

Back to...

Writings

## Soundscape of Cities

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Today I want to speak about the soundscape of two very contrasting cities, in each of which I have spent five weeks within the last two years. The cities are Brasilia, capital of Brazil, and New Delhi, capital of India. Both are government cities of very different dimensions and very different age. I will discuss them from the perspective of the visitor, the outsider.

I want to concentrate my talk on a few sonic aspects of each city and compare these with each other. The first sound a visitor usually hears in any new city is the sound of traffic from the hotel window. The next are usually any sounds that stand out from city ambiances, such as signals and soundmarks. And lastly the visitor will become sensitive to the soundscapes in which inhabitants live and socialize. I will move approximately in this order through each of the two city's soundscapes.

### BRASILIA SOUNDSCAPE

Let me begin with Brasilia since it is the city I visited most recently and since its design is very much based on Bauhaus design principles, about which we spoke yesterday. First I will give you a short historical and geographical sketch about Brasilia. I also brought you some slides to give you a visual sense of the place. 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 (James Holston, p. 17). In the mid-fifties during the presidential campaign of Juscelino Kubitschek it was finally proposed as a concrete project and was realized shortly after. (SLIDE: Government Buildings 1959) Brasilia is only 34 years old and has circa one million inhabitants. The part that looks like a bird on the satellite photo or rather like an airplane, is the so-called Plano Piloto, pilot plan (SLIDE: Satellite Photo). You can see the artificial lake surrounding much of the planned city. (SLIDE: Lucio Costa sketches) The masterplan for Plano Piloto was designed by Lucio Costa. You can see here his initial sketches where the shape of the airplane is apparent. (SLIDE: Monumental Axis) 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 today 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, as you can see on the present slide, along which we find from east to west most government institutions, the cathedral (SLIDE: cathedral), the hospital, commercial, hotel and bank sectors (3 SLIDES: Gursky, hotel sector, roundabout), the TV tower (SLIDE: TV tower), the Kubitschek mausoleum, the military sector and the

overland bus and train station. The wings of the airplane, called the 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 the so-called Superquadras (SLIDE: apartment building), in three to six storey apartment buildings, which - by the way - look strikingly similar to original Bauhaus buildings in Dessau, Germany (SLIDE: Dessau building) . 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.

(SLIDE: Intersection) 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 sounds 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.

(SLIDE: The Noise) On the one hand, it is very hard to get away from traffic noise within Plano Piloto. But on the other hand (SLIDE: Brasilia from a distance) one does not have to drive far to leave this behind and enter a very quiet, natural soundscape. But visitors hear nothing but this from the hotel room:

#### Traffic 11 p.m. from hotel window (1'10")

(SLIDE: Gursky, streets from above)

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 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 Axis may connect people between sectors and 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 motor car. 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 motor car 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 it sounds like this.

#### Wind in Bamboo Bush with Bird (1'34")

(4 SLIDES: Whole bamboo bush, details)

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 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 (residential apartment blocks) seem to function a little bit like small communities with their own acoustic characteristics. This is what I heard when I visited a Superquadra one evening in November.

### Superquadra, Brasilia (1'36)

Traffic is at a healthy distance here 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 of six storeys 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 outside up to the sixth floor and vice versa.

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 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 the cricket and cicada sounds 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.

### Three varieties of cicadas (1'18")

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 for 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 there to attest to this ideal. But the soundscape reveals that the human psyche has not yet 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 was told again and again by people who live in Brasilia that they 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 experienced as

being 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 an enabling condition, that opens up the possibility of unprogrammed, unplanned and unprogrammable happenings," to quote Ursula Franklin (The Soundscape Newsletter, #7, p.6). It is in those creative silences that that which defines a place and a culture is given a chance to be born.

## DELHI SOUNDSCAPE

In contrast to Brasilia, Delhi is an ancient city. The name of the city or a similar version of it, first appeared in the first century BC, around 2000 years ago. Popular belief has it that it is actually made up of seven cities, all of which were built during different periods under different rulers. Now Delhi is, like Brasilia, the seat of the national government and has been since 1912, when the British Raj moved it from Calcutta to New Delh. Interestingly enough in some of its newer areas, it has been designed in a similarly wide-open, large-scale way as Brasilia, with large roadways, roundabouts, open grassy areas, double rows of trees, monumental buildings, etc. Much of this was designed during the British Raj by architects Sir Edwin Lutyens, and Sir Herbert Baker. Slide: city map, showing overall structure.

