reality of the electroacoustic soundscape is the predominant outcome of such technology (Truax, chs. 8 & 12). As with any question of the freedom of expression, democratic communication relies upon *access* to the *channels* of communication, and the relations of power expressed in who has what kind of access.

Without diverging into the vast swamp of the relations of power mediated and incited through electroacoustic media, I want to make one relatively obvious point: that silence is marginalized in the acoustic community which has synthetic, commercial soundscapes as keynotes and which encourages participation in centralized, dominating acoustic communication.

The commodification of the soundscape is particularly strong in commercial radio and television, where every moment is a competition for viewer's attention and market susceptibility. In the frenzied appeals to consumerist appetites, advertisers pull the purse strings of the broadcasters, and our ears are assailed by persuasion and enticement. To the growth economy sense of priorities, an inactive consumer is a lost resource, an inefficiency; and in media broadcasting, silence is "dead air," a gap in the economy and the shattering of the listener's illusory involvement in the 'action' on-air. A silence in broadcasting breaks the contact the advertisers need, while to the listener of commercial media, it is rude interruption, an awakening to the immediate soundscape. The silence of the media becomes, however briefly, the liberation of the soundscape.

"Air time," the ability to broadcast, is easily identified as a resource, as the electromagnetic spectrum is regularly quantified and allocated. In the same sense, although not generally considered as such, the soundscape is a resource, which requires

¹despite the inherent contradiction that the production of the technology involved is inherently exploitative, and the participation in such profit-driven power structures as General Electric when we purchase their products, or accept their design imperatives.

ambient silence for communication to occur. As such, silence is a "commons" which has been expropriated in the ideological and economic domination of the soundscape:

On the same day on which I [was born] in 1926, the first loudspeaker was landed on the island. Few people there had ever heard of such a thing. Up to that day, all men and women had spoken with more or less equally powerful voices. Henceforth this would change. Henceforth the access to the microphone would determine whose voice shall be magnified. Silence now ceased to be in the commons; it became a resource for which loudspeakers compete. Language itself was transformed thereby from a local commons into a national resource for communication. As enclosure by the lords increased national productivity by denying the individual peasant the right to keep a few sheep, so the encroachment of the loudspeaker has destroyed that silence which so far had given each man and woman his or her proper and equal voice. Unless you have access to a loudspeaker, you are now silenced. (Illich, 7)

This commons has now been internationally recognized by the United Nations:

We denounce unanimously the intolerable infringement of individual freedom and of the right of everyone to silence, because of the abusive use, in private and public places, of recorded or broadcast music. (the General Assembly of the International Music Council of UNESCO, 1969, cited in Schafer, 97)

Nevertheless the problem continues to expand.

The struggle for attention

alienation and isolation in the global village

As the Khmer Rouge evacuated Phnom Penh they painted over all the signs, storefronts, traffic signs, place names, with white paint. Instead of tearing them down, they left them visibly blank, a metaphorical silence declaring the absence of the past and the new rules about public communication: there is only the present, the State is the only public voice. Brian Fawcett compares these blank signs transmitting a message of "non-information" with the contemporary international media complex—the Global Village (62-63). He claims that both the Khmer Rouge and the dominant consumer culture set about obliterating identities, "local memory," and "particularities," using both silence and silencing as a tactic. Hildegard Westerkamp's thesis on music-as-environment discusses

specific examples of oppressive silencing in consumer society through an imbalance between soundmaking and listening and by dominating listening, thought, and desire. A clearly voluntary form of imbalance is the use of headphones, where the sounds are so close to the ear that one's own voice is drowned out—we are isolated from our own soundmaking, self-silenced (33).

Foucault's project is to examine how the unitary theories of 'Western' science avoid and silence genealogies ("the union of erudite knowledge and local memories") and thus repress local histories and knowledge. Such domination, I suggest, requires a hegemonic reorganization of culture along the lines of the dominant truths. Once local histories and genealogies are wiped out or effectively suppressed by a homogenizing and silencing culture, we become separated from ourselves, each other, and sound sources. Our voices are stilled, we become distracted listeners, and of course, better consumers.

The alienation, isolation, and existential anguish of the 'modern condition' has become a platitude; nevertheless the situation is desperate. Ivan Illich and Barry Sanders, in their study of the psychological and spiritual effects of literacy, explore the possibility that this arises out of the conditions of "the alphabetization of the popular mind," as it has rearranged our mode of interrelating:

Having pushed itself between parts of speech, silence now removes the ear from the page. It first created "words," now it creates a new kind of standoffish reader. ... All by himself, this modern individual delves into a text written in the past by another, or sets out on the ever more lonely journey into the text that the past has left beneath the surface of his conscious self.

The alphabetization of silence has brought about the new loneliness of the "I," and of an analytic *we*. *We* is now one line in a text brought into being by communication. Not the silence before words but the absence of messages in a chaos of noises precedes the establishment of an interactive pattern. The pretextual *we* of orality, the "ethnic" *we* that has been transcended through conscience, has disappeared from reality. We know that the history of silence is reflected in the transition from the ethnic to the analytic *we*. (122)

Add to this the isolating effects of a soundscape where distracted listening to a synthetic background is common and relieves us from involvement in (and responsibility for) the

soundscape, frequently overwhelming noise levels or information-saturated conditions preclude expression, and skillfully designed and aggressively promoted acoustic expression dominates our sense of creativity and imaginations (Schafer, Truax, Westerkamp). Not only does listening sensitivity suffer from the redirection and reorganization of perceptual priorities along ideological lines,¹ but our internal, psychological, and thus community, well-being.

electroacoustic companionship

Inner speech, as described by Ihde (163), ensures a sense of familiar self-presence, a mental corollary of auditory affirmation. To silence this flow of familiarity is to introduce strangeness, to disrupt strivings for security. This can be accomplished by shock, meditation, or in Ihde's phenomenological investigation, by thought-experiment ("Try not to think of a white bear").² However, his investigation is carried out in a controlled (context-reduced) environment for the purposes of psycholinguistics. Accompaniment media thoroughly relieve us of the possibility of being confronted by our own silences, while at the same time impose silence upon our identity and psychological presence.

Harold Mendelsohn's 1964 study of radio at the zenith of its importance in the United States reveals some predictable uses of radio.

Generally speaking, radio functions as a diverting "companion," and it helps to fill voids that are created by 1) routine and boring tasks and 2) feelings of social isolation and loneliness. (242)

In a world of overwhelming complexity where the role of the individual in shaping events is becoming ever more remote, "keeping up" with the news easily becomes a substitute for being actively involved in the issues and events of the day. (245)

¹that is, this restructuring of our priorities is naturalized, made necessary, and their alternatives (oral culture, alliance (soft) technology, community control, etc.) are obscured — which benefits the consent-organizing institutions of the State and capitalists particularly well.

²This psycholinguistic tendency may provide some evidence for further investigation into logocentric exclusions of silence as a topic — to what degree does an implicit insecurity around personal psychological silence affect researchers?

The disembodied voices and music of electroacoustic media accompany most of us throughout our lives, allowing us to gloss over the paradox of increasing isolation and crowding. The pain of enforced psychological solitude amongst so many fellow disempowered humans is a thematic keynote of twentieth century literature. Radio, particularly talk shows, news, and our friend the 'deejay' provide us with an "audioanalgesic" to help us cope (Schafer, 96). The companionship must be loyal, reliable; I remember living in crowded housing next to a window where the sound of gospel radio could be heard to whisper all night long, all summer. An elderly person slept in that room, all alone. Radio programming is carefully designed to avoid silence, to avoid abandoning the listener. This allows the strategic use of silences (a "dramatic pause") in advertising to be particularly successful at alerting the listener, heightening their interest (Truax, ch. 11).

Disembodied voices have immense authority; as a sound symbol they are found in religious mythology, loudspeakers have become standard political tools, and advertisers are well aware of how to tailor the voice to maximize this effect. The loudspeaker signifies power by the very access to technology which it entails, and the magic of speaking in a million places at once, or having a supernaturally loud, resonant, commanding voice, is truly awesome. As a daily companion, such voices (and music, etc.) dominate our own voices, for these are centralized, standardized, and homogenizing authorities. Identity is at least partially linked to central cultural outlets, the prophets of consumerism.¹ Our spoken and social voices are silenced in this process, but also our inner voices are silenced, except in dialogue with the unlistening voices of accompaniment media.

