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Writings

Bauhaus and Soundscape Studies - Exploring Connections and Differences

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The Emergence of Soundscape Studies

From the very start of my work with R. Murray Schafer and the World Soundscape Project (WSP) in the Seventies it was clear that Bauhaus had had a strong influence on how Soundscape Studies emerged as a field of study and how it was defined. Schafer wrote that

The most important revolution in aesthetic education in the twentieth century was that accomplished by the Bauhaus. Many famous painters taught at the Bauhaus, but the students did not become famous painters, for the purpose of the school was different. By bringing together the fine arts and the industrial crafts, the Bauhaus invented the whole new subject of industrial design.(1)

Two aspects attracted Schafer to Bauhaus: the interdisciplinary nature of its training and design practice, as well as the connection that was made between craftsmanship and artistic production, functionalism and creativity. In our work as the WSP-most of us were composers and musicians-we made similar connections: the composer was perceived not only as the acoustic designer of musical sound in a composition, but also and most importantly as an acoustic designer of daily life. As a result we studied the many aspects of sound and applied it to real life situations. Rather than staying marginalized by producing inaccessible and abstract art music to small exclusive audiences, we thought of the composer as a valuable contributor towards dealing with issues of soundscape. Composers could become the socially conscious, sonic-architects or acoustic designers of our cities, buildings, and villages. It was precisely this-the vision of the artist/composer as a crafts person, as someone trained in all disciplines of sound, and as someone entirely connected to and useful in the real working world-that attracted me to the WSP. And Schafer's vision went further:

An equivalent revolution is now called for among the various fields of sonic studies. The revolution will consist of a unification of those disciplines concerned with the science of sound and those concerned with the art of sound. The result will be the development of the interdisciplines acoustic ecology and acoustic design.(2)

In other words, not only did we as composers familiarize ourselves with the various scientific aspects of sound, but we also saw it as our task to bring together the various professions that were already dealing with acoustics, sound

and noise. To date-25/30 years later-this vision of unification of disciplines that Schafer presents in the above quote has hardly taken root. Like the original members of the WSP, most people who are engaged in the field of soundscape studies or acoustic ecology nowadays are also composers, musicians, radio artists, and so on. The odd architect, geographer, town planner, psychologist, acoustical engineer, audiologist and others have indeed become involved. But these usually are exceptions, they are scholars and professionals who have dared to break the boundaries of their own specialization and want to move towards a more interdisciplinary or multi-disciplinary approach to sound.

So in reality, there still can be no talk of unification of disciplines in the way Schafer had envisioned it. It remains as an important and continuing task to clarify to the specialized scientists of sound that any study and research of sound in the context of acoustic ecology simply has to leave the laboratory, has to occur in the "field". Likewise, many of those who already are embracing acoustic ecology as a field of study in its own right, need to understand that it cannot occur only within the limits of artistic production and that indeed knowledge of all aspects of sound, including the scientific ones, is urgently needed. It is the only way for meaningful and effective changes and exchanges to happen in a soundscape full of ecological problems.

Anyone concerned with the quality of the sonic environment cannot hide behind specialization-no matter whether it is located in the artistic or scientific arena- but must embrace all aspects of sound. Sound is the "voice" of a society, of a landscape, of an environment. If we understand the meanings of sound we understand what a place, a society is saying about itself. If we understand the behaviour of sound we can hear how a society behaves towards its environment. If we listen to our own listening, then we can also hear how our own soundmaking in daily life influences the soundscape's quality.

The word soundscape is derived from landscape. Soundscape is the acoustic manifestation of "place", where the sounds give the inhabitants a sense of place and the place's acoustic quality is shaped by the inhabitants' activities and behaviour. The meanings are created precisely because of this interaction between soundscape and people. Thus, the sonic environment (or soundscape), which is the sum total of all sounds within any defined area, is an intimate reflection of-among others-the social, political, technological, and natural conditions of the area. Change in these conditions means change in the sonic environment.

My mother for example, who was born in Germany in 1907, remembers hearing the first car and of course the first air plane. She remembers when she first heard the radio, music on a record player or a sound film. Technological changes have been so rapid and so numerous in her life time, i.e. most of the twentieth century, that enormous changes in the soundscape have resulted. Most of us do not know what it means to experience such profound changes. And it is precisely because of these changes that the density of sound, noise and music has increased, that there is comparatively little silence in our lives, and that ultimately concern for the quality of the soundscape has become an issue. The soundscape and our experience of it, especially in urban or technologically modernized environments, is out of balance and it is for that reason that the terms sound ecology or acoustic ecology have taken root in our language and thinking.

