

inscription

Max Neuhaus

sound works volume I

cantz

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Preface

These three volumes mark the beginning of a publication project with Max Neuhaus. In the future, with the cooperation of other institutions, we hope to be able to extend this publication to include all of his work in ten volumes.

Neuhaus' oeuvre is diverse, ranging from works in the plastic arts, drawings, music, sound walks, communal sound signals, aural spaces composed of communication networks, sound topographies in water, to inventions of sound-producing and dispersing systems and sound applied to problems of urban and personal design. This structure of separate volumes was chosen to clarify: to encompass the oeuvre, while allowing each of its diverse parts to remain distinct on its own ground.

The first volume projects an overview with many voices, including his own. The second articulates some of the issues surrounding his drawings which are unusual partly because of their invisible subject: sound. Although some of these drawings are included in this volume, most appear in the succeeding volumes relevant to their area. The third volume contains the largest section of his oeuvre, those works which use sound to transform space into place.

I would like to thank the following persons and institutions for financial support of this project: Eric Franck, Fine Arts, London; Kunstraum München; Kunstverein Heilbronn; Giorgio Persano, Turin.

Finally, I would like to thank Greg des Jardins for being the overall editor of the publication, and also acknowledge his central role in the conception of volume I. The overall structure of the publication was outlined by Max Neuhaus in our first meeting at documenta in 1992.

Stuttgart, November 1994

Markus Hartmann

Acknowledgement

First of all I would like to thank the authors of the texts in volume I, and also all those who have written about my work whom it was not possible to include here because of space and continuity.

Making a book about my work has been in my mind for more than a decade, but doing the works themselves has always taken priority. It was not until 1992, with the commitment of Markus Hartmann and Hatje Cantz Verlag, that it became a concrete possibility – many others would not admit that it might be possible to make a book about an oeuvre both invisible and intangible. I am grateful to all those in the organization who participated for their faith and their help.

Over the last decade I have asked for and received the active advice from many for ill fated publication projects, and these I must also acknowledge as they all had a part in forming my ideas about what and how it could be done. For this publication though I must thank Harald Szeemann for his invaluable advice on the forms of volumes II and III and for his long term support of the project along with that of Ulrich Loock.

Finally I must thank Greg des Jardins. Without his perspective, patience, meticulousness, firm insistence on clarity and careful fitting together of these disparate texts into a cohesive whole, volume I would not exist in its present form.

Max Neuhaus, November 1994

Introduction

The writings collected here are responses – reactions of others to these works, and of myself to questions about them. They range from journalism to essays from museum catalogs, from views of specific works to overviews which encompass many. Together they form a body of writing which recounts and interprets, thus inscribing, with many lines, an image of both my person and what it is that I do.

M.N.

References to the drawings in volumes II and III are made within the texts of volume I in parentheses by volume number (Roman) and page number (Arabic) – e.g. III, 20.

I have always been fascinated by people who make it big in one field and then decide to chuck that and do something else. A man makes a pile of money in designer watchbands, for example, and walks away from it to become a teacher, a rancher, or, what's more likely these days, a video artist. In Max Neuhaus's case, the switch was more subtle but no less dramatic. A virtuoso percussionist with a master's degree from the Manhattan School of Music, Neuhaus toured the United States and Europe in the mid-nineteen-sixties giving solo recitals of percussion works by Karlheinz Stockhausen, John Cage, and other modernist composers. Along the way, he found himself becoming increasingly disenchanted with the whole idea of concert halls, performances, and virtuosity itself. In 1968, he quit performing. He cut a record for Columbia Masterworks that more or less summed up his concert work to date, put his two thousand pounds of percussion equipment in storage, and went out to become a maker of 'sound environments' in the world at large – places whose ambience is defined or altered by the electronic sound systems that he secretes within them. The best-known of these environments (although not many people are aware of it) is the narrow pedestrian island that separates Broadway from Seventh Avenue between Forty-fifth and Forty-sixth. If you walk briskly across, you can easily miss it, but if you stand there for a few moments you will hear, above the roar and screech of Times Square traffic, a deep, resonant, harmonic hum, something like the aftertone of a very large bell. It comes from a loudspeaker mounted in a hole underneath the steel grating, and it is a wonderfully satisfying sound.

Neuhaus's second career has not made him rich, and it has certainly not made him famous. A bachelor with few personal needs, he gets by for the most part on commissions from public and private sources, many of which have to do with the art world, and not the music world. The Kunsthalle in Bern, Switzerland, has commissioned a sound installation from Neuhaus, and the Dallas Museum of Fine Arts and several other museums in this country have expressed interest recently in having him do something. This is fine with Neuhaus, who takes his opportunities as they come. All the same, he finds it amazing that contemporary culture remains so backward, aurally speaking. In spite of the efforts of Cage and others to shake up our musical thinking – to 'let sounds be themselves,' as Cage has said – the repertory in most of our concert halls remains rooted in the eighteenth and nineteenth centuries, and the vast possibilities of

new aural topographies lie virtually untapped. 'Visual artists have been able to change the way we look at the world in this century,' Neuhaus said to me one day this summer. 'We have no trouble finding beauty in aspects of the urban scene that were not made to be beautiful, but we're stuck with this naive idea that the only nice sounds are nature sounds. The visual artists have been able to make marks on walls for thousands of years, of course, while we've been able really to capture sound for only about forty years – since the invention of audiotape – so the lag is understandable, but I'm always surprised by it all the same. For a primitive man living in the forest, his ears were a lot more important than his eyes; he could hear danger much farther away than he could see it. We still sense the size and nature of a space with our ears as well as our eyes. But our culture is so visual that we tend to forget about the aural side of things.'

A tall, round-faced man whose rimless glasses give him a slightly myopic look, Neuhaus had just turned forty-nine when I looked him up in Paris last August. (He spends much of his time in Paris, which he finds more affordable than New York.) We had known each other since the sixties, and, aside from having put on a few extra pounds, he seemed to me to have changed very little over the last two decades – the same nondescript clothes, friendly manner, and readiness to laugh uproariously at the vicissitudes of his life. He comes from Port Arthur, Texas, a grimy oil town that was also the improbable birthplace of Robert Rauschenberg and Janis Joplin, and, like them, he has travelled a long way from his origins. His father was a chemical engineer who moved around a lot; Neuhaus spent his formative years in Port Arthur; Fishkill and Pleasantville, New York; and Houston. When I saw him last summer, he was just back from a two-week sojourn in Bern, where he had finished installing the *Kunsthalle* piece. This one was going to be considerably different from his usual sound installations, he said. (Although it was fully installed, it was not to be turned on for several months.) Instead of using sound to create a sense of place, as he often does, in Bern he was programming a moment of silence, an aural afterimage, over an area adjacent to the museum. 'The way it's done is by introducing a sound into that space and increasing its volume so slowly, for a period of about five minutes, that you don't notice it,' he told me. 'On the hour and on the half-hour, the sound stops. The first time you'll notice it is when it's taken away, and you'll be left with the natural environment in a state of relief. There's no real vocabulary for what I'm talking about, but it's like a sort of clearing.'

The concept for this piece dates back to the nineteen-seventies, when Neuhaus experimented with alarm clocks that woke you up by the abrupt cessation of a gradually intensifying tone. Another version of the idea was realized in 1983 at the Whitney Museum;

Neuhaus installed an acoustic system in the museum's outdoor sculpture court which altered and relayed the traffic sounds on Madison Avenue, increasing in volume and then suddenly shutting itself off, but the results did not please him. 'The problem was that it was in the context of a museum exhibition, so most people went out and tried to hear it,' he said. 'Very frustrating.' What Neuhaus wants is for people to come upon his sound environments accidentally and respond to them without preconceived ideas or expectations.

Neuhaus likes to talk about 'building' sounds for particular sites. He does this electronically, using small computers to generate and shape sound waves, and feeding these directly into loudspeakers. 'When I stopped being a performer, I wasn't interested in taped music,' he told me. 'I spent part of 1968 and '69 in residence at the Bell Labs in New Jersey, learning how to construct electronic circuits that generated sound. Since then, computers have become the ideal means of doing this. It's like a palette – the first paint we've ever had for sound. I've been able to design a way of building sounds that allows me to use my ear as a painter uses his eye.' For the Kunsthalle he built a sound that has three components. One is a bell-like texture. (Bern has many churches and a well-loved public clock.) Another is a sound something like that of an airplane engine, and the third is a small melody that he sneaked in between the others. 'The result is a beautiful sound,' he said. 'Too beautiful, according to Ulrich Loock, the Kunsthalle's director, who commissioned the piece. It's produced by hidden loudspeakers – in my work the speakers are always concealed, so the system producing the sound doesn't become a physical reference. Here they are positioned so as to adjust to the terrain, which is an area about a hundred and fifty metres in diameter; there's a plaza in front of the Kunsthalle, a couple of parks on either side, and then a very deep wooded ravine. Of course, the Bern city fathers don't know anything about this yet. Loock will have to persuade them to accept it, but museum directors in Europe have a lot more public clout than those in America. We're talking about starting up the system sometime around New Year's.'

Neuhaus has installed two other permanent sound works in Europe. A private client engaged him to do a piece on a wooded hillside near the Tuscan town of Pistoia, in Italy. After studying the site for six weeks, Neuhaus came up with two pairs of soft, high-frequency sounds emanating from four hidden speakers; the aural mixture – a high-pitched ringing – recalls insect noises without actually sounding like them. The French Ministry of Culture commissioned the other piece, which surrounds a lake on the grounds of a state-owned château in Brittany. Here, again, there are four sound sources (speakers), two on either side of the

lake, cunningly directed to produce a low humming sound that seems to be moving around on the surface of the lake and, sometimes, coming from the trees around it. Neuhaus's most ambitious European project, however, which has been in the works for fifteen years, is still unrealized. He took me to the site, which is an interminably long pedestrian tunnel at the Montparnasse-Bienvenue station of the Paris Métro. Something like eighty thousand people pass through it on a normal day, he told me, on three moving sidewalks. 'It's the length of two football fields, but the arched ceiling doesn't offer any visual point of reference, so it actually looks shorter than it is. People rushing through keep expecting it to end before it does. One of my basic concepts here is to replace the missing visual reference with an aural one – to articulate the journey with sound.'

The tunnel, which we got to after a complicated odyssey of right-angle turns, pneumatic swinging doors, and one-way corridors, was incomparably dreary. Dimly lit, with walls and ceiling an insipid dun color, it seemed to weigh unkindly on the multitudes we saw moving through it, with eyes lowered. Neuhaus couldn't explain why he had suddenly decided, on seeing it for the first time, in 1973, that he had to do something there. 'It was just after I found the site for the Times Square piece, and it became the same sort of fixation,' he said. 'I had no idea what I was going to end up with, but somehow I knew just what to do.'

Although it took ten years of on-and-off negotiations with the Régie Autonome des Transports Parisiens to get any action on his proposal, Neuhaus has nothing but praise for the French transit authorities. 'The Métro people have been wonderful,' he said. 'It's a huge bureaucracy, but they've been interested, intelligent, and helpful. They even came up with an eighty-thousand-dollar grant to let me get started. My problem has really been with the Ministry of Culture. I finally got permission to build the piece in 1984, when Jack Lang was Minister. But then, two years ago, when Jacques Chirac became Premier, Lang was kicked out, and the new regime proceeded to undo most of the projects he had started. My project wasn't called off, but I got no encouragement and no funding. Now Lang is back, so I'm hopeful. My budget for the project is nine million francs, which is about one and a half million dollars. The Métro is putting up a third, and it will maintain the piece for ninety-nine years, which I guess is as long as anything is expected to last. A corporate sponsor has agreed to put up a third, and the Ministry of Culture is supposed to put up the final third.'

We were standing on one of the moving sidewalks by this time, rumbling along on the right-hand side of its rubberized tread, so people in a hurry could stride purposefully past. Neuhaus pointed

to a lighting panel running the entire length of the tunnel on both sides, a few feet above head height, and said that his sound system would be going in there. There would be two hundred computers, a hundred on each side, each of them an independent sound generator but all of them linked in a sound-synthesis network that would be activated by remote control. 'I'll have the ability to do anything I want here,' he said happily. 'I can move sounds around, have them respond to one another and to other sounds in the tunnel – the possibilities are endless.'