¹Of course, this is an oversimplification: identity is complex, shifting, and multifaceted, and media institutions must not appear to represent particular interests directly if they are to be ideologically and commercially effective, particularly in democratic societies. But the general pattern holds. See Stuart Hall 1982 and Masterman ch. 6, on how 'free' media institutions are effective ideological disseminators.

Is the continual presence of depersonalized voices and sounds truly compensatory for the loss of meaningful daily interaction? Of course not. The situation becomes aggravated. Media companionship supplants psychic silences with a low-quality continual flow of discourse (in the broadest sense), and this further degrades the low-quality relations between the individual and environment which are at the core of our isolation. The 'mute' button on television remote control units is a form of managing this problem: while it returns some control to me, gives me the opportunity to break the spell of involvement which television audio works, the television stays on. While I am listening, even distractedly, to radio and the like, it takes great will to invoke my own mental silences — I must assert control over my own continuity, or surrender it to the program director.

desire, compulsiveness, and the erotic ear

The ear is undoubtedly an erotic orifice, as Schafer points out, and our hedonistic society typically overindulges. Television is particularly addictive, and significantly, the most pacifying of electroacoustic media, but other electroacoustic forms can dwell just as much in our compulsions.

Listening requires desire, the desire to hear clearly, to receive the full relevance of a sound.

The sparseness of sound in a hi-fi environment makes the desire to listen a natural process. We reach out to the sounds because we want and need them for orientation and information, for locating ourselves within a place. In other words, the hi-fi environment creates a desire in us to use our ears in an active way. It is the desire to connect to the place we are in that motivates us to listen. We desire to "be of that place", to interact with it. (Westerkamp, 15)

In the midst of acoustic clutter and economic frenzy, however, the desire that is normally present in a hi-fi soundscape is within an entirely different set of relations. The complex interactions of identity reinforcement and development, avoidance behaviour, various

forms of dependency, mood control in an artificial environment, indoctrination, sexuality, and other social manifestations of desire inflect listening habits in often contradictory ways.

Advertisers know that to stimulate desire, seduction and threats work well: music, violence, sexual signifiers and deprivation (threats of inadequacy, or as mentioned, silence) are stock. But above all, it must be comforting, and offer us the familiar. Familiarity, or "resonance," could be said to be the constraint within which commercial electroacoustic media operate, and the risks and benefits of innovation are considered within these constraints (Schwartz). This continual resonance, a high-frequency redundancy in our identification with society as it is represented in media, culturally and ideologically reinforces many of the contradictions we must bear as members of the society. Theories of psychoanalytic inadequacy¹ or spiritual malaise aside, the widespread compulsive engagement with electroacoustic media suggests that we in the overdeveloped nations have been banished from our own edenic psychological silence—and therein lies much of our cultural anguish.

Feeling lonely, unsatisfied, unfulfilled, overwhelmed and/or silenced is good reason for existential insecurity; little wonder, then, that silence is undesirable to so many of us, since it confronts us with (signifies as) our own existential emptiness.

death

There is something pre-reptilian about a silent kill. (E.J. Pratt)

Since as living beings we cannot not communicate, to associate silence with the absence of communication is to make the mistaken reduction that silence is a kind of death. "Since modern man fears death as none before him, he avoids silence to nourish his fantasy of perpetual life. In Western society, silence is a negative, a vacuum"

¹This field of theories is too vast, labyrinthine, and mine-ridden to be of use in this study — there is much discussion to be carried out on desire and media before I will commit to a position.

(Schafer, 256). It is the other way around: death is merely a kind of silence. Death is the ultimate, imminent silence which humans brought nearer and made even more everpresent by producing the nuclear bomb, the loudest technology yet. Death is silent not because silence is dead, but because death speaks for itself by saying nothing. The mystery of simultaneous absence and presence is the mystery of modern science and the mystery of the ancients, and the reality of everyday discourse.

In the dominant culture or 'common sense' of this society, as I have suggested, silence is a question of discourse, and is abstracted from the acoustic. Terror under the influence of silence is then likely to be derived from silences where exclusion from the social order is implied, or dissolution of the ego (psychic/somatic death) is a threat.¹ In Saville-Troike's classification, these would be (see appendix A) noninteractive, psychological, normative, and institutionally-determined silences; for Dauenhauer, this would occur in 'deep silence.' Being silenced can be akin to death within the social order; to be considered 'noise,' irrelevant, 'background,' can threaten one's identity, or lead to being killed. Likewise, to experience one's thoughts as 'noise,' such as in meditation or sensory deprivation, threatens psychic existence, the 'self' which is constituted by thought. While this may be desirable in some cultures, in a culture oriented towards achievement and action as a corollary of life, it is not.

E.C. Stewart, following Kluckhohn and Strodtbeck (1963), describes the predominant ontological value of most "Americans" as *doing*, i.e. striving, achieving, busy. Visible and measurable actions and their results are preferred as ontological vitality. This is ironic in a nation which spends on average twenty to forty hours a week rotting in front of the television. Stewart distinguishes from this two other forms of activity: 'being' and 'being in becoming,' which he generalizes as being dominant in the

¹SILENCE = DEATH: the slogan of the AIDS Coalition To Unleash Power is an illustrative play on this fear. This slogan makes the simultaneous statement that 'death is silent' and 'political silence kills.' It is the idiomatic use of a common belief to focus attention on the relationship of silence to consent, and of public consent to the death of AIDS victims through institutional and structural negligence, and thus to stir us out of indifference. See appendix E.

"non-Western world," and are ontological orientations to action which preference spontaneity, contemplation, self-actualization, and self-development: in short, they emphasize the person, not the product (57-58). An orientation towards doing ties activity to materialism, so that achievement is measured in products, recognition, and accumulation. Failure by these standards provides scant evidence for one's existence, and even the rare success is relative. Regardless of the inactivity or distracted uninvolvedness of the electroacoustic listener, the collective illusion of participation in commercial electroacoustic media relies on vicarious doing.

Death is final in the scientific individualistic complex of ideological meanings, since reality is restricted to observable matter-energy configurations. Fear of death, the dissolution of the ego, and the obsession with youth in European-derived cultures are complex topics; but it is worth noting here that activity and achievement are polarized in our dualistic way against death, inactivity, just 'being,' and by association, silence. In the dominant values of popular culture, the silence of 'dead air' is a social isolation, an excommunication; likewise, silencing the mind is both a threat to a way of life—active consumerism—and a related denial of self-worth.

Lack of silence

'Sound pollution' (or the more common 'noise pollution') is the notion which has most encouraged people to begin to hear the debate around noise and soundmaking. Acoustic noise and ambient silence are mutually exclusive, when silence is posited as the ground of a hi-fi soundscape where discrete sound events arise out of the silence, and fall back into it. The effects of 'noisy' (not necessarily loud) soundscapes on humans range from debilitated communication on many political and interpersonal levels, to hypertension, to destabilized psychological conditions, to damaged or destroyed nerve endings. Excessive noise disrupts the mating, nesting, and migratory patterns of birds and other animals. Sound becomes a pollutant when it overstimulates hearing, damages the diversity of information by masking other sounds, destroys variety with unchanging sounds, or has qualities which make it annoying or otherwise stressful. If individuals are constituted in their sense of identity and community in many ways by auditory connections with that community, noisy acoustic communities reconstitute those imbalances in the individual.

The physical dangers of excessive noise and high sound levels scarcely needs further mention, as it is probably the most studied aspect of the soundscape. It should be obvious to communication researchers and environmentalists by now that physical damage to the hearing system is all too common, and that noise-ravaged nerves contribute directly to the pandemic problem of stress.¹ It is less obvious, generally, how noisy conditions affect listening, and communication in general.

Noise reduces diversity. This occurs through excessive redundancy or insufficient redundancy, so that meaningful differences are obscured (Truax 1984). Living in noisy soundscapes incurs the necessities of coping by adapting to a degraded fidelity in our communication with the environment. To avoid sensory overload, we are forced to

¹See, for instance, Ira Hirsh's "Summary" to the 1973 Proceedings of the International Congress on Noise as a Public Health Problem in Dubrovnik, Yugoslavia, May 13-18; prepared by the U.S. Environmental Protection Agency, Office of Noise Abatement and Control, pp. 807-815.

consider the noise as simply irrelevant. This method of coping leads to the structural obscuration of history and domination ("that noise? I didn't even notice it..."). It is also common to maintain a kind of sensitivity to the social context and the meaning of the noise which identifies it as part of a historical process *and* a form of damaged communication. This method systemically obscures history if it is employed as rationale ("well, that's progress"). Both of these examples are ideological conditions in that they reproduce the domination of the individual within the soundscape.