Soundscape Studies has emerged at a time when noise pollution has become a recognized and wide-spread problem. Whatever actions have been taken against noise, the problem does not seem to go away. Measurements and legislation alone are not enough. Something else is needed: activating our ears, listening and finding ways of understanding the soundscape around us, our ways of relating to it. In other words, through soundscape studies we can begin to understand that the noise problem does not lie outside of us but is intricately intertwined with our relationship to our environment, to how consciously or unconsciously we listen and make sound. The profoundly enriching experience

of working as a member of the World Soundscape Project was connected to the group's sincere effort to combine scientific knowledge with artistic, perceptual knowledge of sound. It was precisely in this combination of research, education, creativity and activism in which the energy of the WSP was located and which enabled us to produce in a relatively short time a number of pioneering documents and projects.

In addition we not only researched sound across many disciplines but also gathered cross cultural information from around the world as a way to understand differing ways of listening and soundmaking in other cultures. This has become particularly relevant in today's world of expanded tourism, travel, migration, refugee movements etc. Individual researchers in cultural studies have started to pay attention to soundscape work and acoustic ecology from that perspective. But the majority of cross-cultural sound exploration still tends to be stuck in the wonders of modern recording technology. Rarely does it reach beyond the recording of foreign soundscapes into in-depth study or analysis. The numerous CDs available now of natural and urban soundscapes from many countries of the world have become—in the best case—interesting documentation, aural information, a story, a type of text from another place. In the worst case, they have become an imported product, a "neat" sound without any real meaning beyond the WOW experience, without any information about the places where the sounds originate, they have become an excuse for further non-listening, "new age muzak", or yet another object on our shelves. (3)

And yet, there is nothing wrong with recording soundscapes of other cultures, as long as it is done to increase our mutual understanding of each other and to learn to listen to each other. In today's context of global communication and corporate globalization, we must know more about and understand the language of sound in different cultures. Travel and emigration open our aural perception because our ears are alerted to the unknown, the undecipherable and at the same time they miss the familiar. Our need to decode the meanings of unfamiliar sounds and soundscapes makes us listen with attention. Nowhere is it clearer than on a trip that listening is a type of survival, an attempt to find orientation in a new place. And when we begin to familiarize ourselves with the soundscape of a new culture, we begin to feel a little more at home there, we begin to feel safer. Often at that point we tend to think back consciously and perhaps with nostalgia to the soundscapes we come from.

It is perhaps not surprising, given the expanded possibilities for communication across the globe, the increased trend towards travel and cultural exchanges, that in 1993, some years after the WSP ceased existing as an active research group, a new organization was formed: the World Forum for Acoustic Ecology (WFAE), an international association of affiliate organizations and individuals, who share a common concern for the state of the world's soundscapes. Like the WSP, it speaks of acoustic ecology as the study of the relationship between living organisms and their sonic environment or soundscape. It sees as its task to draw attention to unhealthy imbalances in this relationship, to improve the acoustic ecology of a place wherever possible, and to preserve acoustically balanced soundscapes. The underlying tone of these statements is one of care and concern for the sonic environment, of a felt relationship. Wanting to care for the acoustic environment in the deepest sense, creates the desire to listen to it and vice versa, listening to it creates a desire, or perhaps beyond that, it highlights the urgent need to care for it—just as caring for our children creates desire to listen to them and vice versa. Like the WSP, the WFAE's aims to combine scientific and artistic/perceptual knowledge of sound, research and education, creative and activist work.

Bauhaus and Today's Soundscape

Although Bauhaus may have had a strong influence on the early approaches towards soundscape studies and ideas of acoustic design, many of the outgrowths of Bauhaus design have not necessarily produced positive results in the soundscape itself. Let me back-track a little here.

Walter Gropius, architect and founder of Bauhaus was interested in creating beauty in his designs, derived from adapting form to a technological culture. The result was a kind of mechanistic design or industrial architecture. Bauhaus was to be a place that would provide a complete, homogeneous physical environment in which all the visual arts would have their place. And by learning practical crafts and by acquainting themselves with tools, materials and forms, and most importantly with the machine, designers/artists would better be able to solve the social problems of an industrial society.