Where in Brasilia we have a contrast between the designed Plano Piloto and the satellite cities (representing the real Brazil), New Delhi contains this contrast within its boundaries: between representational large scale design and labyrinthine, old city spaces. New Delhi is a huge city of 10 million inhabitants and spreads far. (SLIDES: Nizamuddin and vendor's place) Wilderness is far away, yet within its city boundaries one can find small places that are almost village like and are astonishingly quiet. (SLIDE: Green Delhi) Seen from above, New Delhi is almost hidden under trees and looks like a very green city. When in the middle of the city's bustle and pollution this greenery is not so apparent.

(SLIDES: Horn Please, traffic) Waking up in Delhi on the first morning I hear nothing but car horns. I laugh in disbelief. Why are they honking their horns so much? When I try to cross the street later I think I understand: the traffic is in a state of complete chaos. Everyone seems to move in all directions at the same time, no one stays in lanes, no one ever stops or waits, everyone keeps moving, finding the empty spaces wherever they happen to be, moving around each other, around cows, horse carts, bicycles, pedestrians. And everyone honks. HORN PLEASE! it says on many trucks and autorickshaws.

I realize quickly that carhorns "speak" differently here. They rarely shout "get-out-of-the-way." They talk. "Hallo", "watch out, I am beside you", "leave me some space", "I want to move over to your side", "don't bump into me",

hallo", "I want to pass". What seemed like chaos initially starts to feel like an organic flow, like water. "There is an undercurrent of rules", says my friend Veena.

An old bent-over man crosses the street. No one stops for him, everyone continues to hionk their way through the crowded street. The old man keeps on walking, slowly, without looking left or right, as if in a protective bubble. The honking traffic curves its way around his silent body. I - lost in the loud current - watch in amazement on this first day as he moves across safely.

### Delhi Traffic (1'30")

Traffic expresses here as much as in Brasilia the social make-up of the city: here it tells about its human crowds and its dense social environment. In Brasilia one hears nothing but the uninterrupted traffic noise of relatively smooth and fast moving modern vehicles with the occasional car horn or car alarm but very little sign of human presence. In New Delhi we literally hear a kind of traffic "talk", people encountering each other in a huge variety of vehicles of various age and state of decrepiteness. There is a type of sonic expressiveness in the streets that I have heard nowhere else. The car motor has not managed to silence the human voice or people's capacity for soundmaking and most people are too poor to hide in air- conditioned cars with radios booming. The intense openness to each other and curiosity, the intense desire to communicate is completely audible in the signalling sounds of Delhi traffic - anything from most resonant bicycle bells to raspy scooter horns, car horns to bus and truck horns.

### Traffic near Tilak Nagar (1'00")

Just as there is an enormous liveliness in the soundsape of traffic every day full of communicational signals, the listener can also hear it in many other parts of daily life. I will play you examples of the type of signals and soundmarks that one can hear throughout a day in Delhi and it is striking to what extent Brasilia's soundscape differs in that respect. Every day one can hear the trainhorn moving through the city with its repeated wailing sound. It is often not audible from inside the noise of the city. But this recording was made from an elevated point of the Bahai temple - a rare perspective in Delhi as there are very few high rises or elevations. One can hear the train move through the city - not dissimilar to what we experience in Vancouver with the train whistle - giving a sense of the many train crossings throughout the city.

### Trainhorn, in Delhi (0'49")

Also in contrast to Brasilia, every neighbourhood has its own signals and soundmarks, where temple bells or the call of the muezzin signal times of worship. Her is the call of one muezzin calling for prayer in the muslim area of Nizamuddin.

### Muezzin in Nizamuddin, Delhi (3'20")

From my German perspective I was rather surprised about the function of these bells, especially in connection with Hindu temple bells and what their sound had to "say" about the relationship between worshippers, sacred places and their gods and goddesses.