The sensitivity of our listening skills is taxed and stunted by the overstimulation of our hearing from all corners of the urban soundscape and claims on our attention by the electroacoustic media, since to manage excessive information one imposes narrower or less detailed constraints. The acoustic horizon moves closer, and often becomes synthetic, abstracted, so that our sense of the soundscape as environment becomes smaller and less interesting, or even illusory. Habituation and tolerance to sound pollution are cases of positive feedback: the condition continually compounds itself.

Noise in itself brings ambiguity, by masking acoustic detail and definition. It tends to destroy individuality, the identity of elements of the soundscape, including the listener as a soundmaker. It is no wonder, then, that mass-produced electroacoustic media often involves a heavily overdetermined cultural familiarity. However, turning to standardized communication to alleviate the anxiety caused by ambiguity likely results in the association of complex, ambiguous silences with anxiety—even more so than with noise, since moving from disruptive noise to diverting noise only disguises the fundamental problem.

When we are denied silence, just as when we are coercively silenced, a profound alienation (in many senses of the word) occurs. Most directly, we become collectively alienated from our environment. The silencing of nature as an active subject objectifies our environment and divides human history from natural history, a form of alienation well discussed in the tradition following Hegel and Marx (Williams 1983, 34). If we

consider human action to be over and above other natural processes, natural, wild, ambient silence is no longer clearly the fundament of a balanced soundscape. Wilden suggests as an axiom that the natural ecosystem is the privileged model of the communications system (1980, 204), and without this model, acoustic communication suffers an imbalanced relation between sound and silence. In attempting to control sound, we have lost control of the soundscape.

We also become alienated, in ways I have only mentioned, from social discourse. Skillful communicators manage their silences well; when silences are marginalized, so are communicative skills. This also tends to confirm positivist and logocentric notions of communication, where sound is positive and silence is negative, in terms of value; and human expression is communication, while all else is silent.

Being denied silences means being denied personal sensitivity. Silence in communication heightens sensitivity to context. Without adequate silences, sensitivity to context is numbed.¹ Being denied our *own* silences means that our own rhythms are likely being subverted and replaced to some degree by dominating rhythms, a personal disrhythmia—which Condon (1982) declares is a major communicative pathology. In the examples of music-as-environment and flatline sounds, personal silence is denied through prolonged, unrelenting continuity. Enforced continuity means lack of mental punctuation, which is grounds for confusion and dysfunctional memory.

Finally, it means being alienated from oneself. There is broad consensus, from the proliferation of contemporary psychotherapies to ancient spiritual traditions, that deep silences which penetrate all qualities of being are essential to contemplation, self-actualization, and the integration of self. "Still the noise in the mind: that is the first task—then everything else will follow in time" concludes Schafer (259). The problem of coordination between behaviour and the intellectual (for some, counter-intuitive)

¹There is a possibility, ripe for empirical study, that reticence tends to employ synthesizing, context-organizing, spatial, non-syntactic 'right-brain' processes more thoroughly than speechifying.

realization that the universe is analog, an unbroken whole, is dramatically described by J.

Krishnamurti:

...so the mind is silent in the face of a new challenge. It is silent because it can't answer the new challenge. ...

You know when you see a marvelous mountain, the beauty, the height of it, the dignity, the purity of it, it forces you to be silent, doesn't it?—this may last a second but the very grandeur of it makes you silent. And a second later all the reactions begin. Now if you see the challenge in the same way—but you don't because your mind is chattering—so you don't see the importance or the magnitude of this question, which is: can I live (living meaning *now*, not tomorrow or yesterday, or a second after, or a second before) can I live without fragmentation? It is an immense question—right? Why aren't you silent? (270)

CHAPTER FOUR INTEGRATIVE USES OF SILENCE

Now that I have indicated how our relations to one another and the environment rely on silence and are damaged by the pathogenic abuse of silence, I find it necessary to provide at least some examples of counter-hegemonic and healing practices which are a ready response to this. First, the struggle in discourse, marked by silencing and other oppressive practices, can be strengthened by silence as a tactic in a strategy of resistance to oppression, which may include the refusal to participate, secrecy and the silence of omission, and the freedom of the silence which defines the margins of public discourse. Secondly, the judicious use of silence in both the broader soundscape and discourse is a key to personal, social, and cultural integration, and offers the hope of developing the ecological sensitivity we need to survive the present ecological crisis. Lastly, silence occupies its most prominent traditional role in the psychological, spiritual, and existential inquiry of religious, mystical, and artistic practice, and provides a continuous proving ground for cultural innovations and truths.

Resistance strategies

refusing participation

"Let no one tell me that silence gives consent, because whoever is silent dissents." (Maria Isabel Barreno, Maria Teresa Horta, Maria Velho da Costa 1975)¹

The best strategy for the vulnerable who are under attack is that which turns the attacker's tactics back against their own strategy; thus for the silenced, dominant control

¹excerpted in *A Feminist Dictionary*, eds. Cheris Kramarae and Paula A. Treichler, Boston: Pandora Press, p. 419.

over discourse can be subverted by maintaining that same silence when it is demanded that it end. Silence (as reticence) which is 'inappropriate' to a subordinate-authority relationship is a good example of this. In Gilmore's (1985) study of silence in the classroom, student sulking is characterized as a stylized display which is a direct confrontation of the teacher's authority to make the children speak or remain silent. It is typically a clash of wills between individuals, and simultaneously expresses defiance to the teacher and solidarity with peers.¹ Such an outward display, however, is often a last line of defense, with the main strategy of non-participation being the use of the classroom silence which is ostensibly the space to listen in becoming a silence to hide in, a more subtle and difficult to identify technique (148).

Silence can be a rejection, a denial of an imposed speech, and the denial of others' power to make one speak. This is no mere sullenness where the language is not one's own, as occurred in Canada's residential schools. Students who could be severely punished merely for speaking their native tongue maintained silence in order to retain dignity and conceal punishable attitudes:

With her dignity relatively intact and the nun's frustration leading her to make a display of outrage, Sophie felt she had won the battle. She was not humiliated because she did not cry. Although she was punished, she maintained her control. Other people spoke of maintaining their dignity through silence. Often interpreted as passivity by the more vocal Euro-Canadians, silence, for many Natives, is a sign of strength. . . . The fact that [Mary] saw herself making an active choice not to speak out about her hurt also gave her a sense of self-esteem. She realized that the nun did not know about her life as she did. In that knowledge, she was stronger than the person causing her pain. (Haig-Brown, 92-93).

Cross-cultural silence, in such situations, becomes a tactic of resistance in the struggle for autonomy. This can take the form of refusing to speak before authorities, boycotts, or invisibility (remaining unknown). There is nothing mute about such silence; it signals resistance and is an "active characteristic" linking other emancipatory gestures,

¹In the case of this particular study, carried out in a predominantly African-american elementary school, the stylized sulk is seen as a particular cultural trait. However casual observation clearly suggests that the practice is widespread, although the particular style may vary considerably.

movements, and texts (Ashcroft et al , 187). Such silences are important for all resistance and social justice movements.

Alice Borchard Greene tracks the spiritual practice of silence as a "breeding ground of conflict with authority," particularly where European churches have opposed individualized interpretation and worship as heretical.

In this battle Silence has always been a powerful ally on the side of individualism. The lone seeker tends to see dependence upon authority and creeds as a static reliance on the past. To him it implies the worship of spiritual truths, once revealed to man, but now thought of as being no longer individually accessible. His dynamic concept of religion implies the reverse — that revelation is a spring that still flows, having never dried up. He disdains the inertia which is likely to accompany looking backward, and decries the fears and disputations which go with authoritarianism as ordinarily exercised. (Greene, 160)

The origins of Quakerism and Quietism can be found in this struggle over the proper site of religious experience (Greene, 163; Lippard, 150). And, as I will discuss further on, it is the social basis of mysticism.

maintaining integrity through secrecy

Silence can be a shield. This is a defensive strategy under conditions of emotional, psychological, and physical vulnerability (hooks, 7). Information which can be used against one is withheld. When this form of silence is made obvious, it takes the form of a challenge to universalist paradigms, declaring the validity of local knowledge, and emphasizing a difference, thus autonomy (Ashcroft et al., 187). When the silence is secretive, it creates a cultural space where there is no interference. De Certeau's reportage of the ways in which Latin American Indians "silently" develop their resistance to colonialism suggests that they maintain their cultural heritages by utilizing reticent silences and silences of omission amongst themselves to allow for the ambiguity of cultural pluralism, and remain aligned by defining themselves against oppressive society within the boundaries of their silence.