I asked what sort of sound pattern he had in mind for the Métro.

He laughed. 'That's the problem question,' he said. 'In doing a piece like this, I deliberately try not to know what kind of sound I'm going to put in until I put it in. All I can say is that it will be very specific to this place. Now the biggest sound in here is the sound of the huge machine that drives the moving sidewalk. That's my starting point, sonically. I can alter that in the same way that painters alter color – you know, by putting another color next to it that changes both colors. Same principle. The work will go in three stages. First, I'll construct and install the sound network. Second, I'll work alone on the site, building the sounds, listening and adjusting, gradually tuning the sound to the place. That will be done at night or, rather, after one o'clock in the morning, when the Métro shuts down. The final stage of the tuning will take place in the daytime, with the public in the space, so I can kind of get a sense of what's going on in people's minds when they hear it. But I won't really know what it will sound like until I finish it.'

Neuhaus has already spent many hours in the tunnel after 11 a.m., testing and experimenting, and he is on relaxed terms with the Paris clochards who like to sleep on the relatively soft tread of the no-longer-moving sidewalk. 'At first, when I came in, they thought I was a cop,' he said. 'But then I brought in all the electronics, and they got very curious. I'd tell them I was doing an acoustical survey. They used to like to curl up and sleep near where I was working, and I would sort of stumble over them, but I developed an antidote. If they slept too close, I'd just turn on the *tapis roulant* and move them down a way.'

It was close to 1 p.m. when we emerged from underground into the sunlight of an August Saturday in Paris. Time for lunch. We went across town to Bofinger, the venerable brasserie just off the Place de la Bastille, where the sound level was strangely elevated by the recurrent clatter of breaking plates. Food and wine *commandés*, we got to talking about the problem of immateriality in Neuhaus's work. 'If somebody was going to make a steel sculpture two hundred metres long and five metres high – the dimensions of the Métro tunnel – a budget of one and a half

million wouldn't seem like much,' he said. 'But the fact that my work can't be seen or touched, and that I can't even tell people ahead of time what it's going to be like – well, as you can imagine, there are difficulties.' It took him four years to persuade the New York Metropolitan Transportation Authority to let him 'sound' the ventilation chamber under the street in Times Square – not so long when you compare it with the fourteen-plus years for the Paris Métro project, but then the size and the scope of the Times Square piece are far, far smaller. Because the M.T.A. said that it couldn't negotiate with an individual, Neuhaus set up a nonprofit foundation called Hear, but the state agency that approves nonprofit organizations told him that the name was too ambiguous; he made it Hybrid Energies for Acoustic Resources, or HEAR, and it got approved. The M.T.A. still had plenty of objections. 'For one, they said the traffic island would have to be rebuilt to accommodate the crowds of people who would collect there if they heard sounds coming from underground,' he told me. 'I took photos that New Year's Eve showing the island packed with people. The next year, they blocked off the island on New Year's Eve.'

Neuhaus applied to the New York State Council on the Arts for a grant to pay for the Times Square piece. After many delays, the Council's professional staff approved his request, but when it came before the Council at a public meeting Mrs. Richard Rodgers, the widow of the composer, and a longtime member of the Council, made a speech against it, saying that it was 'not a responsible way to spend the public's money,' and the funding was vetoed. Neuhaus finally scraped together the money himself. He got grants from the National Endowment for the Arts and the Rockefeller Foundation, and borrowed the rest from friends, most of whom thought he was out of his mind: Why would anybody want to spend all that money to put electronic sounds in a hole under the street? This was in 1976, well before the new public art came into vogue.

In 1977, Neuhaus received a fellowship from a West German cultural-exchange program, which required him to spend a year in Berlin. He put the Times Square project on hold. That summer, he came back to finish the piece, and ran afoul of an ancient feud between the transit people and Con Edison. The voltage in the subway was too high for his hookup, but Con Edison refused to let its line be connected to M.T.A. property. Neuhaus finally got an independent maintenance company to dig up the sidewalk and connect him to the nearest street lamp, and in September of 1977 the piece went into operation, without fanfare or public notice. Neuhaus wouldn't let the M.T.A. put up a plaque explaining what it was. He wanted people to discover it on their own, without explanation. Since 1977, he has been getting letters and

postcards from people who have learned that he is the one responsible for that amazing sound, which they have been taking their friends to hear, thinking that it was their own discovery. This response makes him feel that the work is a success.

Neuhaus turned the sound off for a period of several months in 1986, putting it on strike, so to speak. 'The electricity dilemma was getting to me,' he said. 'Every time there was street work in the vicinity, it would accidentally get disconnected. A work as immaterial as that really has to be permanently there – it doesn't function at all if it's only sometimes there. I had to solve that somehow, so I just turned it off. The Arts in Transit program of the M.T.A. finally stepped in, and got the M.T.A. to run a wire up the tunnel to the Forty-ninth Street station. In 1987, it was reinaugurated, with a small press conference, but there's still no plaque. My one concession may be to let the city put it on tourist maps, although I have no idea what they'd call it. "Max's Noise"?''

During the last year or so, Neuhaus has toyed with the idea of making some money from his work. This heretical notion has led him to place some of his drawings for sound installation on consignment in art galleries, and also to conceive a series of 'works for one person.' One of these works had been installed for the last six months at the Galerie Ghislaine-Hussenot, in the Marais district of Paris, and after lunch he took me there. The gallery was officially closed for August, but he had a key. It was a good space, as they say in the art world – a large, high-ceilinged room with a skylight, white walls (empty of art just then), a concrete floor, and a flight of steps leading to a small balcony. Neuhaus fished a roll of plastic tape out of a desk drawer in the gallery office and climbed the steps. 'The piece is activated by a photoelectrical cell up here, which turns it on late in the day, when the light drops to a certain level,' he explained. 'But I can turn it on by putting a piece of tape over the cell. It takes a couple of minutes to start up.'

By the time he rejoined me on the ground floor, I was hearing quiet pings, or clicks, that seemed to be coming from the opposite wall of the room. Their rhythm was irregular, speeding up and slowing down, and they also got louder and then softer; it was a lulling, peaceful sort of sound, which reminded me of tree frogs in a swamp in May. 'The trick is to decide where it's coming from,' Neuhaus said. We walked slowly to the other side of the room, where the clicks seemed to originate, but as we approached they shifted a hundred and eighty degrees and seemed to be coming from the side we had left. 'It's kind of an endless phrase,' he said. 'The three elements – pitch, loudness, and speed – operate independently of one another, and there's a random factor thrown in, so the same combination never repeats.' He pointed

out the sound source, which I had been unable to find – a small speaker mounted on a steel crossbeam up near the skylight. (The sound was being generated by a computer in the office.) As Neuhaus explained it, the sound from the speaker was directed so that it hit one wall, bounced across to hit the opposite wall, and then ricocheted off the floor and across to the opposite wall: wherever you stood in the room, it came at you from somewhere else. I thought it was a fine sound, and said so. He agreed. It could be bought, he said, for twenty-five thousand dollars. The fee included custom installation in the buyer's home, with Neuhaus tuning the sound to its new surroundings.

Neuhaus seemed neither surprised nor distressed that, to date, nobody had expressed any interest in buying it. The profit motive burns rather feebly in his breast, I suspect, as perhaps it should in the breast of a maker of aural topographies. He would like to make some money, but mainly in order to realize some of his more quixotic projects, such as *Audium*, a telephone-radio hookup that would enable people worldwide to call in, contribute voice sounds of their own choosing, and hear them altered, mixed, and enhanced by Electronics Maestro Neuhaus. He had done several versions of this idea – the first one over New York's radio station WBAI, in 1966, and the last a two-hour nationwide program on National Public Radio, in 1977.

The most quixotic of all Neuhaus's ideas, though, and the one that most clearly reveals him as an old-fashioned utopian, is the siren project. About ten years ago, it occurred to him that the sirens on police cars, ambulances, and fire engines were a form of sonic terrorism, and that this was not only undesirable but unnecessary. The notion of developing a better siren stuck in his head for two reasons: 'It was a challenge to those mediocre minds who always say you can't change the world, and nobody had ever worked on it before.'

Neuhaus did some research. He learned that in New York City the first fire engines were pulled by men on foot, who were preceded through the narrow streets by another man, blowing a trumpet. The trumpet eventually gave way to loud bells, and the bells were succeeded, in the early internal-combustion era, by a primitive whistle that was attached to the vehicle's exhaust pipe. 'It made an incredibly loud scream,' Neuhaus told me. Sometime in the nineteenth century, the modern siren was invented. It consisted of two perforated metal disks, mounted side by side so that they sliced up the air between them when they turned. The siren-makers didn't do any sound research; they simply used a technique that produced the rising and falling siren that we know today. In Europe, the early sirens sounded very much like the trumpeter who used to clear a path for the king, and when electronic sound generation came in the new sirens imitated that

rather kingly sound: 'Tab-dah, tab-day.' The third sound in use today was adapted from the dive signal of submarines in the Second World War – a sort of fast, upsweeping hoot.

'As it turns out, all these sounds are easy to hear but hard to place,' Neuhaus said. 'We have a very delicate internal mechanism for locating sounds. It depends on the minute differences in the way our two ears hear the onset of the sound. The mechanism works wonderfully for the sound of a twig snapping, but it's quite useless for continuous sounds, without clear beginnings. That's the reason a lot of people just sort of freeze when they're driving in traffic and they hear a siren – they can't figure out where the damn thing is coming from.'

Armed with his new learning, in 1982 Neuhaus managed to get representatives of New York's Police Department, Fire Department, and municipal hospitals to meet with him. He explained that with the new electronic equipment available it was possible to make an incredibly wide range of sounds, among which were some that would certainly alert people more efficiently than the present sirens, and not reduce them to panic. The police were quite interested, he said. After asking a lot of questions, they agreed that a better siren could make their life easier. The only trouble was that nobody wanted to put up the money. Neuhaus figured that he needed about a hundred and fifty thousand dollars to make a prototype. 'I went first to the scientific community, but they weren't interested, because I wasn't a scientist,' he said. 'Then I tried the arts community, but the attitude there was "No, thanks. It's a science project." So, very naïvely, I just went out on my own and started working on it, thinking that surely somebody would see the light and decide to back me. I took a couple of squad cars the Police Department had lent me, and spent several days driving them around on an abandoned airfield – Floyd Bennett Field, in Brooklyn – making sound tests. I spent quite a bit of money that I didn't have, and bankrupted my nonprofit foundation. The last thing I tried was a venture-capital argument. I knew that perhaps sixty million dollars a year was spent in this country to replace wornout sirens on emergency vehicles, and it seemed to me that a new, improved sound could easily break into the market. No takers. I found out that the venture part of venture capitalism is basically a myth. Just recently, though, I've found a backer for the basic research. I'll be doing some more tests this fall, out in California. I *know* it can be done.'

Modus Operandi

I would like to talk about the development of an early work, the first work of mine which can be called a sound installation. It was a radical departure from the current, and still prevalent form of production of sound art, i. e. the arrangement where a group of people gather together at a specific time and place and watch and listen to a usually smaller and more specialized group make sound.

I had spent the previous ten years functioning wholly within this context and had come to know it intimately. I felt it had a number of flaws, the major one being the onus of entertainment, a serious burden for any art form. (The visual arts seem to be free from it, while music, dance, and theatre are forced into it, at some level, by the form of the presentation itself.) I also felt I was dealing with an extremely small segment of my society (many of whom were deafened by overexposure to the music of the 18th and 19th centuries). My first opportunity for departure on a large scale came in Buffalo, a city with an unusually large music-loving public and, at that time, a center devoted completely to contemporary activities. I felt it was important to do a work which would be accessible not only to that music public, but also to those who were not initiates to those particular rituals. One problem I saw was making it accessible without being obligatory, not an easy task with sound in a public place.