Similarly, and as we have already seen, Schafer envisioned the World Soundscape Project as a type of umbrella for all the disciplines concerned with sound and music. By learning everything about how sounds and our aural perception function in society, we would better be able to solve the problems of the post industrial society with its environmental problems.

Bauhaus in its time context combined arts and utility, and wanted to bring aesthetics into machinery and industrial design. It did not strive to design luxury objects for the wealthy elite, but more to produce functional and aesthetically pleasing objects for mass society. Its result was-despite its short life span-a widespread acceptance of functional, unornamented design of objects for daily use. Just as Bauhaus wanted to strip architecture and visual design of its ornamental fluff or visual "noise"-wanted to exercise a type of cleansing from the clutter that a traditional society can create- so Soundscape Studies and Acoustic Design wants to strip the soundscape of its sonic overload, its noise and all the acoustic "perfume" that the Muzak Corporation, for example, has introduced into urban environments. The desire for the simple, clean line, the surface empty of ornament in Bauhaus can perhaps be likened to the desire for silence as a basis for soundscape acoustic design.

Bauhaus must be understood within the context of its time, when streamlining, stripping of the unnecessary, even depersonalization were a liberation from bourgeois mannerisms in design. In music something similar could be observed at that time where composers-such as Schönberg with his twelve tone approach to composition-wanted to cut through the clutter of Wagnerian musical density and arrived at a certain type of clarity, simplicity and transparency in their music; or perhaps ideologically more closely related, in the case of Eric Satie's composition *musique d'ameublement* (furniture music) where the act of listening to music as an art form was actively discouraged, indeed, where the musical sound itself was to function like the furniture of the place in which it occurred-as a backdrop to the social dynamics of the occasion. Little did he know that the Muzak Corporation some 15 years later developed exactly this idea in a socially completely different context (i.e. in factories and later in commercial environments) with such success that now huge segments of society all over the world have been conditioned not to listen. Little did he know that the wide-spread non-listening has become an ecologically dangerous habit. More about this later.

At the time of Bauhaus, standardization and in fact depersonalization were desirable in building design. But the new architecture that has developed out of this has become an international style of urban architecture, to be found anywhere in the world now where there is corporate money. In fact, the Bauhaus aesthetics which were very much in opposition to bourgeois aesthetics of the time, have been greatly utilized and exploited by capitalist ideology. When we look at some of the physical outgrowths today of Bauhaus design and its thinking, certain real problems emerge in connection with soundscape design and acoustic ecology. Steel frames and glass were synonymous with functional beauty in Bauhaus design. These along with concrete form the highly reflective surfaces of the highrises in modern urban centres nowadays. Acoustically these environments create the so-called canyon effect where the concrete, steel and glass serve as huge amplifiers of traffic sound, emergency sirens, exhaust sounds from buildings, and so on.

Although most likely not anticipated by Bauhaus designers, functionalism and

efficiency in building design have been developed to great extremes during the twentieth century as banks and corporations have been erecting their tall towers. Artificial control of air and light has become an integral aspect of this type of building design, where no windows can be opened and natural light does not find access. Sonically this translates into electrical hums from artificial lighting and broadband sounds from air conditioning inside, and powerful broadband sounds from the buildings' exhaust systems outside. Modern cities are not only throbbing with amplified and reflected traffic sounds, but also with the "bad breath", as Schafer calls it, of highrise buildings.

So, the internationalism in urban design has not only resulted in visual but also in aural sameness: same materials, same structures, same sounds. A rather sinister acoustic extension of this sameness is the so-called functional music, the muzak mentioned above, that can be heard in many parts of the world for the express purpose to increase production and profit. Functional music was started by the Muzak Corporation in the US in the early thirties at the time when Bauhaus was closed down by the Nazi Regime. It came into its own during the war time weapons industry to speed up production. It is mass produced and mass distributed. It absorbs, blends, melts various styles of music, musics from different cultures into the uniform sounds of re-orchestrated background music.