The silence of resistance. Here we are in the presence of an agreed imperative of protection; the unspoken word of each individual outlines the boundaries of the network of affinities in the midst of which every word takes its value in the restricted circulation of the admissible. A dissimulated power of sociality, silence is a code, a line of demarcation that can be crossed only by the person who then takes his place in the secret language, welding all elective hierarchy in secession from external powers. (Tacussel, 17)

Secrecy is a privileged tool of domination in the information age strategies of State alliances and corporate consolidation of intellectual property. Yet as a response by beleaguered groups and individuals to the encroachment of surveillance as a science of control, secrecy and its attendant silences offer a guerrilla-like advantage. Secrets can bolster personal and group strengths, both by strategic disguise and unifying principle: "Silence fosters the fascination inherent in secrecy and raises the secret beyond its content. It confers on him who possesses the secret a superior identity and endows his private life with a stronger autonomy before civil society." (Tacussel, 29)¹

Aside from the inherent resistance to temporal authority which can be found in the mystical investigation of silence, the very act of silent communion with others in the soundscape involves an inexpressibility which transcends culture or politics and in doing so, equalizes. This secrecy which is made necessary by the nature of the ineffable is where silence links the spiritual to the political.

redefining silence at the margins

The silencing of a group or individual maintains an ambiguous status as a deliberate destabilization of social position and thus disempowerment (Jaworski, ch. 4). This ambiguous status — social marginalization — is a potential strength and freedom. In any struggle for power, the very ambiguity of the silenced margins means that the activities carried out there go largely unnoticed, and thus they are an effective position

¹It should be made clear, however, that oppressive secrets such as the "conspiracy of silence" which surrounds survivors of abuse are not resistance so much as a suppressive silencing and a means of coping with social isolation, the threat of physical punishment, the ambiguity of a subordinate status, and the social structures of shame which revert back upon the victim.

from which to strategize, reorganize, and act without direct repression. The margin structurally, thus effortlessly, endorses secrecy.

The margin as a silenced position and an adopted silence in public discourse, as long as it remains the margin, can help define the boundary beyond which one must withdraw to mark resistance by non-participation. Paul Mann ("Invisible Ink: Writing in the Margin") writes of the silence of writers who refuses to circulate their own writing in order to withdraw from the 'white' (meaningless) economy of discourse ruled by exchange value:

An invisible boycott, a simple but absolute refusal to submit to the law of recuperation and exchange. . . . Even supposing [such writers] do not exist, simply to imagine them is to redraw the map of culture. This, for us, is their primary value: their silence rewrites the theory of marginality. . . . Silence is the only margin, and only because it is possible is marginality conceivable. (822)

A broader, less extreme example of this is the burgeoning body of post-colonial texts, where the cross-cultural dynamics of strategic silences have been shifting ground:

Paradoxically . . . imperial expansion has had a radically destabilizing effect on its own preoccupations and power. In pushing the colonial world to the margins of experience the 'centre' pushed consciousness beyond the point at which monocentrism in all spheres of thought could be accepted without question. In other words the alienating process which initially served to relegate the post-colonial world to the 'margin' turned upon itself and acted to push that world through a kind of mental barrier into a position from which all experience could be viewed as uncentred, pluralistic, and multifarious. Marginality thus became an unprecedented source of creative energy. (Ashcroft et al, 12)

To return the discourse metaphor of silence to its roots, these examples of resistance are applicable within the soundscape as withdrawing from the din and din-making, engaging in silence-oriented community, and rediscovering the subtle limits of perceptual sensitivity in our silences. Silence in discourse can arise out of the power of self-control; silence in the soundscape can arise out of the power of control over all our forms of soundmaking.

Regeneration

personal retreat

However obvious it may seem, the simple solution to living in a noise-ridden, deafened society — *acoustic refuge* — is difficult to achieve. It is a given that the human organism is well-adjusted to quiet living and poorly adjusted to noise and stress, yet cultural, ideological, and habitual tendencies suggest the desirability or inevitability of noise to us, and structural constraints like economics and social roles can back a person into noisy corners. The romanticized silence of rural and wild soundscapes beckons jangled urban nerves, prompting further commoditization of silence in advertising strategies and tourism. Silence as a keynote becomes the margin for the urban lifestyle, a temporal margin for the march of progress.

An article in Health magazine (February 1990) by John Grossmann, a contributing editor, equates silence with quiet, or rather a "noise free" environment, which refers to both quiescence of the mind and of the soundscape. Noting that studies of the debilitating effects of noise are abundant, he questions the lack of study on the effects of quiet,¹ then delves into examples of quiescence as a practice: an insurance company that silences telephones on Wednesdays; siestas; vision quests and other retreats; early morning walks; observing wild animals; meditation; flotation tanks (restricted sensory environments); and Gordon Hempton's² search for truly quiet, 'wild' soundscapes. The key issue in all of this, and the reason for the article, is that the relaxation and regeneration which comes from regular exposure to a personal silence is fundamental to physiological and psychic health. There is a slow growth in popular awareness of this need, and articles such as Grossman's are far too rare to meet the challenge.

¹"Perhaps quiet, like beauty, looms too transcendental for science to grasp with its qualitative calipers." (59) I have argued differently: that logocentrism, the commodification of the soundscape, cultural preferences, and science's traditional links with technology and rationalist alienation from nature have obscured silence as a basis of study for communication — yet it must be admitted that silence (as quiet) has an irreducible quality which means that it is subjective and would be difficult for empirical methods to organize into measurable units.

²Hempton has traveled the world documenting vestiges of acoustic wilderness in high quality tape recordings, emphasizing silence as a keynote.

The "emotional tuning fork" which Grossman refers to brings us back to silence as a fundament of human experience and communication. In order to assert control over our soundscape, retreat is often necessary. Retreat of this sort is just as much a gesture towards silence as it is a withdrawal. In Don Ihde's (1976) phenomenological mapping of the auditory dimension, "The horizon as silence situates and surrounds the center. (165)" The cultivation of a personal silence is thus *centering*, the listener becomes attuned to the soundscape, and the environment as a whole.

Acoustic refuge, Illich's commons of silence, is not completely abandoned by overdeveloped societies, as the popular surge in meditation practice, environmentalist arguments for wilderness as sanctuary for spirit and body, and new age psychotherapies attests. But the enclosure of the commons continues. Elsewhere, ready models of social respect for silence exist, particularly in indigenous communities. Schafer refers to Daoism as "a philosophy that would make all noise abatement legislation unnecessary. (258)" Effective counter-hegemonic strategies must take environmental concerns into account, and the incorporation of various forms of respect for positive silence and the recuperation of persistent cultural institutions of healthful silence are key to regenerating the soundscape, and liberated communication in general.

quiet design

Acoustic refuge is institutionalized in civil society in various ways, as outlined in Chapter Two. However, sound imperialism and the encroachment of machinery designed under the influence of the visual bias threaten or have destroyed all such sanctuary, especially in the city, and ceremonies of silence are in retreat.

Schafer's principles of acoustic design are founded upon the precept that "the recovery of silence as a positive state in our lives" is essential to returning to a balanced soundscape (259). Clairaudience, the requisite ability of the acoustic designer, resides in respect for silence. Without it there is no possibility of a viable aural culture. The design

of our machines, dwelling spaces, and ultimately the soundscape will be profoundly affected by the degree to which we develop and maintain (Schafer suggests "retrieve," p. 207) criteria informed by a reintegration of the senses. Aural culture is a grassroots issue, although various vanguards and culture industries may claim leadership. For acoustic design to develop appropriately, acoustic ecologists must activate and advocate acoustic design principles on a broad scale, as well as work with design experts (Truax, ch. 7).