The idea began with the realization that most people spend a great deal of time in their automobiles (something I'd forgotten, having spent the previous ten years in New York). Most of them listened to sound in their cars over the radio. I didn't know much about the inner workings of electronic equipment then, but I did remember that singers sometimes used 'wireless' microphones that actually broadcast a short distance to a radio receiver. It seemed like the ideal solution. I decided to form the piece with a large number of these placed in different positions along a stretch of roadway, each one broadcasting a different continuous sound. Since the transmitters broadcast only a short distance I could shape the area covered by each sound by attaching an antenna wire and placing it in the shape I wanted that sound to occupy. It solved the accessibility/obligatory problem (a listener had to tune to the piece) and allowed a complex set of possibilities.

The location I chose was a broad, tree-lined avenue called Lincoln Parkway. The piece began at the main entrance of the Albright-Knox Art Gallery and ran south for half a mile. The trees provided a good location for mounting the transmitters and antennas. I began gradually, setting up one transmitter, broad-

casting different sounds, driving through them, listening to them over the radio, getting a feel for how they arrived and departed as I drove through them. Then using two transmitters I tried different antenna configurations, listening to how they interacted and mixed with each other on the car radio, gradually building the piece south.

The work was finished in October of 1967 and ran through April of the next year. It wasn't easy; I was taken into custody several times – but then I hadn't learned my disguises yet, nor had I much verbiage, and I had no knowledge whatsoever of the anatomy of the institutional beast.

Jean-Christophe Ammann

When I saw Max Neuhaus' sound installation at the Musée d'art moderne de la Ville de Paris (ARC (III, 36)) in the summer of 1983, I was faced with a puzzle: the room – almost square – was empty, filled only by the typical sound of a hot day, that of the not very efficient air conditioning system. What did the work by Max Neuhaus consist of? I tried to determine whether other sounds were cloaked by that of the air conditioning, but all I could hear was the fluttering sound of the system itself, which stood in curious contrast to the motionless thin slats on the glass roof, shielding the room from the sun. Actually, Max Neuhaus had 'only' amplified and modified the sound of the air conditioning by means of ten electronically controlled sound sources. Had they been turned off, the difference would have become audible. In this way, it was not.

And yet Max Neuhaus had succeeded in making the visitor's awareness of the room a unique experience by combining sight and sound in such a way that the two perceptual mechanisms were channeled into each other simultaneously and on the same level.

For his sound installation at the Kunsthalle Basel (III, 38), Max Neuhaus used a similar technique. He first located all the sounds and noises in the large hall on the second floor: passing traffic and streetcars, additionally amplified by the pipes of the heating system fitted behind paneling around the entire hall – a feature of this particular room. Neuhaus also noticed the creaky old parquet floor and an occasional click in the pipes. He then used a synthesizer to create a loose layer of sounds and noises along the edges of the hall measuring 22m in length, 11m in width and 10m in height. The effect was somewhere between a clicking and a dripping sound that could clearly be heard, when it was quiet, emanating from the lower part of the room and blending with the sounds outside. The sound sources were invisible, hidden under the heating system.

A third example is *Times Square* installation executed in New York in 1977 (II, 24; III, 20). It is a permanent installation that works around the clock. Between 45th and 46th Streets where Broadway and Seventh Avenue begin to intersect, there is a traffic island covered by a subway ventilator grill about 10m long. Casual pedestrians will hardly notice the intense, organ-like sound coming from the grill, and if they do, they will probably attribute it to a transformer. But when the ear-splitting subway thunders by beneath their feet, they will be surprised to find that the intense, organ-like sound continues unabated. Here again,

Neuhaus began by taking up a possible existing sound, in fact by taking in the entire aural situation of that particular location. Actually, there is no transformer or generator there, but similar sounds occur at comparable places in the city.

These three pieces reveal the following features in Max Neuhaus' work:

- a) Point of departure is always an existing situation, whether inside or out. In other words, Neuhaus uses the particular environment – its architecture, its landscape, its sounds. This necessitates a thorough reconnaissance of the surroundings.
- b) He produces no extrinsic noises or sounds.
- c) He enhances an aural situation in such manner that the change is almost imperceptible to listeners accustomed to its sounds, thus making the perception of a space, an environment, a location with its specific features a conscious act. Only by listening and moving around with attentive concentration can one penetrate the acoustically modified inside or outside space.
- d) He always uses a synthesizer, sounds produced electronically; he does not use tapes. These sounds have neither beginning nor end; they run 24 hours a day.
- e) In terms of the perception of his works, the following observations can be made. We first perceive noises and sounds and we are quick to identify them with what we already know. Only later do we discover a displacement sometimes more, sometimes less apparent between our perception and that with which we have identified it. This displacement is like a gap, a sonority-space-image that becomes fixed in our minds as a memory.

Not until Max Neuhaus' principles are applied to sculpture in public spaces, do we realize the full extent of his innovative achievement. We are accustomed to seeing random and thus interchangeable sculptures placed on ledges and in squares, parks and courtyards. This reduces them to decorative relics regardless of quality. However, if sculpture in public spaces aims at rendering a qualitative improvement in the exploitation of empty spaces for the public, then the artist's approach and field of action in public space must be totally re-defined. Ultimately, this could mean that a work as such is not even in evidence although it does exist in itself.

A word about Max Neuhaus' drawings. We can distinguish between projects, realizations and works in progress. Project drawings are made to illustrate ideas for a given location (*Freeway Stack*) or a given situation (*Sound Installations for Elevator Passengers*). In the case of *Freeway Stack*, a freeway intersection in Los Angeles, the location was reconnoitered, whereas the elevator concept is more or less generally applicable. Realizations can be made only upon completion of a piece, since the artist cannot predict its outcome. The final product is often a

consequence of unpredictable auditory steps, of unexpected events in the course of an acoustic modification or installation. Major projects, such as the one for the 160m long pedestrian tunnel Montparnasse-Bienvenue (Métro, Paris), with their complexity and their planning mechanisms must therefore be divided into stages of work in progress.

The drawing shows a location and the idea connected with it. It is intended for the viewer. Although a project drawing, it is not a blueprint for technical realization. Drawing and commentary complement each other: the drawing shows something that cannot be expressed in words; the words serve to express that which cannot take the form of a drawing. (While talking to Max Neuhaus, I was reminded of similarities with a weather chart.)

Time Pieces is an acoustic project designed for a large space, which runs intermittently, as opposed to Neuhaus' 24-hour continuums. 'A sonority integrated with its surroundings begins softly, grows over a period of minutes and suddenly disappears. The mixture of the sonority with the sounds in its environment, and its very gradual growth, cause it to go unnoticed. When it disappears listeners first realize it was there' (M.N.).

The idea for *Time Pieces* was initially realized in 1979 as a personal alarmclock which woke sleepers with sudden silence. In 1981 Neuhaus conceived it as a large scale public work; in 1982 he developed the idea as a large space project for Tokyo.

When the location yields sounds and noises far removed from one another, the sonority swells only gradually and is thus integrated into its aural surroundings. In locations where sound and sound patterns are more uniform and closer together, the sonority swells relatively quickly.

For Max Neuhaus, *Time Pieces* are a concern of the greatest importance because, extended over a large space, they exert a unifying influence on a public; people find and recognize each other. The apt association with church bells has also occurred to Neuhaus, but there is something too explicit, too aggressive about them. Finding and recognizing each other, according to Neuhaus, takes the shape of a more ordinary, meditative moment, of an almost imperceptible accord among those to whom his work appeals. But as time passes more and more people would share in this ordinary accord because perception of the sonority and its abrupt disappearance also take place unconsciously.

(Canadian Murray Schafer, a sound historian one might say, has pointed out the unconscious unifying effect of such sounds as fog horns.)

I can well remember the car-free Sundays that followed in the wake of the 1973 oil crisis. I woke up early in the morning on the first such Sunday because of the unaccustomed quiet. The work

of 43-year-old Max Neuhaus deals precisely with this domain of conscious-unconscious aural perception, not only because of important insights gained in his early days as a percussionist, but also because of the realization that making this domain conscious is a vital concern. – The name Robert Ryman has cropped up in speaking with Max Neuhaus about possible parallels in the fine arts.

Max Neuhaus began his career as a musician, a percussionist. He continues to use sound as his medium. Why, then, do we find his works in the world of art, in places dedicated to seeing, not to listening? Why, in other words, does so much of his work appear on sites, indoors and out, where we would expect to find painting and sculpture? I think answers to these general questions about Neuhaus' entire oeuvre must precede the attempt to say anything in particular about specific pieces. We must account for what appears to be an immense, overarching anomaly before taking up the puzzles presented in turn by each of Neuhaus' various works.

In trying to figure out why Neuhaus is considered an artist, not some variant on a musician or composer, it might help to note that every sound has two aspects – one temporal, the other spatial. A sound lasts for a certain amount of time and is audible in a certain portion of space. Both aspects of sound are important to music, but not to the same degree. Tempo, interval, duration – all these are among the formal resources, one might say the 'materials', of music; they count in the same way that the elements of harmony count. Time is fundamental to a definition of music as an esthetic enterprise, whereas spatial matters – the questions that surround the transmission of a musical intention from performer to listener – are mechanical; important, naturally, but not central to the nature of music. To take up music's relationship to space is to move from the musician's concerns to those of the engineer, from esthetics to acoustics.

As I said, when Neuhaus was a musician (a role he gave up in the late 1960s) he played percussive instruments. Tympani, xylophones and all the rest are capable of melody, or at least of accenting harmonic structures, yet their chief concern is with tempo. Neuhaus still displays a virtuoso's command of time and the internals into which it can be divided, yet space is his primary interest. By emphasizing the spatial aspects of sound at the expense of its temporal aspects, he moves far from the world of music and close to the sculptor's domain. That is why we find his works in spaces designed for the exhibition of visual artworks, not in the concert hall – though it may be a bit distorting to imply that his art sacrifices temporality to spatiality; rather, he puts his command of time, of rhythmic interval, at the service of his spatial concerns, while those in the world of music do the opposite.

Neuhaus wants to define space, not duration. This desire is so powerful that even when he draws the temporal flow into the heart of a work – as he did with his recent *Time Piece* at the

Whitney Museum of American Art – the ultimate effect is a heightened sense of placement, a feeling that one grasps one's location with a greater degree of clarity than usual. Thus the Whitney *Time Piece* emphasizes a tendency in Neuhaus' art that has been present, it seems to me, from the outset of his postmusical career.

His 1978 sound installation in the sculpture garden of the Museum of Modern Art, New York (III, 22), was the first of his artworks that I ever saw. I mean, of course, the first I ever heard – the spatial impact of Neuhaus' art is so strong that one tends to speak of it in terms usually reserved for the visual arts, especially sculpture. At any rate, much seeing went into my experience of his untitled work at the Modern. Neuhaus had placed an immense speaker beneath a grill in the garden's pavement (II, 18). A variety of rumbling sounds emanated from this source, their mix seeming to shift as one moved about the space. After a while, certain pitches associated themselves with certain points – the ear found aural equivalents for the landmarks (works of sculpture, trees and shrubs, a fountain) by which the eye had already charted the garden. So one's visible map was augmented and in subtle ways changed by this new one, which was audible.

After spending some time within the ambit of a Neuhaus installation, one begins to imagine something very like a chart of the space filled by the sounds of his electronic equipment. This chart hovers somewhere between an image for the eye and one for the ear. Ultimately, I think, it could not be translated into visual terms. Neuhaus makes drawings of his installations, but these concern themselves chiefly with the engineering aspects of his work; they are, in effect, blueprints with a few very general indications of the way the work's mix of pitches, its tonal repertoire, flows through the space. To know that mix in detail one must experience it directly. In the course of doing so, certain aural 'landmarks' begin to establish themselves, yet a map of the work's sound patterns never comes into focus. Ear and eye interact as one moves through the installation, achieving something very like an equality. That's why it is impossible to translate the aural aspects of these works into terms exclusively visual. They cannot be mapped, so my remarks on maps and mapping are metaphorical and not to be taken literally.