Bauhaus in its original intent wanted to highlight the essence of industrial functional design as a type of freeing from the clutter of ornamentation and overburdened tradition and thereby wanted to revitalize urban design. Its internationalism at that time felt like a liberation from stuffy provincialism and the limitations of "place". The Muzak Corporation is the sonic representation of what happens when functionalism and international sameness are carried to the extreme: it ends up highlighting the blandness and meaninglessness of urban living by melting away the essence of musical, cultural vitality: the specific styles, the specifics that characterize music of a place or a culture. It in fact is a type of acoustic elimination of place. It takes music's connection to a specific culture out of its core and makes it a "universal" sound. It calls its re-orchestration work "acoustic design" and its background music "environmental music muzak." It has become the international sound of commercial environments.

Its orchestral sound and 15-minute stimulus curve have become synonymous with artificial building environments of glass, concrete, and steel. All sense of place is eliminated once one enters these buildings. Or rather all connection to the social, political and cultural reality outside of its walls is eliminated. Through the sound of muzak, and via telephone, fax and email one is connected only to other such buildings anywhere in the world, never to the street immediately outside. This, of course was never the intent behind Bauhaus.

Soundscape Studies emerged at a time when beauty was no longer located in functionalism. Too many damaging effects of industrial society and corporate thinking have turned people's perception of beauty and care towards the natural environment. Noise of industrial society is no longer attractive as the sound of progress. Acoustic design in the context of Soundscape Studies stands in direct opposition to the so-called acoustic design of the Muzak Corporation: it wants to work from the basis of an uncluttered, unmasked sound environment, from a place that can welcome new sound into its space either because it is quiet or because it is sonically so alive, energizing and varied that it has room for more sounds. The quietest natural places in the world as well as the busiest jungle soundscapes can give valuable cues for such acoustic design.

Any type of design in the sense of a Bauhaus of today would have to adapt to an environmentally conscious society and would want to be sensitive to its problems. Likewise as composers working from the base of Soundscape Studies we can no longer pursue Schönberg's and other twentieth century composers' approach to composition as abstract musical language, but want to

speak with the concrete language of environmental sound in the context of acoustic ecology and the problems of our sound environments. As organizers of sound we have a responsibility to design compositions as well as environments with a sense of care for our soundscapes.

Soundscape Brasilia

I want to elaborate on the above ideas with the example of Brasilia here, because this city is a relatively new city (built in 1964), very much based on Bauhaus design principles. What happens to the soundscape of a city that has been designed from scratch, based on a masterplan? Has sound figured into the design scheme?

In 1994 I was invited by the Goethe Institut Brasilia to conduct a soundscape workshop there. Although this workshop's emphasis was high-tech and production oriented and the aim was to produce a number of compositions about Brasilia's soundscape, composed by a group of people from Brasilia, the real emphasis and the most interesting part behind the high-tech production was our exploration of and gradual familiarization with the city's soundscape, its noise issues and its place within Brazilian cultural and political realities.

The idea of transferring the country's capital away from the coast has existed since the second half of the eighteenth century, as a way to populate, develop and secure Brazil's vast interior.⁽⁴⁾ In the mid-fifties during the presidential campaign of Juscelino Kubitschek it was finally proposed as a concrete project and was realized shortly after. Brasilia is not even 40 years old. The part that looks like a bird on the map or rather like an airplane, is the so-called Plano Piloto, pilot plan. The masterplan for Plano Piloto was designed by Lucio Costa. Oscar Niemeyer was the architect who designed most buildings and Burle Marx was the landscape architect. Plano Piloto has been declared a heritage site by UNESCO and any changes to it have to go through a rigorous review process. I will limit my discussion to this part of the city with the consciousness that Brasilia stretches beyond these boundaries and that the satellite cities that have sprouted around its peripheries in the last 30 years, are a direct result of the master plan. Generally speaking one can say that anyone or anything that does not fit into the masterplan concept is accommodated in these cities.

The body of the airplane is made up of the Monumental Axis along which we find from east to west most government institutions, the cathedral, the hospital, commercial, hotel and bank sectors, the TV tower, the Kubitschek mausoleum, the military sector and the overland bus and train station. The wings of the airplane, called Asa Sul and Asa Norte, are made up of the Residential Highway Axis which moves from North to South. This is where most people live in three to six story apartment buildings. Where the two axes meet is the rodoviaria, the central bus station. This is the centre of Plano Piloto, the "market square", where the work force from the satellite cities arrives and departs every day.