Since, short of apocalyptic collapse, the global community is increasingly intertwined with technology, technology must be reconsidered in order to bring balance back into the soundscape. As I have argued, our whole approach to nature and human subjectivity is called into question by this. Contemporary work on the 'liberation of nature' commonly addresses the issue of technology as the mediation point between society and its environment. In 're-subjectifying' nature, instead of mystifying it,¹ nature is recognised as the predominant seat of production: "Alliance technology — or as we say today, soft technology — recognizes and accepts the complementary productivity of the nature subject. (Moltmann, 135)" In acoustic design, this means an awareness of the paradigm of the natural, or non-industrialized soundscape, and technology which sounds out without dominating the soundscape.

Rather than the present orientation towards acoustic masking and noise-reduction strategies, we need to fundamentally alter the multiple imbalances in the soundscape. The best starting point is to gesture towards silence in our overall design imperatives, a silence-positive approach. This is not an anti-technological position; on the contrary, noise represents wasted energy, mechanical inefficiency. Silent technologies require

¹although the development of modern cosmologies based upon the universe as an active subject and superordinate system frequently fall back upon a version of organicism in order to adopt accessible and persuasive metaphors — which satisfy the mythic function of cosmology as a fulcrum of social cohesiveness. Myths of origin give direction and meaning to social structures. See Oates, *Earth Rising* (1989); Mathews, *The Ecological Self* (1991), Birch and Cobb, *The Liberation of Life* (1981); Botkin, *Discordant Harmonies* (1990); and any of James Lovelock's works on "Gaia" or Lynn Margulis' work on planetary life-unity at the cellular level, for examples and analysis of contemporary cosmologies emerging in the ecological age, and the correspondent tensions with popular organicism.

technical skill and simplicity wedded together. On the other hand, active acoustic design involves the creative utilization of space, and requires the preservation and creation of acoustic sanctuaries such as parks, public and religious buildings, and of course the wilderness, places where silence is an inherent keynote, not just imposed or implied.

mediation and community

Patrick Tacussel claims that "Silence is precisely what makes it possible for us to perceive society as a being. The structure of collective human emotion is . . . the bringing into evidence of being-together in its transcendence of all instants. (28)" He is here referring generally to silence in discourse, but the same holds true for the community in the general sense of the soundscape. Silence, being the fundament common to all, has the ability to pull us together, and this is the power which is accessed during ceremonial and ritual silence.

Group physical silence can be a powerful means to mediate differences, by calling up and emphasizing the shared meanings and understanding which form community:

...there was a bitter labor-management conflict in Philadelphia years ago. The city was suffering from an extended deadlock in negotiations. A Quaker respected by both sides, Will Biddle, was called in as a mediator. He asked that the two factions join in a half hour of silence before beginning business. After the shared silence, the conflict was resolved quickly and in good will.

In still another situation this same procedure worked again. A young coal miner agreed to take the pastorate of a church so divided by strife that trained ministers had given up on it. The miner announced at a Sunday service that the following midweek meeting would be held in complete silence. He had no experience with silent meditation, but he knew that the quality of communication within the congregation was such that verbal exchange would certainly continue to be ineffectual. The church members needed to go to a deeper level to achieve unity.

Mid-week meeting was fully attended and members were deeply moved during a long period of shared silence. Reconciliation began and the church progressively regained power and vitality. (Morgan, 47)

In these situations silence becomes a common denominator that levels hierarchy and allows for differences under the influence of a greater presence, whether it be the presence of the group or of a god, or of the biosphere.

Silence can also melt *status quo* relationships, for it sometimes permits tempers to subside and ushers in balanced judgement to replace harsh and exaggerated and warped attitudes and assertions. Often, then, silence makes the heart, if not grow fonder, at least grow more pliable, more flexible. (Jensen, 252)

This is ancient knowledge, and persists in pockets even in the garrulous dominant cultures of industrialized societies. Generally, the resistance to excessive control in society gives rise to some groups whose communitarian aims are well mediated through silence: "Ultimately the sect, the religious order or the confraternity claim to assume the mystery of being-together that civil society tends to disfigure through the secularized mechanisms of solidarity and control." (Tacussel, 29)

The success of silence as a mediator and facilitator in otherwise tense relations is partly due to its simple tendency to encourage listening. Heightened sensitivity eases relations by encouraging rhythmic entrainment, as George Leonard demonstrates in The Silent Pulse through workshops which encourage 'perfect rhythm' with one's surroundings and partners using techniques of alternating silent periods with paired activity. Similarly, some educators integrate voluntary and cooperative silent sessions into classrooms, with a corresponding increase in cooperation, concentration, and receptivity — and as a highly practical means of managing and resolving many conflicts. Montessori methods of education in particular have developed such techniques (Isaacs, "Say it With Silence.>"). Dauenhauer claims that "silence involves yielding" at its root and not domination.

This yielding is a yielding before a power which I cannot control. And this yielding is concretely experienced as finitude and awe. In doing silence I am yielding to the belief that there is something that I am not at the source of, that there is something to wonder at, to be awed by. My doing silence then is the acknowledgement of finitude on my part and of the awesomeness of that which I am not the source of. But this finitude and awe have a converse face as well. There is the awareness that the

doing of silence opens me to meet the other. The other, too, is finite and needs my yielding to reach me. (26-27)¹

This experience is integrative, a force towards not only social unity, but psychic unity and mystical spirituality as well: "deep silence binds me to the other-and-greater-than-me, however interpreted. (27)" This is the realm of empathy, 'silent witness', a balancing of the emotions and negotiation of internal and external conflicts (Bruneau, 34).

The 'silent meeting' of Quaker worship is an example of silence used as a "participatory rhetoric" which binds a community without coercion, dominance, homogenization nor denying global communal bonds (Lippard, 147).² Historically, much Quaker worship has been carried out without the vocal ministrations of other forms of Christian worship. A meeting frequently consisted of sitting in stillness and quiet with one another.³ This is, in part, a response to the inability of preaching or standard prayers to meet everyone's needs: in silence, one's relation to the Christian God can be direct, unmediated by external authority, and then shared with the group as revelation, if necessary. This is an active, collaborative silence whose symbolic and practical significance far outweighs the common silence of everyday discourse, although one may invoke the other. Paula Lippard, following H. Brinton and the implications of Buddhism, observes that this silent waiting brings the participants to a consciousness of "nothingness, an experience of the process, of the whole in silence;" it is a "focusing on the whole as seen from the Divine perspective. (151)" The principle of yielding which is at the heart of voluntary reticence becomes a transcendence of socially contrived boundaries, and provides us a way out of atomistic tendencies.

¹I presume that Dauenhauer is referring to voluntary silence. Coercive silences are another matter, if sometimes intertwined with willing reticence.

²Quakers are also known as the Society of Friends, and are traditionally committed to various emancipatory activities and peace work (despite their presence as settlers), particularly in North America, to this day.

³The practice is less common than it once was (Lippard, 147).

heightened sensitivity as ecological awareness

It is hardly necessary to emphasize again how silent acoustic conditions lead to increased sensitivities to our environment. Most of us experience this alertness regularly, however briefly it might be, and this study should already have encouraged you to investigate this further according to your own experience. But if we are to reconcile society to nature (self to environment) we must develop cultural attributes which improve our physical sensitivity. Perceptual acuity of all sorts is needed, but the scales must tip back from sight towards hearing before the senses can be culturally integrated.

This argument repeatedly brings us back to the body, the perceiving and soundmaking self, and the fundament of our centeredness in it. We need to hear clearly, to be centered in our bodies in our soundscape, to be vulnerable to the details of our environment, in order to understand our place in it. To do so is to sense the general movement of our vicinity, and so to move with it. This full interaction with the environment is a state of wildness.¹ The challenge of planetary survival is to reintegrate in a new way communication with one another, the environment, ourselves, and with material relations.

The alienation of people from their bodies is the inner side of the ecological crisis in modern industrial society. Due to the influences of religion and education, humans were brought to the point where they were only able to identify themselves as subjects of knowledge and will. They could only objectivize and subjugate their bodily existence. . . . They became slaves and property to themselves. Self-rule and self-control were the moral maxims of industrial society. Only by following these principles could people be ready at all times to offer themselves as workers and consumers. Purpose-oriented conduct in work, trade, and consumption is the presupposition of an industrial society. Time lived as experience is reduced by the clock to mechanical time. The result is the alienation of people from their corporeality. (Moltmann, 140)

¹The loss of the human 'wild' (in Gary Snyder's sense of behaviour which coexists "in close and sustainable relationship to the local ecosystem" and which resists confinement, exploitation and oppression) is the central theme of some of civilization's major myths: exile from the garden, the epic of Gilgamesh, werewolves, etc. These myths teach us that domesticating the environment results in a domestication of the self and society. We are discovering (yet again) that the biosystem can only sustain a limited degree of domestication before it collapses.