Further, since the sounds of these installations are so intimately joined to the places they are heard, they cannot be recorded in any satisfactory manner. Present-day technology permits a tape or a disc to take up only an extremely limited number of vantage points, while a grasp of Neuhaus' art requires the ear to canvass a space thoroughly, crossing and recrossing it, innumerable times, until one grasps the entire weave of its audio-spatial texture. As a consequence, he refuses to make recordings of his installations.

He might be compared in this respect to a photographer who refuses to publish photographic reproductions of his images.

During 1977, the year before the sculpture-garden piece at the Museum of Modern Art, Neuhaus installed a similar work beneath the grill of a traffic island in Times Square. Named after its midtown-Manhattan location, this piece is still in place, still blending its tonalities with those of a very busy intersection. The Modern's sculpture garden is a haven from an incessant urban racket, and so Neuhaus responded there with a delicate – though far-reaching – play of sounds. With *Times Square* (II, 24; III, 20), he had to be more aggressive. From the grillwork in a small concrete island set between complex currents of traffic an equally complex set of tonalities flows. It is adjusted to compete with the harshness of the aural environment – that is, to make itself heard – and at the same time to comment on its setting, to accent the sound of traffic, to question it, and to shift the nature of its comments as one moves about in the vicinity of the piece. As at the Modern, so in the midst of Times Square – what one sees and hears of the city is overlaid by an audible pattern, as an artist's intention engages a hectic corner of Manhattan. This sort of engagement takes us very far from the realms of music, even those regions of the music world where traditional melody and harmonics are no longer heard. There are, indeed, works of electronic music which sound a bit like Neuhaus' sound installations but such resemblances are misleading if taken seriously. Music, by definition, has no permanent relationship to the place where it is heard, any more than a book is tied to the place where one reads it. On the other hand, Neuhaus' works are completely integrated into the sites where one encounters them. In fact, he doesn't begin to compose the sonorities of a piece (the phrase is his) until he has made a thorough investigation of the setting where it will be installed.

Neuhaus first considers the shape of the space with which he has to deal, then the substances and surfaces which define the space, and finally the sounds the space generates of its own accord – whether the sound of traffic or of museum-goers seeking a refuge from this particular variety of noise. At the Museum of Contemporary Art in Chicago (III, 26) Neuhaus set up a column of thirty loudspeakers in a stairwell of the Museum's new wing. They are not visible and the sounds they emit strike one at first as the sort of gratuitous noise that buildings often create – the unintended side-effects of some necessity (perhaps a ventilation unit), noticeable but not distracting for more than an instant. Surely some who make their way through this stairwell never hear Neuhaus' Chicago piece as a work of art. Likewise, we sometimes walk by a work of sculpture in corten steel or aluminium without quite focusing on the fact that it is the

product of an esthetic intention, not the by-product of architecture or engineering.

Yet the ear need only be partially open to its environment to notice that the sounds in the stairwell at Chicago have an untoward liveliness to them – they shift as one's position shifts, encouraging an unusual degree of alertness to a rather mundane setting. The sounds of the thirty speakers seem to follow the listener along the stairs. It's tempting to follow them, in return – that is, to trace and retrace the path of the site's three staircases in an attempt to pin down the interactions of the speakers' various pitches. As usual, the audible and the visible begin to interact. The stairwell's landmarks – its walls, turnings and platforms, and so on – link up with aural equivalents, those points in the sound-pattern where particularly notable shifts take place. Usually the ear is passive, waiting to be addressed. In the vicinity of Neuhaus' works, aural faculties become as active as their visual counterparts. The ear joins with the eye as a full partner in the ceaseless attempt to grasp the shape of space, to establish one's position in the world.

I don't think the ear immediately forgets this experience of aural 'mapping'. It's likely that a full immersion in Neuhaus' sound installations carries over to one's experience of the ordinary world, leaving the faculties of hearing more alert than usual. Neuhaus teaches the ear to stay awake, to proceed through space more consciously than usual, less inclined to doze off in a trance of ambient sound from which only the human voice or the screech of brakes is able to awake it.

In talking about his art, Neuhaus always makes the point that its audience is never assured. When we go to an art museum, we are determined to see art (and, as it happens, we very often go with our minds made up about the attitudes we will take toward the art we encounter). By contrast, most of the people who cross the traffic island which houses the Times Square installation have no intention of seeing, hearing or having anything to do with a work of art. They can choose whether or not to notice the piece at all. The fact that such a choice is unconscious makes it no less deliberate, in its way, than the choice to visit a museum or not. Say a pedestrian does notice the pattern of sounds emitted by *Times Square*, and is drawn into it. There is still the possibility, a rather large one, that this passerby will not recognize the pattern as the form of a work of art. Many have heard *Times Square* without experiencing it as an artwork. Neuhaus is not disturbed by this, for it is very important to him that his art not assert itself aggressively. Traditional artforms – painting and sculpture, in particular – demand attention simply by taking on the shapes, appealing to the authoritative traditions, that they do. Neuhaus has no desire to exercise authority of that sort, so he has sought a

way to define space that is an imposition neither on the site nor on those who wander into it.

At the Modern in New York and at Chicago's Contemporary Art Museum, he of course entered the precincts of well-established esthetic authority. But he did so in a manner that does not actively support, and may perhaps question, the power such institutions exercise over our experience. Art museums tend to reinforce the notion that art provides a realm of experience apart from – and, naturally, elevated above – ordinary life. Neuhaus has stated time and time again his desire to make works of art that blend with the ebb and flow of our daily lives. So he deliberately takes the chance that their patterns will be lost in the shuffle, the noise, of their sites – or, if heard, that they will not be heard as works of art. Whenever he accepts a museum as a site for an installation, he tries to remove some portion of the space from its privileged condition. Neuhaus at work in a museum is like a sceptic fixing up a portion of an abbey or a church as ordinary living quarters.

One of his most recent sound installations, completed in the summer of 1983, is at the Villa Celle (III, 34), near a small Tuscan city called Pistoia. It is an outdoor work. Dense shrubbery hides sound-generating equipment that Neuhaus actually tucks away beneath metal grills or behind the walls of buildings. Yet the grounds of the Villa Celle are not as different from an urban sculpture garden as they look at first glance. The Villa's glades and lawns provide sites to a number of works by contemporary sculptors; further, this is a picturesque garden laid out in the 19th century with the intention of turning a stretch of terrain into a work of art. Setting aside its physical form for a moment, in order to consider the garden as an art-world institution, one could say that its relationship to the sculpture it contains is much like that of a museum building to the works it exhibits. As a consequence, Neuhaus proceeded much as he often has before.

The first step was to find a site; the next, to note its patterns of ambient sounds; then, to devise sonorities that both blend with the ambience and also, if one listens attentively, set themselves apart. The piece is situated on a gently sloping hillside, shady thanks to an abundant leafiness, where the sound of cicadas and other chirping, buzzing insects provides most of the noise – or song, if one likes. When breezes occur, they provide a counterpoint, though of course a musical term of that sort must be taken figuratively. Entering an environment of pleasant, exceedingly familiar summer sounds, Neuhaus responded with sonorities just as high-pitched as the cicadas' but not as rhythmic. Sounds from two speakers rise and fall against the output of two more, whose flow of unchanging tones set the boundaries of the piece.

The moment one begins to hear a persistent upper-register

drone, one has, so to speak, found one's way into the work. Soon the play of its variable pitches becomes audible. Along certain paths of approach, one hears the shifting patterns of the piece first. Directional differences of this kind orient the ear to the work, the work to its site, and oneself to one's location – one's contingent place in the world – at the moment of hearing.

The Villa Celle provided Neuhaus with an important opportunity to engage 'nature' – that is, nature with a capital 'N'. Granted, a 19th-century Italian garden laid out on principles established for those of 18th century England is not the most Natural place imaginable. In certain ways, it is as artificial as any site in the middle of Manhattan. Nonetheless, the Villa Celle project offered Neuhaus a challenge he usually doesn't have to face – that of designing a range of sonorities to play off against an ambience created by insects, rustling leaves and the occasional bird. He was far from Times Square, far from any urban buzz of the kind that has done so much to form his ideas about environment, population, and the ways in which works of art can mediate between the two.

As at the Villa Celle, so in Times Square – Neuhaus responds to sites on their own terms. The effect in the Manhattan piece is to turn the urban din back on itself, producing an island of gentle, smoothed-out clarity. Here one can attend pleasurably to urban sonorities, instead of trying to block them out in the usual manner. The Villa Celle installation offers a variation on this effect of calm. No matter how intent one may be on responding to the carefully designed attractiveness of a picturesque garden, cicadas and dappled leaves tend to slip to the edges of attention. Neuhaus' piece puts one on the alert, the aural lookout, for sounds that go unheard because they are so soothing, not because they are so harsh that the ear denies them. One takes up a contemplative stance toward elusive noises, not the aggressive kind, as in Times Square.

Neuhaus always establishes a remarkable degree of consonance between the sounds he finds in a place and the ones he adds to it, but here – especially when the drift of cicada-song through foliage faded, then returned again in electronic echoes of the artist's devising – the relationship seemed uncannily close. The closeness is basic to Neuhaus' conception of the *Time Piece*, and is a feature of his installation at the Museum of Modern Art, where he grappled with a very different sort of garden. Among the sonorities with which he filled the site at the Modern, one was not a sonority at all – it was a subsonic resonance, a sound too deep to hear. Neuhaus included it, nonetheless, because he found that it affected all the resonances at the site, and thus helped bind the work together. The *Time Piece*, too, makes use of 'inaudible sound'. And I think it would be helpful to recall once again the Times Square

installation, for the suggestions it makes about the *Time Piece* the artist realized at this year's Whitney Biennial, in New York. Of particular relevance is the fact, noted just above, that the overall effect of *Times Square* is to provide a zone of calm in the midst of an extremely noisy, hectic neighbourhood. The piece belongs fully to its site – its sounds are those of the traffic island, translated into electronic terms – yet it offers a way to experience the place in a reflective state. Thus Neuhaus encourages immersion and, at the same time, a contemplative detachment.

Calm clarity, sometimes generated by subsonic resonances, sometimes by a consonance between the sounds of a site and the sounds the artist adds to it – all of Neuhaus' major sound installations present these features. For the Whitney *Time Piece* he deployed them once again, and profoundly changed them, too. First, this matter of consonance. Usually it is a matter of adjusting and readjusting electronic sound-sources until the tonalities of a work begin to sound as though they belong to the site where they are heard. As I've suggested, this is not a matter of mimicry. At the Villa Celle, Neuhaus didn't try to reproduce the sound of cicadas – though that would have been hard enough. He did something more difficult still, which was to design a pattern of tones that is clearly the result of human, not natural intentions, yet never clashes with its setting. He found a way to make electronic sound feel at home in a bosky grove.

At the Whitney, his *Time Piece* was even more thoroughly at home in its Madison Avenue site, and more securely too, for Neuhaus drew sounds directly from the street. Microphones embedded in the facade of the Whitney Museum gathered in the noise of buses, automobiles and so on, then a computerized complex of circuitry 'piped' this raw aural material to speakers installed above museum's small, sunken sculpture court. Since this court is on the front or street-side of the building, it was possible to hear the sounds of Madison Avenue arrive directly from the pavement while hearing them again through electronic channels established by the artist. Thus he achieved an automatic consonance between work and site. His need, then, was to establish a difference – not a telling similarity – between the sounds of the piece and the sounds of its place.

Neuhaus did this first by changing the pitch of the noises he drew from the street, and next by delaying their transmission for an instant. An automobile's honk, for example, would be heard, then heard again, almost immediately, in an electronic echo. Where many of the earlier sound installations established a close sympathy between artwork and site, one now heard a very precise connection – that of cause and effect. The Whitney *Time Piece* provided a short stretch of Madison Avenue with an aural reflection of itself. When the street produced a sound, so did the

Time Piece. When the street was silent, so was the work. Of course Madison Avenue, one of the main thoroughfares of Manhattan, is rarely, if ever, completely silent. Even when the Avenue sounds quiet to a New Yorker's ears, it generates a surprisingly high level of noise. As a result, the *Time Piece* was always active, always kept on the alert by its close relationship with its site.