The crossing of two paths along the basic north-south and east-west directions, initially just a cross drawn in the earth, has grown into two huge traffic arteries with six lanes in all four directions. Compare the sound of the stick drawing this cross in the earth, and all the natural sounds accompanying this act, to the traffic sound that now occupies the centre axes through this city. This contrast is I believe the basic contrast today in the soundscape of Brasilia and surroundings.

On the one hand, it is very hard to get away from traffic noise within Plano Piloto. But on the other hand one does not have to drive very far to leave this behind and enter a very quiet, natural soundscape.

But visitors-and residents of Brasilia may not be fully aware of this-hear nothing but traffic from their hotel rooms. All hotels are located in the two

hotel sectors and these are surrounded by large traffic arteries as well as smaller streets. As far as I could find out there is not one hotel room in the whole city that is free of this noise. Later at night when the traffic has subsided a little, another layer of sound emerges: the exhaust of every hotel's air conditioning system.

Traffic and the air-conditioning function like soundwalls, creating a barrier to hearing distance and quietness. Four weeks of this from my hotel room has undoubtedly taken its toll and influenced my perception of Brasilia. The overall traffic artery layout has been designed around the smooth flow of traffic, but very little seems to have been done to shield inhabitants from its noise. The obvious question then is, whether there was any thought of acoustic design in the grand design scheme of Plano Piloto.

As much as the Monumental Axis and the Residential Highway Axis may connect people between sectors or between home and work, acoustically speaking they form two enormous soundwalls that divide the city. The dimensions of the acoustic space that the traffic on these arteries occupy are much more extensive than their geographical dimensions. The traffic noise travels right across the expansive green spaces into hotel rooms, offices, churches, even schools, and many of the living areas. The eyes can see far but the ear cannot hear beyond the acoustic immediacy of the car motor. The Monumental Axis may offer many photo opportunities, but recordings made in the same place will offer little variation from the incessant traffic noise. Similarly inside the car, the driver is cut off from the outside soundscape. In fact, the windshield functions like a movie screen and the car motor and radio like the accompanying soundtrack. But because everything looks wide open one gets the illusion of space. Acoustically, however, one is closed in.

So, my point is clear. This city has exactly what other, not so consciously designed cities have-a lot of traffic noise. Meanwhile at the nearby lake one can find serene silence. It is obvious by now that Brasilia is a place of sharply contrasting soundscapes: traffic noise and natural sounds. There is very little in between. Human social contexts, like cafes or restaurants, appear in small isolated clusters, dotted all over the city, connectable only by car. That which defines a community acoustically is mostly lacking: the regular street, the small alleys, little squares, shady old trees, market places, neighbourhood cafes, those hidden corners that develop over time as a city becomes older. It is in those more intimate places where community develops, where culture first occurs, where people in their social interaction are protected from the larger noise of a city and can create small islands of undisturbed communication, a type of inner voice or village voice of urban culture and social life.

Some Superquadras, the residential areas, seem to function a little bit like small communities with their own acoustic characteristics. In many of them traffic noise is at a healthy distance and the foreground sound of people's voices, birds, crickets, cicadas are pleasant and varied. I was told, although I have not seen a written reference to this, that the height of the apartment buildings (six floors) was determined partially for acoustic reasons: communication between parent and children is possible as far as the sixth floor but not further. So, ideally, if the parent is not listening to radio or TV, or running the vacuum cleaner, the child can be heard calling from the outside up to the sixth floor and vice versa.

Superquadras, however, are vulnerable to outside sonic invasions. Schools attract car traffic and according to one resident a lot of car honking, when parents come to pick up their children at noon and at the end of a school day. Recent noise legislation (in 1994) tries to protect residents from some sonic intrusions, by giving strict guidelines to bars, restaurants, night clubs etc. about interior acoustic insulation and exterior noise levels. Residential areas are not to exceed 45 dB after 10 p.m. I have noticed that some of these restaurants are very close to apartment buildings and was told that some establishments have been closed down as a result of noise complaints. There are, however, superquadras, that are built close to roads where no noise legislation can

protect from traffic noise, unless the roads are closed to traffic.