Mind-body dualism and acquisitive materialism must give way to cultural principles rooted in the integrative and context-sensitive influence of silence as an esteemed condition. Cultivated silences offer the possibility of reconciliation. Intimately related to this is the nature of our communication with what we consider nature: a 'nature' that is a 'speaking' subject and comprised of 'speaking' subjects is listened to more respectfully than a nature in which sounds are the by-products of objects in motion or the cries of individual beasts.

Ultimately soundscape sensitivity is a question of listening. "Ear cleaning" is a priority for acoustic designers at the least, and the basis of developing an aural culture in a deafened society. "Many exercises can be devised to help cleanse the ears, but the most important at first are those which teach the listener to respect silence. (Schafer, 208)" As I have suggested in Chapter Three, careful listening as an epistemological model can counteract over-reductive tendencies. A model suggesting the development of high-context cultural attributes which facilitate soundscape sensitivity and broader ecological awareness could be devised based upon E.T. Hall's (1981) theories of the relative contextuality of different cultural traditions. Such a model would have to take into account the tendency towards low-context (highly descriptive, explicit information) communication which accompanies technological growth and modernization, and the dominant tendencies towards low-context culture in European-originated industrialized societies. This thesis could provide the groundwork for such further research.

Religious and existential inquiry

meditation

Personal control over one's silences requires practice. The thread of contemplatives, mystics, and hermits in human history has helped develop silence as a primary means of spiritual inquiry. Particular traditions, such as Buddhism and Jainism,

have the investigation of silence at their core, and meditation is common to most members of the traditions.

There are many forms of meditation. Most generally, meditation is a method for stilling the flow of thoughts so that some form of superior awareness may take place. Two methods are predominant: repetition of an aural or mental sound until the flow of thoughts is quelled and a state of thoughtlessness occurs, a silence of ultimate ambiguities and suspension; and an attitude of acute mental listening, carefully attentive to all discernible mental activity, until the mind becomes still. The first method is a technological imposition, using repetition to induce an alternate state, much like the use of drumming to induce a trance. The second method is investigative, and relies upon heightening sensitivity. For clairaudience to develop, it is best to just be still and as alert as possible. Heightened awareness is the route to silence we find in haiku poetry, which delves into our experience of nature: "the divine is revealed when the cacophony of life is silenced in a single moment of illumination, which resonates ever outward to encompass the totality of being. This cacophony is talking about the world rather than letting the world speak for itself." (Atkinson, 199) Basho:¹

Did it yell
till it became all voice?
Cicada — shell!

¹From Harold G. Henderson (1958) An Introduction to Haiku, New York: Doubleday. The literal translation, with Japanese syntax, is:
Voice | to | all | crying-out | ? | cicada-shell

mystical silences, contemplation, solitude

The ineffable is the source of mystical doctrines, and as the horizon of philosophy can only be investigated by means other than rational discourse. As human beings we are aware of only the tiniest portion of the universe around us, and this brings us back to the limits of science as the horizon of silence. Our communicative genius lies in metaphor, the ability to transcend the constraints of our language and gesture beyond it. Silence is mysticism's metaphor of the ineffable. Silence becomes the ultimate expression of the suprahuman.

Ironically, the violent silences of social institutions are often based upon deeply spiritual experiences of silence. In Judeo-Christian doctrine silence is bound up with the Word of God, the Logos. "God's word shapes the unspeakable beauty of all creation. By God's word creation comes out of the silence of God into sensory-existence. Creation is God's speech." (Wiebe, 15) St. Augustine felt that only in silence are we able to come into contact with the supra-human creation of reality (Bruneau, 22). Human silence in humility and awe before the holy are deemed necessary, since for Augustine "God himself is all silence, his 'silent voice' immanent in creation, the world of things to which human speech refers." (Bond, 172) Contemplation of this Christian mystery of creation has often been done in silence. Silent contemplative Orders abound in the history of Catholicism, and many saints are noted for their kept silence (Brewer, 453-456). Modern Trappist monasteries silence 'profane' conversational speech, in the interests of facilitating "soundless communication in mystery between [humans] and God" and are addressed to the "tremendous existential silence of God." (Merton, cited by Woodcock, 48-49) This metaphor of existential silence enters monastic life through prayer and chanting, and conditions the approach to sound. As with Quaker worship, silence in monastic communities becomes a highly rhetorical act:

... there is a language act — silence — which mimics and recreates the silence which is in God himself and outside creation. This human silence is not another term within language, not a mere predicate. Rather it is a

refusal to predicate or even name. Silence, moreover, is a positive act done, indeed, a whole way of life: a communitarian act or social compact designed to facilitate living at close quarters in the monasteries; a personal and collective moral discipline; and an opportunity for mystical prayer. In this way, silence can be an informing metaphor for all of the monastic life whether a given moment is strictly speaking silent or filled with language as such. The life of silence as metaphor embraces all language acts that conform the individual and the community to the linguistic dimension of God, including prayer, work, psalm singing, even reading and writing. Silence in this broadest sense is a privileged metaphor for God, one which embraces both his active, linguistically positive face as creator, and his deeper, ineffable and silent being apart from creation. (Gehl, 125-6)

Mystics have many practical, political, pedagogical, doctrinal, and personal uses for silence; some mystics are best described as professional practitioners of silence. Leonard Angel catalogues some ten distinct uses of silence by mystics (see appendix D) most of which have been discussed already here in other contexts (50-54). Secrecy is the most obvious social relation in which the mystic uses silence, and in many senses the secret of the mystic is silence, the understanding that mystery is the keynote of existence. Mystics must deal with the contingencies of living at the mercy of hierarchical societies while their experiences and teachings subvert human hierarchies, and silence becomes a subtle and powerful defensive tool to avoid the violence of resisted authorities. Angel calls these uses of silence the result of "praxiological conflict." (50) Those who understand that the relation between consciousness and reality is inexplicable inevitably transcend the limits of dogma and sociocultural definitions of reality. The threat they pose to authorities rests in their recognition of that greater, unifying, and differentiating power, silence. One could say that all intense religious experiences provide access to the deep mysteries, and that the religious institutions, in dispensing the revelations of the mystics through social hierarchies, must simultaneously rely on the silence implicit in mystery, and suppress its subversion of temporal authority in order to maintain those hierarchies. Nevertheless, in mystical communities as well, authority is mediated in silences:

The balance between authoritarianism and individualism, permitting both their rightful place, was actually found in many an ancient sect by means

of the *regulated use of silence*. Outer authority, in the form of instruction about principles and right practices came first. Silent receptivity was enjoined as an aid to effective listening. Among the Pythagoreans, the Essenes and the Therapeuts, it was customary for the members of the groups to listen to their spiritual guides in silence. The ordinary wrangling and disputation of intellectualism were replaced with reverent quiet during and after the exposition of principles. (Greene, 162)

In order to dwell thoroughly in the silence pervasive in both mindscapes and soundscapes, the stilling of the mind becomes a solitude, the suspension of discourse. Attentive meditation reverts the listener back to communication with environment and self, and the silence unifies. The solitude of moving aside from discourse enables a more basic sense of companionship. Physical solitude is worked into the schedules of many contemplative communities; yet a patient meditator is able to find such felicitous solitudes almost anywhere.

art

Artists who work with sound are acoustic designers. If cultural intervention is required to address the misappropriation of and habitual aversion to silence, then artists play a prominent role in shifting the imbalances. We must rediscover and redesign hi-fi soundscapes, and the symbolic uses of silence will influence how we perceive silence in our daily lives.

Cultural innovation is the assigned role of the artist. Where technicians can create new tools and suggest their implementation, artists can challenge and redefine our priorities and condition new patterns of perception. The vast topic of the aesthetics of silence is beyond the scope of this thesis, although I must make mention of it. Generally the discourse on the topic is restricted to silence in discourse, or the metaphorical silence of gaps and emptiness.