Just as the urban ear learns a certain deafness to the persistent buzz of the city, so one could visit the Whitney's sculpture court and not hear Neuhaus' work. We've already looked at his reluctance to intrude his artworks upon their potential audiences. The unobtrusiveness of the *Time Piece* is very much in keeping with Neuhaus' style, and that provides a perfectly plausible explanation for this aspect of the work. Yet, as I've suggested, the quietness of the *Time Piece* appears to have a precise point of origin in a particular work – the sound installation at the Museum of Modern Art's sculpture garden. There is a resemblance between the elusive subsonic resonance of the work at the Modern and the *Time Piece* at those moments when it has slipped away from consciousness, usually in concert with the sounds of Madison Avenue. The ear often creates such silences, for it simply cannot give its undivided attention for a very long time. Furthermore, and this seems to provide a direct link to the installation at the Modern, the *Time Piece* produced its sounds on a twenty-minute cycle that began below the threshold of hearing and increased in volume only very, very slowly. At the end of the cycle, the sounds of the work were equal in volume to the ones they reflected; when the cycle began, the *Time Piece* was inaudible.

So far, I've offered the possibility that the *Time Piece* develops two themes from earlier in Neuhaus' career – first of all, that of consonance between work and site, and then the theme of inaudibility. While the inaudible resonance of the Modern's sculpture-garden installation was static – a steady, all-enveloping rumble to be felt rather than heard – the *Time Piece* makes inaudibility the starting point for a shifting pattern of sound. Inaudibility forms an introduction to the *Time Piece*, giving way as the work's relationship to its site makes itself clear. Then, all of a sudden, inaudibility – or, more simply, silence – reasserts itself. *Time Piece*'s twenty-minute cycle comes to an end. The work stops recycling street sounds. There is a sudden absence of electronic echo. An aural setting that had steadily grown more and more complex is drastically simplified all of a sudden.

With half one's aural environment deleted – that is, with Neuhaus' electronic reflection removed and only the avenue's primary buzz remaining – the site seems astonishingly clear. Din no longer sounds like mere din, but a rich aural texture instead.

And with this clarity comes a calm. Even if, and Neuhaus often finds this is the case, the hearer hasn't been conscious of the *Time Piece's* building sonorities, their sudden cessation catches the attention. In such instances, inaudibility follows inaudibility, for absence of sound comes after sounds produced but unheard. In any case, the end of the cycle creates a pool of tranquillity, an earlier version of which we've encountered in the Times Square installation.

The *Time Piece* is remarkable, then, for sustaining well-established themes and also for transforming them profoundly. Calm, silence and consonance between work and site are all static in the artist's earlier installations. The *Time Piece* turns them dynamic. With this dynamism comes a deeper immersion in the world, as the cycles of Neuhaus' work enmesh themselves in the cycles of ordinary life. He sees in the *Time Piece* something similar, at least potentially, to public clocks, with their widely heard chimes, or church bells calling a congregation to worship. Not that a *Time Piece* heard throughout an entire community would simply tell time or have any part to play in church services. Neuhaus' intentions are resolutely secular. Nonetheless, he wants the *Time Pieces* to create cyclical, widely-experienced events, and the chimes of bells and clocks provide the only ready-to-hand comparisons.

The purpose of the *Time Pieces* is that of his other installations – to inspire an intensified sense of one's place in the world. Every individual within the ambit of the piece would experience it differently, of course, yet there might well be a unifying effect to be had from a work of art that addresses itself simultaneously to an entire population caught up in its usual activities. To a sense of one's place in the world would be joined an understanding that, to some extent at least, one shares that place with others. Neuhaus has built a small version of the *Time Piece*, not an environmental installation but an alarm clock. It addresses its cycle of sound to members of the community one by one, as they sleep, not to an entire population in the course of its daily life. In this manifestation of the concept it's certain that the sound pattern goes largely unheard, for the cycle's sudden cessation is what wakes the sleeper. Instead of an alarm to prod one awake, this personal version of the *Time Piece* brings wakefulness by means of a reversal in the aural environment. Instead of noise, silence.

With his alarm clock, Neuhaus puts his title-phrase *Time Piece* in line with ordinary usage; the phrase refers, after all, to clocks. And clocks measure time. So, in a way, does any version of Neuhaus' *Time Piece*. Its cycles are of fixed length; they recur at regular intervals. If a *Time Piece* were to be installed so that its cycles reached an entire community, their climactic silences

would no doubt be heard day in and day out at the same hour, much like the fire sirens tested regularly at noon in American towns. Thus any *Time Piece* could serve in the usual sense of the phrase as a time piece – a clock. Yet I said at the outset that Neuhaus is interested more in space than in time.

When he engages time, as he always must, it is in order to clarify spatial matters. This intention guides all his work, but especially the *Time Piece*, which seems to draw on all his abiding concerns and tendencies with a view to intensifying them. As the piece builds to its highest volume then ceases, a certain moment is marked so decisively it seems to break off from the flow of time and precipitate one into a state of preternaturally intense there-ness. Nothing of the sort happens literally, I know. Duration, time, is not breachable in that manner, yet the *Time Piece* seems almost to suggest that it is, that if one's grasp of place is sufficiently powerful, space absorbs time. Simplified all at once to an astonishing clarity, the flow of the world's sound suddenly feels as though it has been completely suspended. Then the *Time Piece* inaugurates a new cycle, space abandons its embrace of time, and the world continues on in its usual way.

Program Notes

Traditionally composers have located the elements of a composition in time. One idea which I am interested in is locating them, instead, in space, and letting the listener place them in his own time.

I'm not interested in making music exclusively for musicians or musically initiated audiences. I am interested in making music for people.

Although Neuhaus grants that good music can still be made in a concert hall, he himself is determined to expand the art beyond those walls. 'One obvious way to realize that idea is to transport the music of the concert to the public space,' he says, 'and in some cases this works very well. Far too often, though, the results of removing this kind of music from the esthetic and acoustic context for which it was conceived are serious compromises in the sound of the repertoire performed. Rather than trying to fit these forms into situations where they have basic conflicts, it seems a more positive direction to look at the unique acoustic and use characteristics of these spaces, use them and make new kinds of music that work there.'

All of this presupposes a populist ideology, based on an impatience with the elitism that characterizes most American composers. 'I demand from a listener no previous knowledge of my work or of any other work of any composer, but simply to listen, and I also take on the burden of providing a situation where it is most likely that he would listen.'

When this is accomplished, however, it poses new demands on the listener — demands similar to those implied in Cage's 4' 33" of silence. Ideally, all listeners are at all times actively engaged in a dialogue with all that they perceive, busily balancing the responses of their own ears, intellect and emotions. Practically, for a listener comfortably settled into a particular style of the past (Beethoven, Dixieland, jazz, fifties rock & roll), many of those more alert, sensitized responses become blunted by habit. Encountering unusual music in unusual circumstances can resensitize a person, encouraging a new awareness of the continuously shifting sounds all around, which is what Cage had in mind. Hearing Neuhaus' *Times Square* is an especially powerful way of confronting ambient noise, and of engaging in the meditative exercise of trying to perceive the totality of sound at any given moment as form. Hearing any of these ongoing environmental pieces is like passing by a painting on a museum wall. You are invited to contemplate it for as long or as little as you like; it is the moment-by-moment sensation of the piece that determines the length and depth of your interest.

Joan La Barbara

As I stood on the roof of my New York apartment building last July Fourth watching two full hours of fireworks from several directions, I discovered I was also experiencing a rather incredible concert; the cracks that accompanied each new flash of color resounded through the canyons of the city, ricocheting off the reflective surfaces of the structures until the echoed sound was engulfed by a new crash. Single explosions were the most wonderful aurally, as one could follow the path of the sound as it traveled away along several corridors. Multiples were nice for their shock value as well as for the complicated reverberative patterns they set up. Adjusting one's ears and mind to accept unusual (and usual) sound circumstances in terms of musical events, and expanding the concert forum to include all times and all places have been major developments in this century's music, effected initially perhaps by John Cage in his pieces that make much of the sounds of 'silence,' and continued through the works of a number of contemporary composers.

Max Neuhaus' works focus on that most important function of the composer in society, of retraining ears and minds, by utilizing original contexts or situations as new forms in which to set pieces. A case in point is his most recent underwater music concert in Berlin. Each new pool situation has unique acoustical characteristics which affect the perception and reception of sound made and heard in water. Beginning with this concept, Neuhaus invented an instrument called the water whistle (a series of hoses forcing water through whistles to make pitched sounds underwater) and created seventeen pieces for this instrument, each one involving a different pool. His recent explorations in this form have involved loudspeakers designed specifically for underwater use, expanding the range of sound possibilities to include the almost infinite variety available through the use of electronics. With infinite variety comes the task of choosing those sounds that work best, a task combining scientific process and intuitive, creative decisions.

On a very chilly Berlin evening last summer, Neuhaus donned his partial wetsuit, jumped into the pool and began the lengthy process of finding the most resonant frequencies of this particular space, sweeping through the sound spectrum listening for peaks, zeroing in on those areas until the exact pitch is found to which this pool responds. Beginning with hand signals to his German assistant to indicate pitch direction and speed of the tonal sweep until darkness closed in, Neuhaus would occasionally climb out of the pool to adjust the sound properties by changing wires in the

'bread boards' (instant circuit boards which can be changed conveniently without soldering, until final decisions about the circuit's design are made). Once the pitches are found and speakers are tested for their directionality and responsiveness to certain ranges, the creative work begins, imagining qualities that might be attractive, trying these, making adjustments, restructuring the sound shape so that its flow and rhythm feel right, leaving the pool to redesign a circuit, returning to test the new sound, repeating the analytic and intuitive processes until the piece is complete. Fifteen hundred Berliners reaped the benefits of all this work in a concert performance that lasted from 11 p.m. until dawn, as Neuhaus watched the wide ranging audience appreciate the sounds, observing that even those persons with the shallowest level of musical understanding began during the course of the evening to listen more completely.

While massive sound/social events are a part of Neuhaus' work, he is also interested in more long-term installations, 'discoverables' as he calls them, pieces into which some one may wander and suddenly realize that an organized collection of sound is being presented. Such is a piece he recently installed at *Dokumenta 6* in Kassel, designed to produce sound continuously for three months. Beginning with a cluster of click-like sounds, spirally distributed to 'water' the grass with sound, Neuhaus began experiments to find sixteen highly directional speakers which would send the individual clicks to very specific points on the ground. The speakers and system and power pack were then placed high up in a tree, camouflaged by paint and leaves, turned on and left for the casual stroller through the park to discover and enjoy.

Set in a small, quiet grove of trees off the main path, the sound is encountered as one enters the area. It is not a startling sound but one that feels organically connected to the area, emerging out of the songs of birds, the crackle of twigs, and the rustle of leaves in the breeze. The first impression is one of peace and calm, even before one is aware of the sound itself. Once the sound is located, the impulse is to stop and listen, locate the source perhaps to be better able to locate oneself in direct line with a speaker, to be in the direct path of a droplet of sound. As you circle the tree, there are points where the sound urges you to stop and listen as it continues to travel from speaker to speaker, distributing the different pitched clicks around the ground in their spiral orbit. One hears the path of the sound as it travels away and around the tree to return to your stopping place. Then one moves on to a new location, repositioning to listen again in a new drop-spot. The effect is one of sheer serenity. Neuhaus has designed an electronic system whose sounds are so consistent with the environment that they seem indigenous to their location.

Designing sounds to fit spaces occupies much of Neuhaus' thought, and his next installation in New York (begun many months ago but interrupted by his artist-in-residence period in Berlin) will involve a subway ventilation chamber located under a pedestrian island in Times Square. Having placed enormous speakers in the chamber already, the next stage of the work, scheduled to produce some sounds ready for listening by this month, is to find the proper sound to fit the place, a process which may be similar to the one used to find sounds for the pool. His conception at the moment is that there should be an anonymous sound coming out of the ground in this heavily trafficked but not very noisy place, and that one should discover it in passing and stop to listen.