Another type of sound that acoustically defines a community is largely missing in Brasilia: every community tends to have its own signals and soundmarks that give voice to a community's belief systems, activities and activity patterns and that give inhabitants, often unconsciously, a sense of place. Visually the urban landscape of Brasilia is full of architectural landmarks, giving monumental shape to the masterplan, but the soundscape is not defined by any significant soundmarks. In fact, the city does not signal anything but car alarms to the newcomer and therefore does not make our ears curious about its community life. I am told that the cathedral and some smaller churches have bells, but these are not prominent in the soundscape nor do they seem to be in people's consciousness.

So, if Brasilia is neither a city of prominent signals nor of small intimate community places, which acoustic qualities then give this city its character and its inhabitants a sense of place? What is its acoustic identity? The sounds that have kept my ears curious and exercised in Brasilia have been sounds from various crickets and cicadas which cut right through the density of traffic noise even in the hotel sector. There seems to be an endless variety of rhythms and resonances in these sounds.

Perhaps it is precisely the contrast between the anonymous international city sound of traffic and the cricket and cicada sounds specific to this place that characterizes acoustically what Brasilia still is: a pioneer venture, a master plan, modernist urban architecture with its claim to internationalism, cut into the Brazilian cerrado (bushland). It has in a sense "emigrated" into foreign, undeveloped territory, to start a new life, to transform social order and to negate and overcome underdevelopment in the rest of the country. The buildings are all there to attest to this ideal. But the soundscape reveals that the human psyche has not emigrated at the same speed. The international character of the city is only audible in the sameness of traffic noise, the worst aspect of internationalism.

I am told again and again that people who live in Brasilia really like the city. Apparently, in comparison to the conditions in other parts of the country, the conveniences and practical advantages outweigh the feelings of cultural estrangements and loss of community life. There is a certain freedom in a place of cultural anonymity. It reminds me of my own emigration from Germany to Canada: to be freed from those traditions that are restrictive means to have more freedom to move, both physically and psychically. One is free to invent a new life and to hear inner voices not tied to the voices of tradition. There is a liberation in that. But deep down the longing for those small nooks and crannies, those intimate places, those village and city squares with their fountains and old oaktrees, those bells that tell the time and make music, that longing stays. The memory of these places with their acoustic expressions define inner culture, emotion and imagination, they define one's sense of community. They are the base from which one hears Brasilia.

Old cities have the advantage of street and building structures, belief systems, traditions already in place, with their characteristic sounds or soundscapes. Noise has less of a chance to invade. There simply is no room for motorized vehicles in many of the narrow alleyways and streets. And if they do enter, like they did in many European city centres, the noise and pollution have become so unbearable that common sense has banned all traffic from many of these centres. As well, certain sounds or soundscapes that are sacred or significant in other ways, are not allowed to be disturbed or eliminated.

But if we plan a brand new city and drive into a natural environment with our noisy motors and all that that entails and do not spend the time to listen to this new place, then traffic noise and construction is there first before our ears have had time to adjust to nature's quiet and to listen to all that it entails. Silence then is not given a chance-as Ursula Franklin calls it-"as an enabling condition, that opens up the possibility of unprogrammed, unplanned and unprogrammable

happenings."(5) It is in those creative silences that that which defines a place and a culture is given a chance to be born.

More and more I am understanding the project Soundscape Brasilia as creating such a space for listening, for finding the silences and the sonic character of this city. I feel that the workshop participants have understood this right away and searched for that which speaks of Brasilia in an honest voice and they have found those sounds and soundscapes that mean Brasilia to them. It is pioneer work, as one has to listen through the noise of new world mythology into a vast world of possibilities where culture has barely presented itself. Nor if it was there in the form of tribal cultures, where it has been masked just as much as natural soundscapes have. In this case the microphones have lent a new ear to Brasilia.

(1) Schafer, R. Murray (1977). *The Tuning of the World*. Alfred Knopf, NY. p. 205.

(2) *ibid.* p.205.

(3) Westerkamp, H. (1999): "Speaking from Inside the Soundscape," in: *From Awareness to Action, Proceedings from Stockholm Hey Listen! Conference on Acoustic Ecology, June 9-13, 1998*, The Royal Swedish Academy of Music, Stockholm, Sweden.

(4) Holston, James. (1989) *The Modernist City, An Anthropological Critique of Brasilia*, The University of Chicago Press, Chicago and London.

(5) Franklin, Ursula. (1994) "Silence and the Notion of the Commons", *The Soundscape Newsletter*, Number Seven, January 1994, p. 6.

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