With my North German Protestant background I imagined temple bells to be very large and to ring from up high. I imagined them to ring at certain times of the day, announcing the beginning of a service, a wedding, a festival, a funeral, etc. I imagined them to be the dominant "voice" in the neighbourhood or community. I couldn't understand why I never got a clear answer from workshop participants when I asked, "When in the day do the temple bells ring?"

As soon as I visited the first Hindu temple I realized that I had asked an



incomprehensible question. Temple bells can be heard throughout the whole day. They are not the sound of huge bells ringing from the church steeple at predictable times, but the sound of one or two medium-sized bells, rung by each person when entering the temple for worship. People use the bells to announce their arrival at the temple, to say hello, to wake up the god or goddess who is to be worshipped. The temple bell is one sound among many others: people talking to each other, temple music, someone sweeping the ground, people selling foods, children playing, people whispering their prayers, etc. It is the voice of human beings announcing their readiness to worship their gods, not the voice of God summoning his sheep for daily worship.

#### Temple bells, Kali Temple (2'30")

Another soundmark that is particularly wonderful as it is also made by the human voice is the regular call of vendors in neighbourhoods. (SLIDE: Januk Puri, Vendor)

#### Two Vendors in Januk Puri (1'37")

And here some vendors in an outdoor market in Delhi where the same people call out in the same basic fashion every day. (SLIDE: Jama Masjid, masses of people)

#### A group of vendors in outdoor market (1'30")

In contrast to Brasilia, New Delhi is a humanly very expressive soundscape. Where residential areas were placed in predesigned residential sectors in Brasilia, neighbourhoods in Delhi developed over longer stretches of time, and can differ significantly from each other. One can find anything from well-to-do residential areas with night watchmen blowing their whistles to refugee slums put up over night, from village like neighbourhoods with many animals to middle class orderly, self-contained neighbourhoods. Even though there are large stretches of neighbourhoods with relatively new and modern houses and apartments, as you saw and heard in the first vendor example, I want to talk about two places I visited that show the extremes of a city that has changed over many centuries and still is in constant flux.

Nizamuddin is a world of its own, muslim, haven for refugees from Bangladesh. When entering its gates, one is leaving the big city behind it seems and one enters small alleyways, full of people, but without traffic. A basic quiet ambience on top of which one hears human voices, footsteps, the occasional radio, singing. Motorized sounds are extremely rare.

#### Residential area in Nizamuddin (2'10")

In another part of Delhi a few blocks away from a more middle class neighbourhood one finds the place where the vendors live. It looks and sounds like a little village. Traffic sounds are far away, almost inaudible.

#### Residential area vendor's place. 2'15")

India in general is not a technologically modern society like Brazil is striving to be and in many respects already is. India is largely a village culture and the basic sonic ambience of such a culture is without technological sound. A good example is the hotel in which I stayed: five star hotel, carpeted, clean and yet never a sound of vacuum cleaners. Carpets were swept by hand; construction outside of the hotel never meant jackhammers, but only hammering, handsawing, etc. In India many many things are handmade and therefore not connected with machine noise. Although traffic noise is a big problem, because of its sheer density and because many of the vehicles have broken mufflers or none at all, there are still many areas of life that are much quieter than in so-called modern society. The individual Indian simply does not have the sound power at his or her disposal as we do here or in Europe or North

America. For us a visit to India is therefore so amazing, as our ears are exposed to soundscapes filled with human liveliness and communication. (SLIDES: patterns and ornaments) The city of Delhi is like an enormous acoustic quilt of intricately woven patterns, not dissimilar to the ornaments one can find everywhere, in fabric, architecture, pottery, etc. It is the opposite of Bauhaus and therefore Brasilia. Delhi expresses through its soundscape all aspects of India's cultural, social and political history and its present situation and is therefore connected to the rest of the country and to the past. As we have seen with Brasilia, its soundscape expresses its total isolation from Brazil's real social, cultural situation. It represents a kind of top-down attitude that architectural and landscape design can influence the social structure of a place. New Delhi mostly tells us the opposite through its soundscape: that human life and activity shape the fabric of a place with all its contradictions and obstacles.

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[Top of page](#)