His next European proposal involves a Tower of Babel affair utilizing the format from his highly successful January 2 *Radio Net* (1977) in which the whistled sounds of ten thousand people were collected over telephone lines, altered electronically, mixed and redistributed by Neuhaus from a central location in Washington, then broadcast over the National Public Radio system. In the European piece, language sounds would be gathered at telephone points in five cities (at this writing the chosen cities were Paris, London, Milan, Cologne, and Warsaw). In each city eight lines would be available to accept calls and feed them into a switching system, a performing instrument designed to make certain compositional decisions indicated by Neuhaus. It will choose timbres, vowel groupings, consonant configurations, certain structural and grammatical aspects and send the composite signal composed of its choices to the selected central broadcast location, where the composer will make final adjustments to the five-city mix and broadcast this myriad of language extractions.

Unlike many composers who create in isolation and then take or send their pieces to be played in a variety of circumstances, Neuhaus goes first to the situation or environment and designs a piece that is specifically tailored to fit the needs and likes of the space. He concentrates on expanding our conception of where and when one can enjoy music, and even what music is.

Tom Johnson

I sometimes think that no piece of music in and of itself means very much. The real meaning has to do with where you put it. Attach a high price tag and display it in a posh concert hall and it means one thing. Feed it into a car radio and it means quite another thing. Home stereos, discotheques, elevators, and city sidewalks all have their own connotations, and if you tell me that most of these contexts have arisen as a means of accommodating various types of music, I can reply, with equal validity, that most music is written as a means of accommodating specific outlets.

Most composers and performers are aware of all this, I think, but they are generally content to work within the confines of established contexts. Max Neuhaus is not, and for about 10 years now, he has been creating not only new pieces of music, but new situations to put them in as well. Some readers will probably recall Neuhaus's *Waterwhistle*, an underwater piece which he has presented in a number of swimming pools around the country. Thousands of pedestrians have encountered *Walkthrough* (III, 12), a weather-controlled electronic installation which beeped continuously for about a year and a half in the arcade of the MTA station at J Street/Borough Hall in Brooklyn. Many have heard *Public Supply*, a radio piece in which listeners telephone in their own music, which Neuhaus then distorts, and mixes, and sends out over the air. Thinking back about my own experiences with Neuhaus works, I generally recall the situations more vividly than the sounds, but the pieces seem meaningful and significant in any case.

Neuhaus seems to be working continuously on new circuitry for new projects, though few of them have actually been presented in New York the past couple of seasons. That is primarily because his projects generally require lots of expensive equipment and a great deal of cooperation from guardians of public facilities. This season, however, he will be more in evidence. He has a large project for National Public Radio scheduled for January 2. This is a *Radio Net*, for which people from five major cities will be able to telephone in whistling sounds, which will then be manipulated at a central point via Neuhaus circuitry, mixed together, and fed out over the network as a two-hour audience-participation composition. He also has his eye on a ventilation shaft on one of the islands in Times Square, where he hopes to obtain permission to install continuous electronic sounds to be heard by passers-by. Meanwhile, on November 19-21, he installed a new work called *Round* (III, 14) on lower Broadway.

Round, sponsored by Creative Time, Inc., was installed in a large, oval area in the ornate rotunda of the U.S. Custom House. An oval ring of 16 face-up loudspeakers was placed on the carpeted floor, with a smaller ring of 16 more loudspeakers inside it. When I arrived on Sunday afternoon, listeners were sitting and lying casually around the area, and I decided to sit down between a couple of loudspeakers in the outer ring. It was immediately apparent that sustained electronic sounds were moving around the space, and I soon realized that whatever faded in on the loudspeaker at my right would pass on to the loudspeaker on my left a beat later, and from there to the other 14 speakers of the outer circle. Every eight beats a new sonority would pass by me, and the music just kept rotating.

The sound color itself was nothing remarkable as present-day electronics go, and the basic pitches were all overtones of one fundamental low pitch. Often a high, insistent, seventh overtone would dominate, and sometimes I would be more aware of higher overtones. Sometimes the deep fundamental would swell, but it didn't seem to move around the way the higher tones did, and would sometimes seem to rise around the whole room. The balance fluctuated continuously, and I found it impossible to predict what would happen next. All I could be sure of was that once every eight beats some version of the sound would pass by my particular point in the space, and sometimes inklings of signals would go by during the other seven beats as well. I moved in toward the inner circle of loudspeakers and found that the same thing was going on there. For perhaps 20 minutes I found the situation quite engrossing, and looking up at the ornate oval ceiling above me, I was pleased by the sensitivity with which Neuhaus had related his sound installation to the architectural shape of the space.

After listening to *Round* for a while, I decided to try to track down Neuhaus and find out more about what makes the piece tick. He invited me into a keep-out area where the equipment was and cordially answered my questions. Unlike many Neuhaus pieces, I learned, this one does not depend on any sort of weather information, audience activities, or other extraneous input, but finds variations all by itself through the complex interaction of four basic signals. The strange behavior of the low fundamental tone occurs because two signals are out of phase with one another. As I understand it, the low tone becomes louder when the listener happens to be in one of those points of time and space where the two signals are in phase with one another, and fades out completely at time-space points where they are cancelling one another out.

I was glad to learn these facts, and rearmed with this information, I was ready to go back into the rotunda and appreciate the

music all over again from a more educated perspective. Neuhaus, however, did not feel that the technological facts should affect the listener. That's why he had tucked the equipment away in an inaccessible corner and had provided no program notes. This led to an interesting discussion. Neuhaus claimed that analysis can ruin music, and that people should respond to *Round* purely on an intuitive, musical level. I insisted that questions about how things were made represented simple, desirable, intellectual curiosity, and that people could appreciate the intricacy of what was going on and enjoy the music much more if they had some idea of what caused it. Of course we didn't resolve this age-old controversy, but we did reach a compromise as far as the immediate problem was concerned. I told him that if I wrote about *Round* I'd feel obliged to include some information about how it worked, but that I'd also put in something about how unimportant he felt such things were. Neuhaus thought that would be fair enough, and I'm still not sure who was conning whom.

But the essential thing is still the basic situations Neuhaus creates. In this case he makes use of a largely unused public space, finds a sensitive blend between new sounds and old architecture, and brings people together in a unique, informal situation. When he puts electronic sound installations on street corners, he politely confronts pedestrians with the opportunity to be more aware of the sounds around them. When he puts music in swimming pools, he gives us a whole new perspective on sound perception and the experience of being underwater. And when he presents *Radio Net* on January 2, he will be setting up a nationwide audience-participation piece, which strikes me as a most provocative way to start off a new year.

Interview with William Duckworth

I

D. How do you categorize your work? Is it all equally musical?

N. I see two main areas – the sound installations and the broadcast works. Broadcast works are very much about music. The installations are related completely to their location. I don't start to conceive of them until I'm in the actual context; and that context is not only aural, but also visual and social. These are ideas which are foreign to music and seem hard for people oriented to music to understand.

In terms of classification, I'd move the installations into the purview of the visual arts even though they have no visual component, because the visual arts, in the plastic sense, have dealt with space. Sculptors define and transform spaces. I create, transform, and change spaces by adding sound. That spatial concept is one which music doesn't include; music is supposed to be completely transportable.

D. Do you have works that you think of as more significant than others?

N. The first sound installation, *Drive-in Music*, was certainly significant; that's where it all came from. *Times Square* was the first permanent piece, so it was a milestone. In the broadcast works, I think *Radio Net* was probably the most important so far.

D. What word is best to describe these works which deal with space?

N. I don't know whether there is one. I called them sound installations because the pieces were made from sound, and I was using the word 'installation' in the visual arts context for a work that is made for a specific place. It seemed like the cleanest description.

When I coined the term in the early seventies, it was neutral; it didn't mean anything. People would ask me what I was talking about, sound installation? I had found a term that didn't already mean something to describe something new: sound works without a beginning or an end, where the sounds were placed in space rather than time.

Now, in the visual arts, people often use sound recordings of voices and things as part of a visual work and call it a sound installation. When people compare that to what I do, I am reminded of the Marx Brothers joke: 'I hear you've started to make music. What instrument do you play?' Answer: 'I play the tape recorder.' I don't have anything against it; it can even be interesting. But it doesn't have much to do with what I do, and it's not what I mean by the term sound installation.

Also, people working in the field of music are beginning to use the term to describe what are essentially concerts of electronic music on tape. I am a bit disappointed. I didn't invent a new word to try and make extra long concerts of tape music sound like something new. (Neuhaus stopped using the term 'sound installation' in the mid-eighties and started to use the term 'sound works' for all of his oeuvre and 'place' to designate the spatial works. Ed.)

D. So you think of yourself as having invented the concept of sound installation?

N. Yes. I think that *Drive-in Music* (II, 16), my first installation, was that moment. It was in Buffalo on a street called Lincoln Parkway, a street beside the main thoroughfare in the city. The installation was about half a mile long, stretching from an art museum down to a residential street.

When I began I didn't have the term 'sound installation' in mind. I wanted to make a work that was part of people's daily activity. Rather than something that they went to at a specific time, an event, I wanted it to be continuous. I wanted it to be something they could pass through at any time, not something they had to plan and go to. Realizing that like many other small American cities, most people in Buffalo didn't walk – they moved in their cars – one way of entering into that daily activity was to make a piece for people in cars.

The fascination with these driving pieces is that they are invisible but, more importantly, silent. They only come into existence within this enclosure with wheels on it, that has a receiver in it, and they exist only for those people within that enclosure. Furthermore, they're determined by how that enclosure moves through these sounds.

D. What was the basic concept of the piece?

N. I set up seven radio transmitters all broadcasting at the same point on the dial, but each one with a different sonority, a different mixture of sine waves. The synthesis circuit was sensitive to weather conditions; it gradually changed the levels in the mixture of those sine waves, creating different sonorities depending on the weather.

I don't think of electronic circuitry as a thing; it's an idea. It's a statement of idea, but not a static one like a drawing or a piece of writing; it also realizes the idea. This was a way of connecting that idea to its environment.

We advertised it in the newspaper, and there was also a map that people could take that oriented them.

D. How long did the piece run?

N. Three or four months. It was battery-operated. I set it up in the fall, and by the spring it had died away. The idea of a permanent installation wasn't in my mind then. Setting up this

entity for a period of time – that it was there, that it didn't have a beginning or end, that it existed for each person when they entered it and disappeared when they left it, that the sounds were placed in space rather than time – those were the important things.

The idea of permanence, for me, relates to non-destruction. Because the works are attached to their context, they can't live outside of it; they can't be moved. So if one doesn't make it permanent, then it's slated for destruction.

II

D. What are your best memories of being a performer?

N. There was a crucial concert, in New York. In a sense it was my debut as a percussion soloist. It was the first concert of Stockhausen's American tour, which meant that the cream of the music world would be there. I was brought into it late because of a disagreement between Kaskel and Stockhausen. It was determined about three months before that concert that I would play *Zyklus*, probably the most difficult work in the solo repertoire. I'd played it before but only in my Master's recital.

My relationship with Stockhausen was always testy, probably because both personalities were... Anyway, as this thing got closer, I felt from his rude stare that he didn't have the confidence in me to play his piece. It turned out that *Zyklus* was the first work on the program. At the concert just before I played, he went out and made an announcement disavowing responsibility, with the implication that a young American couldn't do justice to his music. It backfired. I was ready to play that piece, and I played it like nobody had ever heard it before. It was a beautiful moment.

D. Did he say anything to you about your performance?

N. Not a word. He always used to say I was too intelligent to be a musician. It was a tremendous stimulus to work with him because of the constant battle.

D. Didn't you once study with Gene Krupa – how did that come about?

N. Krupa was an idol of mine from about the age of twelve – the Benny Goodman band and his drum solos. Not so much from a technical side – I really liked the sound of his playing. It was tremendously exciting to me. He opened up a drum school in New York City at some point, and I just walked in. It was like kid and God.

D. How old were you?

N. I guess I was twelve or thirteen, maybe fourteen.

D. How long did you work in that studio?

N. For about a year. Then I left and started studying with one of the teachers who worked there, a guy named 'Sticks' Evans, who was a black New York studio musician. A very good one.