Because art is not bound to rational discourse, the silence that is mystical can be communicated without the trappings of religious doctrine. This gives artistic production a privileged role in communicating the complexity of mystical experience, which is at

root liberatory. If an aesthetics of sound such as is found in music or poetic performance relies upon a sense of meaning derived solely from the 'figure' of sound, it misses the point. John Cage's life's work was devoted to reinfusing music with silence as a compositional fundamental, and his influence is an example of how an artist can begin to redress the imbalance.

The uses and references to silence which have become banal cliché in the twentieth century are those which naïvely revert to silence as a romantic primal state and fail to explore its subtleties and complexities. When silence is considered outside of its acoustic origin this is prone to happen. Consider Paul Mann's description of the difference between silence as a practice (in this case, a practice of occupying the margin) and silence as a mere trope, the

pseudosilence, the windy rhetoric of silence that roars through so much of modern poetics. Perhaps most loathsome of all to the silent writer is this discourse of silence, of which the present essay is doubtless an instance. Bourgeois poets, he notes, can rattle on and on for hours about silence, apostrophizing on the purity of the page, the luminous spiritual aura that surrounds the poem, the absence at the heart of every presence, the ineffable in every utterance, etc. Mallarmé's white page, Merwin's deserts and stones: these were always utterances, always held securely within discourse: blankness *displayed*, images of a silence that is problematic but strictly for description. (818)

The point is to avoid such shallow interpolation by connecting artistic investigation and practice of silence to a contextual awareness of its situational acoustic function within cultural constraints. Thus, for instance, it is important to understand how notation on a page evokes its own silences in readers, how oppressive silences may be transformed into alert silences, and how performance requires a flexible adaptation to the condition of silences in the setting.

If our own silences are being disrupted and denied, and thus our rhythms subverted, a move towards communal participation in musicmaking, in reasserting collective and personal rhythms along interpersonal, flesh-and-blood, exploratory lines should help to empower individuals in acoustic communication skills. Perhaps there are

cultural models which could be explored as a more integrated sense of action and inaction, such as the Japanese sense of 'ma.' I am suggesting that artists themselves become reconciled to silence as a fundament of a balanced soundscape in order to pass such reprioritized perceptions on to their audiences, or at least make room for a similar reprioritization.

CONCLUSION

definitions of silence

The concept, the word, silence, is itself a metaphor: "Of silence, paradoxically, one can only speak." (Tacussel, 16) Ultimately, a word like 'silence' is underdetermined and ambiguous outside of a sentence. The sentence locates the meaning of the word. Silence, as a concept to be discussed, is only understandable as the turning point of a sentence, the specific relation of an expression to its fundament. This work has in part traced the way in which the word has become overdetermined with respect to discourse, and ideologically obscured with respect to the soundscape.

Silence as soundlessness doesn't exist, in any absolute sense, as far as we are able to ascertain, and especially in respect of recent developments in the cosmological speculations of physics. Silence as soundlessness relative to audibility and measurability does exist, however. That is, silence in a particular area or communicative portion of the soundscape can exist as soundlessness, which implies that we are not referring to our heart beating, etc., but reducing our hearing or measurement to specific tasks: silence is that which we cannot hear or measure in a situation. Similarly, silence exists as reference to the ambience of a soundscape, so that 'quiet' and 'silence' become nearly synonymous. With this movement of the concept away from the purely physical to the relational perspective of a listener, 'silence' refers to communication, or rather, non-communication, irrelevance, a non-message. This allows silence to be used to refer to metaphorical situations in discourse, where silence can be construed as an absence of input, reticence, tacit communication, and the like. The silence of omission, the unsaid, and silence as a gag are metaphors which extend from this. As a consequence of silence extending metaphorically to refer to a gap in communication, it becomes an ambiguous condition within discourse (the effects of which, however, may not be so ambiguous).

uses and abuses

Communicative silences are based in the sound/silence dynamic. The tendency of metaphorical silences in discourse to move the basis of silence away from sound to the more general dynamics of communication, posits silence as an opposite to communication, and comes as a contradiction to communicative silence in the soundscape. The concept is fraught with tension where these differences and contradictions are unclear.

Nothing makes the full implications of silence as a concept more unclear than logocentrism. The naturalization of print and writing technologies as an epistemological and even ontological model, which is implied by logocentrism, means that wherever we are inclined to invert the systemic relationship between discourse and the soundscape (discourse occurs *within* the presence of the soundscape¹) we have obscured the real relations of interdependence, simultaneity and process in favour of linearity and static objects. It becomes difficult to understand how discourse could be differently organized, how truths could be punctuated differently, in favour of the ear, as in oral societies, and not the eye. Logocentrism and the visual bias, along with complementary modes of thought such as atomism and scientific reductionism, when naturalized and internalized as epistemology, alienate us from subject to subject relations with nature, and imbalance our perceptual abilities.² In this way silence is perceived as primarily a matter of discourse. Thus acoustic or ambient silence, as a predominant feature of most wild soundscapes, can signify the lack of discourse and activity which means the absence of humans, or, more accurately, of urban human life. Silence is threatening in common cultural associations of it with death and dissolution, and threatening to the profits of

¹but is not necessarily constrained by the soundscape — see Chapter One, "systems, constraints, and orders of complexity."

²This is to be distinguished from the effects of print literacy alone, which are complex and varied and allow for the expansion of social interaction and "interiorization" (Ong, McLuhan, Ashcroft et al).

commercialized acoustic media and noise-producing industry. Acoustic silences have thus become too rare.

Silence in discourse becomes heavily ideological when it perpetuates domination, by suppressing the expression, identity, and culture of the oppressed, and by repressing awareness of the real relations of domination through omission. This has been well established. It is less well established how silence as a concept is ideological, but I assert that silence has been tactically redefined or deemphasized in the strategy of capitalist industrial and electronic expansion: as a romantic rural or wild quality of the soundscape to be opposed to the sounds of progress, to be contained and commodified as a condition of exchange value, or to be avoided as a non-state (for example). Thus I argue that the domination of the soundscape is inextricable from domination over the mode of production, and that this domination involves the conceptual marginalization of silence.

As a strategy of empowerment and insurrection, the skillful application of discursive and acoustic silences is also basic to any power struggle, and favours the marginalized. The skillful use of silence is also essential to any personal or collective development of ecological sensibilities, since silence facilitates careful listening. This is evident both in the effects of the loss of such abilities, such as in the numbing effects of moozak, and in the positive experiences of naturalists or the ecologically sustaining cultures of First Peoples. Silence-positive cultural practice has the strength to build cohesiveness and flexibility in groups, and health and alertness in the individual. Such practices are also the source of cultural innovation, where they are used as the basis of existential inquiry or spiritual expression. The contemplative and the artist serve important roles in asserting the usefulness of silence in our communicative practice and theory.

commentary and reflections

When I was asked about my research, if I responded that it was about "silence," almost everyone assumed that I was studying discourse; if I responded that it was about "silence, power, and ecology" the reaction was one of puzzlement, confusion, or disinterest. The motivation behind this research is to redress this conceptual gap in the formally and otherwise educated general awareness of the interlocked nature of the processes of perception, identity, power, and ecology. Most, if not all, of the fundamental issues of communication exist at a nexus of these processes. I feel that the best place to start integrating these complexities into soundscape studies, and communication studies in general, is with the basic context of communication—silence—in order to understand how we relate to our communicative environment. Theory is a preliminary way to explore such basic communicative concepts in complex formations.

Our understanding of discourse and power needs to incorporate the soundscape and non-discursive communication in order to inform political and philosophical agendas more holistically. I am not arguing for the priority of issues of the soundscape or silence itself over issues of social struggle such as poverty (although in some instances the latter may depend upon the former). Solutions to these problems of social justice, however, will likely include some kind of broad qualitative (thus revolutionary) change in cultural features such as the dominant mode of perception and the sense of how our relations exist within nature (a cosmology). Cosmological revolution is largely a process induced by the products of the labour of intellectuals. This is where theory has its political place: as a participation in the process of sociocultural change, as constraint and impulse to the processes of history. Gramsci argues that the labour of intellectuals places them within the roles of being "functionaries" of the dominant group, organizing consent in civil society and arranging the apparatus of state coercive power; likewise they play a key role in dissent and reorganizing or disrupting hegemony (304-311).

While the global ecological crisis is manifest in many catastrophic threats such as biodiversity collapse or the changing composition of the atmosphere, and manifest in many social injustices such as famine or toxic dumping, it is also clearly manifest in the soundscape. The origins of the crisis can be found not only in injustices such as disenfranchisement and resource exploitation but in our changing relationship with our environment as 'nature,' and fundamentally in the massive desensitization to our ecological requirements. Silence is a key to our personal and cultural sensitivity, both acoustically and socially. If we lack sufficient silence, if we fail to appreciate or understand its ecological and communicative significance, we are likely to lose valuable ecological sensitivity and communicative skill. Communication and ecology theory is an important place to begin the process of integrating a fuller use of the concept of silence. Just as we have struggled in this century to develop an ecological sense of 'the environment' in which all human activities are nested and thus dependent upon, it is necessary to understand how discourse is carried out *within* the soundscape, and to recognize that soundmaking occurs within silence.¹

This thesis is political and insurgent in nature because it seeks to advocate a return to sensitivity via silence:

noise—in the literal sense of a lo-fi soundscape—has become an accepted presence in urban society, something one puts up with. It is no longer recognized as a "weapon." In fact, noisemaking is generally participated in, in an atmosphere of *mitmachen* as Adorno would call it. In many cases it is, in fact, the only "voice" people have and feel comfortable—even powerful—with: the noise of their machinery and gadgetry. But to participate in that voice means to silence human voices and to silence silence. Not to participate in it, *nicht mitmachen*, but to listen actively despite the noise, to seek out silent soundscapes, and to use one's own voice for soundmaking, seem to have become oppositional activities. (Westerkamp, 24)

Soundscape ecologists are specialists within the discipline of ecology, and like all specialties their subject of study is intricately bound up with and ultimately dependent on

¹It could even be said that soundscapes occur within a silencescape.

the larger systems of ecology in general. The general political nature of soundscape design is likewise unavoidable. I consider this research to have engendered an unavoidable polemic against the prevailing doctrines of late capitalism and reductionist science. It therefore participates in a broad range of critical discourses which seek to discredit and disassemble the various forms of domination which threaten and oppress us. However, I make no claims to complete and final arguments. As with any research, my own insensitivities, unsubtleties, and innocent or convenient omissions are constrained and defined by the limits of my own awareness. Some of these inevitable errors may themselves be ideological: that is, they may conceal or falsely resolve their own contradictions, depoliticize and dehistoricize the issue at hand, or disguise the interests and values of the argument, etc., and in so doing reproduce dominance.¹ This leads to a general warning about any totalizing aspect of any emancipatory research: ideologies taken up by counter-hegemonic struggles, as much as the dominant ideologies they are used against, are misrepresentations of real relations, and any political efficacy they may have against domination may quickly pass or in turn reinscribe that domination in a different form.

Because of the paucity of research in this basic area of communication, and the need for an initial broad-based approach, this thesis contains plenty of disjuncture, fractures and gaps. The integration of multiple approaches which I have attempted is only partial and preliminary. But the overwhelming need to connect ecology, the ontological crisis of post-industrial culture, and social justice, must be answered. I have tried to do this through theory centered upon the soundscape, because our perceptual bias is central to our cosmology. I have also tried to avoid a casual syncretism by approaching

¹The most obvious constraints to the emancipatory possibilities of this research are obviously imposed by its formal function and production. The diction, format, and disciplinary concerns of this writing narrow its accessibility along educational, thus class and cultural lines; and its very existence as property of and located within the institutional dynamics of a Canadian university means that it exists within complex ideological conditions of authority, containment, and the recuperation of oppositional discourse. I should add that inadvertently ideological communications are no less ideological.

the separate accounts of silence from within a communicational framework based on the organising principle of the soundscape, and the extension of the metaphors of silence from there.

Silence is the common denominator, the fundament to communication. If silence can be characterized as the ground we communicate on, the basis of listening, expressing, and experiencing, then it has been fractured and disrupted by the capitalist mode of production and all its underpinnings. Communication studies are on shaky ground without addressing this condition.

APPENDICES

Appendix A

"Etic" categorization of forms of silence — quoted from Muriel Saville-Troike, "The Place of Silence in an Integrated Theory of Communication," pp. 16-17.

A. Institutionally-determined silence

1. Locational: temples, libraries
2. Ritual (except for duly authorized speakers and occasions): religious services, legal proceedings, funerals, classes in school, public performances (operas, movies)
3. Membership: religious groups (nuns, monks) with a vow of silence
4. Hierarchical/ structural: lower-status (less powerful) members of a society or organization versus higher-status persons
5. Taboo: persons in certain statuses (e.g., chief) or defined relationships (e.g., wife's mother) with whom communication is proscribed

B. Group-determined silence

1. Situational: access to speaking privilege is allocated by group decision, which may be delegated (legislative bodies, committees)
2. Normative: differential speaking privileges allocated to individuals or classes of individuals (shunning as punishment, children, audience members)
3. Symbolic: communicative actions

C Individually-determined/negotiated silence

1. Interactive
 - a. Socio-contextual
 - 1) role-indicative (e.g., auditor in conversation)
 - 2) status-indicative (e.g., deference, superiority)
 - 3) situation-indicative (e.g., context-structuring, tension-management, social control)
 - 4) tactical-symbolic/attitudinal (nonparticipation, anger, sorrow, respect, disapproval, dislike, indifference, alienation, avoidance, mitigation, concealment, mystification, dissimulation, image manipulation)
 - 5) phatic (emotional sharing)
 - b. Linguistic
 - 1) discursive (prayer, fantasizing, rehearsing)
 - 2) propositional (negation, affirmation, consent, agreement, refusal, acknowledgement)
 - 3) didactic ('fill in the blank')
 - c. Psychological (timidity, embarrassment, fear, neurosis)
2. Noninteractive
 - a. Contemplative/meditative
 - b. Inactive

Appendix B

Three major forms of silence — paraphrased from
Thomas J. Bruneau, "Communicative Silences: Forms and Functions."

1. Psycholinguistic Silence
 - a) Fast-time silence (temporal-horizontal sequencing of sound events; signalic, e.g. pause to facilitate decoding; high frequency, low intensity, short duration)
 - b) Slow-time silence (semantic/metaphoric processes of decoding; symbolic, facilitates organization of memory & experience; personal variations in intensity, duration, & frequency)
2. Interactive Silence
 - a) Decision-making (who will speak?)
 - b) Drawing Inferences (what does the other mean by that utterance/by this silence?)
 - c) Exerting Control (getting attention; shunning; insulting; in respect or response to authority)
 - d) Reacting to Diversity (nervousness; tentativeness; surprise/suspense; uncertainty; ignorance)
 - e) Reacting to Intensity of Emotion (as retreat; as management; as inexpressibility; as immersion)
 - f) Maintaining or Altering Interpersonal Distance (attraction/intimacy; repulsion/resistance; community; disunity)
3. Socio-cultural Silence (note fundamental cultural differences)
 - a) Silencing by Authority (and Resistance)
 - b) Places of Silence
 - c) Silence in Rhetorical Control

Appendix C

Three Prominent Profiles of Silence — compiled from
Bernard P. Dauenhauer, "On Silence"

1. Intervening Silence (punctuation, melodic/rhythmic)
2. Fore - and - After Silence (framing of sound expression, background)
3. Deep Silence (pervasive)
 - a) Silence of Intimates
 - b) Liturgical Silence
 - c) Silence of the To-Say

Appendix D

Uses of silence by mystics
proposed by Leonard Angel

1. Edenic reunion
 - a) invisibility (the hermit who rejoins nature)
 - b) meditation (an attainment of "cognitive innocence")
 - c) alinguistic (language grows from the 'tree of knowledge,' leads to exile from Eden and must be surrendered)
2. Secrecy
 - a) hermeticism (to maintain a mystique and autonomy)
 - b) pedagogy (to represent the mystical to students)
 - c) doctrine
 - d) as test (if you can keep this secret, you may join us)
3. Social Codes
 - a) serenity of the mystic (outwards taciturnity required)
 - b) awesome goal, piousness (awesome silence appropriate)
 - c) to voice precious experience may destroy it

Appendix E

Aids Coalition To Unleash Power
slogan and common graffitti

SILENCE = DEATH

ACT UP NOW!

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