D. Did you intend to be a jazz drummer?

N. Yes. But my parents wanted me to go to college, so the compromise was the Manhattan School of Music. They wanted me to go to Juilliard; but it was obvious to me that Manhattan was the only place for a percussionist to go, because Paul Price was there and they had a percussion ensemble. Juilliard was only producing orchestra musicians.

D. So even when you went to the Manhattan School you didn't intend to be an orchestra musician?

N. No. In fact, my first year I thought I was still going to be a jazz musician, and I was just going through this to satisfy the parental pressures. Then I got intrigued with a whole area of music, which I had known nothing about, and came out a solo percussionist. A five-year transformation.

D. When did you first think about being a composer?

N. I don't know whether I ever sat down and said: 'Now I'm going to be a composer'. I don't think I have. The work that I was doing as a percussionist demanded that I make a lot of the decisions about the music itself; that was the beginning of it. I've never sat down to make a composition. I have ideas and I realize them.

III

D. Was *Drive-in Music* your first idea?

N. No, *Public Supply* was.

D. How did you first get interested in doing a broadcast work?

N. Ann McMillan, the music director of WBAI in New York, called me up and asked to interview me. I thought about it for a while and decided that I wanted to do this piece instead. At that time as a performer I was interested in the challenge of making a live work from unknown materials, enlisting the aid of anyone who wanted to telephone into this station as the producers of that material.

D. What was the basic concept of the piece?

N. The concept of all broadcast works is gathering lay people together to make music together – music as an activity rather than a product – something that I feel we've lost in our western society.

D. How did the piece work?

N. We installed ten telephones at the radio station, and I built a kind of switching/mixing system and semi-automatic answering system. You've got to remember there were no telephone answering machines in 1966, and live call-in shows didn't exist. The only answering machines around were huge things that the telephone company had. So there was nothing to draw on.

The system for answering the calls was incredibly simple. There was a lever that went under the receiver, and as the phone rang the thing lifted up the receiver. There was a plastic cup with a

small speaker in it over the mouthpiece. There was also a microphone in a cup over the earpiece; this sent the sounds of the incoming call into the mixer. All these phones were sitting on the floor popping up and popping down!

D. What kinds of sounds were the people giving you?

N. An incredible variety. That's what is always amazing about those pieces; they are much more than you could ever imagine. There are also many mundane things, such as people trying to practice their trumpet, or down in the basement with their band saws.

D. Were you mixing or altering these sounds?

N. I wasn't altering. I was mixing and combining people. I had control over the calls coming in, switching control over which people were on the air. By monitoring what was coming in, I formed groups to be put on the air and adjusted their levels according to what they were doing – not as a manipulator of the material, but as a balancer of people. Callers with their radios on added delayed feedback, which made a nice texture to the work.

People heard the sound that they were making but also the other people that were combined with them. At that moment it became a group activity – a process of people making sound together, listening to it, and adjusting what they did according to what was going on. I think this is the heart of the musical process – this dialogue.

D. How long did each person's sound last?

N. Some of them went on for a long time. I remember one person reading a long poem, which became a continuum for fifteen minutes or so.

D. How was it accepted?

N. Who knows? There is no applause after a radio program. There was the usual confusion about whether or not it was music, whether I was a performer or composer. My real motivation was to generate the activity. That has become clearer and clearer in my own mind. But even later, in *Radio Net*, it was still hard to get National Public Radio to understand why it couldn't be pre-recorded.

D. You mean, because the recording is a product?

N. Yes. The work is a process; it's an activity.

D. Why is it a process? What's the difference between sounds coming out of the radio or sounds coming out of a record player?

N. The main difference in this case is that the person listening to a recording isn't part of it and doesn't have the possibility to be part of it. That changes the nature of what it is.

D. In these early *Public Supply* pieces, how did you tell the people to be ready to call in? What kind of advertising did you use?

N. It's easy with the radio, because you've got the radio itself to

tell people about it. But we also did a mailing of a sheet of instructions which had the date and time.

D. Are the *Public Supply* broadcasts you did from 1966 to 1973 basically the same piece done four times, or were there alterations in concept?

N. Separate works, certainly. Is every conventional concert the same just because the audience sits in seats in a concert hall and the musicians are on stage? More to the point, are all violin concertos basically the same piece just because they all have a violin soloist and an orchestra? The broadcast/telephone concept is a form, not a work.

There were alterations in the way each one was built, an evolution of complexity as I reacted to the realization of each one, essentially progressing towards a removal of myself from the process. But even if the systems had been exactly the same, completely different sounds and structures would have appeared with each realization.

D. What was different about *Radio Net*?

N. I had managed to get to the point where it was completely autonomous. I was no longer performing it; the callers were. All 190 stations of the network were connected in a loop. By doing this, I had made a sound transformation circuit which literally stretched across the country.

Each station heard this circuit at a different point and broadcast it. The preliminary studies were in 1974, and we realized it in 1977. It is the most gigantic thing I've ever tried to do in scale and complexity. For the first time I was confronted with a situation where it was impossible for me to work the controls of the piece, even if I had wanted to. There were five call-in cities. I obviously couldn't be in five places at once. So I built a system for each city, which was shipped to that city and installed by the local engineer.

D. What were the five cities?

N. New York, Atlanta, Dallas, Minneapolis, and L. A.

D. So the system came in the mail and the engineer installed it?

N. Right. I went through the system over the phone with each engineer as they hooked up and de-bugged it. A day before the broadcast we had a kind of dress rehearsal. I had reconfigured their whole telephone network. In order to set it up, it meant getting a set of orders to the phone companies at each switching point that caused them to throw the right switches at the right moment to form this new network. The producer of the program was a man named Steve Rathe, who had a good deal of the responsibility for making it work. Administratively it was an incredible thing.

D. How did you communicate with the five stations during the performance?

N. All throughout the rehearsal and the work, I was on a

conference call with all the engineers. So by voice I could make adjustments in the system.

D. What kind of adjustments did you make?

N. Each one of these cities was on a large wire loop, which came from Washington, went through the city, and circled back. The loop wasn't neutral; it had a characteristic sound. To that sound I added a frequency shifter so that as callers' sounds circulated they became layered and mixed with the sound of the loop. But each time the loop was set up, even though it went to and from the same places, it went via different routes depending on what the telephone traffic was. So each time the loop was set up, it meant tuning that loop – adjusting gain, adjusting mix, adjusting shift. My function was maintaining the tuning of those loops throughout the work.

There was no hand-mixing of callers' sounds. I had built an element in the system, an automatic mixer that listened to calls coming in and selected the highest pitched sound at any particular instant – a time division mixer. This tended to pull out the pitched material from whatever anybody was doing. That, coupled with the simple request for people to whistle, provided a body of pitched material for the piece to work with. By that time it was out of my hands.

The people at NPR kept waiting for me to do something, to perform. I don't think they've ever realized it was being done.

D. Do you see a future in broadcast works of that type? I mean, even beyond your own work.

N. I don't know. I always have problems thinking about what other people should do. I know what I should do, and I do it. As a compositional mode, I don't think so. The composers of these works are really the people who are making the sounds; so in the traditional western sense I'm not acting like a composer at all. I'm the catalyst for the situation; I set up something which makes it possible for that to happen. Maybe that's a new concept or role for a composer.

IV

D. Do you have students now?

N. No, I've never taught. I think that being an artist is more than a full-time job. Also, part of it is that for a long time I wasn't very articulate. I don't think in a verbal way; I don't think with words. As the projects have gotten larger and out of my own two hands, my effectiveness rests on how well I speak and how well I can get ideas across. So I've become more articulate.

I don't think one can teach people to be artists. People have to teach themselves to be artists. It takes a tremendous amount of energy. The lectures I've done were a way of introducing ideas to a community where I might do a work. But now I'm thinking

about doing residencies because I'm beginning to feel that I want contact with the generation that's in its twenties. For the first time in my life, I'm beginning to feel a disconnection.

D. You get a lot of media attention. I remember seeing you in *People* magazine. Do you generate that publicity, or does it just happen?

N. It happens. One thing that the percussion career did for me was to get rid of the need for ego reinforcement that all artists seem to have. It got that out of my system. But sometimes publicity is part of the work itself; it determines how people approach a particular idea or work. To that extent I get very directly involved in it. I think of it as a translation from me to another group of people, rather than as good writing or bad writing. If it's in a newspaper it's talking to one spectrum; if it's in an art magazine it's talking to a very different spectrum. I see them all as branches out of what the work is.

D. Do you enjoy the publicity?

N. I don't like to be recognized. I hate the loss of privacy of being well known. You lose an awful lot if you can't walk down the street normally and buy a pack of cigarettes or a bottle of whisky, or you can't go to a bar without immediately getting embroiled in a conversation about what you do and have to act the role that people expect. The hardest part about it is that publicity generates an image of yourself that in many cases has very little to do with what you really are. You find that people you meet who know about you through this publicity have a conception, and if you don't adhere to that conception they get angry. They feel you have betrayed them in some way. And there you are, stuck with so and so's conception of you from this magazine. It's a real damper on being a human being. Also, the ego boost that accompanies being a celebrity is not too healthy for the intellect; it tends to limit self-criticism.

D. How have you normally tried to handle it?

N. I've tried to play it both ways. I don't want to be too famous – making works which are anonymous is not exactly the road to fame – but fame is also a tool for realizing the work. One of the reasons I was able to do *Drive-in Music* was not because of the concept, which nobody understood; it was because I was a famous percussionist and I wanted to do this. That was the force which allowed that first thing to happen. In a way each work builds on the last one. It's a new idea; they don't understand it; but: 'Look, he's done all this'. It can be a very powerful force to get a new idea across. I think of it as a tool. There's nothing personally reinforcing about reading another article about myself.

Considering the number of Americans who view the New Year's Eve ritual of merrymakers awaiting the ball's descent at Times Square, the archipelago of nondescript pedestrian islands created by the intersection of Broadway and Seventh Avenue just north of the One Times Square tower must count among the most familiar landmarks of Manhattan. They are, for the most part, empty on New Year's Eve, as police barriers keep the crowds massed along the sidewalks; but they are largely as unoccupied as desert islands anyway, and serve mainly as pausing places for harried New Yorkers bent upon traversing the difficult intersections on the urgent missions that take them east and west. The northernmost island has a certain identity because of the TKTS pavilion, where people queue up seeking discount tickets to Broadway shows; and the southernmost island is home to an armed forces recruiting station, long a landmark of the area. The rest have some hopeful trees in wooden planters, placed there 'for the beautification of Times Square,' according to bronze plaques set flush with the pavement in 1964 by the Broadway Association and the City of New York. The wedge-shaped islands are in any case sufficiently inhospitable that these efforts at aesthetic redemption are virtually invisible, unless one is paying particular attention to the sparse inventory of light poles, traffic signs, subway grates and the trees. It is altogether appropriate, in consequence, that the archipelago's most singular monument should be a work of art whose substance guarantees its invisibility, inasmuch as it is made of sound.

Once one knows this artwork exists, it is impossible, looking down upon the islands as one sees the New Year in, not to visualize it as a perfectly transparent prism of sound rising up an indeterminate height from its base, defined by the wedge-shaped grate at the north edge of the island between 45th and 46th Streets and, like Ariel on Prospero's island, 'invisible/to every eyeball.' Indeed, knowing it is there, one can imagine it contributing to the midnight cacophony of hoots and toots its own vertical, unwavering sound. Still, it remains discrete and does not register upon the ear unless one walks through it and even then one can easily fail to register it. Now and again, though, someone passing through it at some less celebratory moment of the year may wonder (if it evokes a memory of Ferdinand's words in *The Tempest*, 'Where should this music be? I' th'air or th'earth?') what the noise is all about. A kind of high-pitched, unrelenting drone, it is a sound that belongs to art by contrast to the honks of passing taxis, the screech of trains underground, the mingled

shouts and mutters of the passing millions. But it somehow also goes with these sounds because of its tough and uningratiating character. It would be ill suited to the context were one who walked across the grate to hear what Caliban described as 'sounds and sweet airs that give delight and hurt not.' It does not emanate from, as Stephano put it, 'a brave kingdom... where I shall have my music for nothing'; this island is no tarrying place, and the sound is not intended to be listened to, merely heard. It really is more like the 'groans [that]/ Did make wolves howl and penetrate the breasts/ Of angry bears,' which were emitted by poor Ariel when he was enclosed in a pine tree – perhaps similar to those in the nearby wooden planters – by the witch Sycorax, and left there until liberated by Prospero a dozen years later. This howl has been here, filling the shaft that its precisely defined space creates, since 1977. Its title, appropriately, is *Times Square*, and as a work of public art it is exemplary in excluding no other uses to which its island might be put, and in being, through its nature, immune to desecration by graffiti.

Times Square is by Max Neuhaus, at one point in his career, a very advanced musician, a virtuoso percussionist, in fact, who gave his final recital at Carnegie Hall in 1965 and who made his final recording for Columbia Records in the fateful year 1968. For reasons no doubt personal and conceptual, but also, given the spirit of those years, for reasons of what one might call political aesthetics, Neuhaus reconceived himself as a kind of visual artist who happens to use sounds rather than colors, but for whom shape is as central as it is for sculpture. As part of the general critique of institutions that swept popular consciousness in those years, it struck Neuhaus that the contrived production of sound was too important to be restricted to the artificial circumstances of the concert hall, while at the same time he was certain that the commonplace washes of music that we wade through in lobbies and elevators – what he terms 'decorating with sound' – belong to a practice too finally shallow to function in the way that art is supposed to in the exaltation of the human spirit. Given his musical gifts, he could, like the harpist Daphne Hellman, who gives concerts from time to time on subway platforms, set up his drums and bells on street corners and gather a crowd. But this would simply be to make the atmosphere of the concert hall portable: He would in effect generate a bubble of aesthetic space around himself, and passers-by would form themselves into an audience, which would listen, applaud and look for a tambourine in which to drop a coin. This would not constitute a true aesthetic transformation of the environment, any more than the bubbles of air that astronauts wear on moonwalks transform the Moon's atmosphere.

What Neuhaus aspired to was the enhancement of ordinary life

through sound – *ordinary* life, as it courses along, and with whose aural surfaces he could *interact* rather than whose flow he might *interrupt*, as with music. The concert hall, like the museum, is a special precinct, with rules and conventions that define the conduct of those who enter it, and whose walls, so to speak, are like parentheses that bracket the experiences had within, and segregate these experiences from the flow of life. An analogy can be made with churches. Someone might decide to ‘bring religion to the streets’ by setting up a pulpit and declaiming the Gospel on busy corners. But this, in effect, would be a portable tabernacle, a bubble of sacral space encapsulated in midtown life, which flows unheedingly around it, save for those attracted as a momentary congregation. Someone whose religious mission corresponded to Neuhaus’s artistic one would be concerned, rather, with what Feuerbach powerfully describes as ‘sacramental celebrations of earthly truth.’ Neuhaus’s work, then, involves what one might think of as minimal displacements of the real rather than *replacements* of it through the insertion of contrived artistic entities, which carry their own imperatives and inducements.

It is central to the enterprise, accordingly, that one should merely happen upon the sounds, discover them as unexpected aural presences or – in the case I shall describe in a moment – as aural absences, when Neuhaus bestows a certain shaped silence into the flow of aural experience where it is least expected. Thus there is no plaque, at 46th Street, marking the fact that here is a work by Max Neuhaus, installed in 1977. One simply hits, as it were, an unresisting wall of sound, to which one may or may not pay attention, and which may or may not register on one’s awareness. After all, the sound work does not shut out the surrounding noises, and one does not visit the island to admire the installation – not, at least, under the intended effect, which presupposes an initial unawareness of the work’s existence. In the intended scenario, I suppose, the pedestrian carries away an impression of the sound life of the place having been intersected but not interrupted, as though a sound had occurred that left everything as it was and yet at the same time transfigured.

Neuhaus sees himself as something of an acoustical benefactor, and it is characteristic of his sensibility that he sees aural squalor where the rest of us merely perceive noise. Anyone who has driven city streets knows the panic of hearing a siren, knowing one should pull over to allow the emergency vehicle to pass, but not being sure it is even on the same street. The noise seems everywhere, and nowhere. We take the ambiguity of sirens as a necessary evil, as do those who drive the emergency vehicles, they being unable to hear any noise other than their own siren. (There have been, as a result, calamitous accidents between police cars whose drivers could not hear each other.) The solution is to put

'holes' in the sound, Neuhaus has told me, and then shape the siren so that its direction and velocity are clear. It has been difficult, however, to get funds for such research, since the National Science Foundation considers Neuhaus an artist and the National Endowment for the Arts does not subsidize applied science, and police departments have other priorities and are not disposed to fix what isn't broken. Neuhaus is not an artist like Christo, for whom the politics of getting his work accepted and installed is part of the artistic process. For Neuhaus, these are merely trials, even though a fair amount of his time is spent in getting support for his projects. A great deal of testing enters into the shaping of sounds, and a lot of electronic *bricolage*. The bills run up when art crosses the boundaries into everyday life, and it is far from plain that we shall ever get the humane sirens of Neuhaus's visionary imagination. We are fortunate to have the sound works we do have.

Times Square is the only public sound work by Neuhaus in New York at present, and one of only two of his works in the United States. The other is permanently installed in the stairwell at the Museum of Contemporary Art in Chicago, where it is in aural symbiosis with ordinary building sounds like those made by elevators and air-conditioning systems. For the most part, his works are found here and there in Europe, where he resides. He did have a piece in the 1983 Whitney Biennial, and its presence there is testimony that his work shares enough boundaries with the visual arts that the ones it shares with music do not disqualify it as a kind of sculpture, inasmuch as spatial contours are part of its essence, and its shape can be diagrammed without special notation. Performed music, of course, has shape, and the design of concert halls takes into consideration the question of the ideal location for listening to it. Stereophonic emission undertakes to achieve the same effect. But traditionally, spatial factors have no presence in the score, and it is as if shape were the price that melodies pay for being heard, an artifact of our hearing apparatus having evolved in such a way that we cannot help giving sounds a location. Spatial considerations tend to define a difference between our experience of music and our musical experience, and do not strictly belong to the latter, any more than do the coughs of a concert audience, which belong to the former. But then, because spatial considerations are essential to sound works, they cannot be classed as music. Moreover, a sound work cannot be recorded. It has to be experienced at the site for which it was designed.

In the case of the Whitney work of 1983, the site in question was the so-called sculpture court in front of the museum, on Madison Avenue, which is transected by the familiar noises of chugging buses and slamming truck gates, urgent sirens and impatient taxis, and the amiable chatter of those waiting to enter

the museum, or of schoolchildren passing by in groups. *Time Piece* was composed, in perhaps both senses of the term, of these live sounds, which Neuhaus then 'colored' and shifted somewhat in time, but in such a way that the slightly enhanced street noises heard by the museum visitors would have been heard as precisely those street noises and nothing more. But every quarter of an hour, the coloration ceased, leaving in its place an abruptly noticeable silence: the presence of a momentary absence. 'For the few seconds after the sound is gone,' Neuhaus writes, 'what could be described as a transparent aural afterimage is superimposed on the everyday sounds of the environment.' These periodic silences he terms a 'silent alarm clock,' using, in effect, the silence to awaken us to the noises of the passing world. Neuhaus has created just such a time-piece for the Kunsthalle in Bern, Switzerland, where, on each hour and half-hour, a sound, insinuated into the flow of sounds that constitute the aural fabric of life as it flows around that institution, suddenly ceases, striking the hour and half-hour with heard silences. It is as though the ordinary world is restored to consciousness, through these silences, every thirty minutes. It is, in fact, a very poetic idea.

I have read of a lovely piece he created in Cologne, next to the de-belled church of Saint Cäcilien, now a museum for medieval arts. It is called *Bell for St. Cäcilien*, and it consists of a disembodied bell sound that materializes out of nowhere in the little park that the former church flanks. It is like an aural memory of the edifice's former function, and a true piece of artistic magic. It must be a perfect aural experience to hear it, rich with its associations of place, just as *Times Square* is rich with the associations of its very different place.

One of the distinctive traits of Cologne is its inhospitable, disorganized, haphazard architecture. Disrupted rows of houses and incomplete squares abound, while architecturally harmonic areas are scarce.

However, there are some exceptions to the ultimately attractive chaos just described. They are rather hidden, and perhaps intentionally so, to be known only to a small number of people. Not far from the crossing of Cäcilienstrasse and Nord-Süd-Fahrt, one of Cologne's ugliest panoramas, there is such a gem. It is the park between the offices of the Kunstverein, the rear of the Kunsthalle, the building of the Order of the Maltese Cross and the two churches of St. Peter's and St. Cäcilien's. This small green oasis is reserved for pedestrians; cars are banned. It is adorned by two great chestnut trees as well as the west portal of St. Cäcilien Church, walled up since the day the church was rededicated as a museum of medieval art (Schnütgen Museum).

Both in the context of the city's history and the history of art, this little nameless park is special, but it is so particularly owing to its tranquility which contrasts with the busy adjacent, noisy thoroughfares. The layout of the two churches with the small quadrangle between them is the only one of its kind in Cologne and endows the complex with a special aura; the motif of duplication recurs in the two high chestnut trees on the square. For several years, the closed portal showed the Zurich Sprayer Harald Nägeli's perfectly executed graffito of a human skeleton which seemed to bar the entrance to the church and which had become the symbol of Cologne's cycle of the Dance of Death. The director of the Schnütgen Museum intended to preserve this work of art, but as other sprayers destroyed it, everything had to finally be washed off.

Without knowing about the past and planned artworks for the currently empty space, Max Neuhaus selected this tranquil park surrounded by traffic for a sound installation. The work that grew out of his several visits, inspections and encounters with personalities connected with this site: a *Bell for St. Cäcilien* (III, 52).

I was fascinated watching Max Neuhaus walk around the park in all kinds of weather, developing, testing, altering the sonic sequence, its pitch, sequence of sounds, its rhythm. Having tried out many slightly varying positions for the two sound sources, he very soon decided on the basic principle: the sound was to be projected from the two roofs of the Kunstverein and the Kunsthalle, roughly equal in height and distance from the walled-up

portal of St. Cäcilien's. Max Neuhaus installed himself and his computers and technical apparatuses next to the entrance to the Kunstverein's secretariat, converting the lobby into a composer's studio-cum-technical laboratory.

The artist wanted to define the space between the buildings, to vary and redefine its aural space and to interpret it by means of the 'shape' of sound, in a very subtle way, almost imperceptibly, unobtrusively and in harmony with the nature of the site. After a week's intensive work and experimentation, Max Neuhaus was certain that a bell-like sound was required: mass is celebrated only twice a year at St. Cäcilien's to preserve its status as a church; although St. Peter's is a very active church with the bells ringing daily for evening mass at six, as well as on Sundays and feast days, its hourly bells have been silenced so that no chime is heard during the day.

Although it seems fairly obvious to create a sound installation with bells for these two churches, I think it is just as important to mention another idea which was also thematically relevant for the composition of the work. It is the 150th anniversary of the Kunstverein, i.e. 150 years of awareness of German culture and education. For people living in the early 19th century, the sound of perhaps distant bells, of bells ringing as if from beyond, was deeply significant. It connected that which was near with that which was far away, that which was above with that which was below, the macrocosm of the universe with the microcosm of the home. In *Abendphantasie* (Evening Fantasy), Friedrich Hölderlin writes, 'Gastfreundlich tönt dem Wanderer im friedlichen Dorfe die Abendglocke' (In the wanderer's ears, the evening bell in the peaceful village has a welcoming ring). These words carry a great deal of the connotation of shelter inherent in the 'spiritual chime' of a church bell. Joseph von Eichendorff expressed the same idea even more sublimely in his poem *Nachts* (At Night): 'Ich stehe in Waldesschatten/Wie an des Lebens Rand... Von fern nur schlagen die Glocken/Über die Wälder herein... Denn der Herr geht über die Gipfel/Und segnet das stille Land'. (In the shade of the forest I stand/As if on the border of life... From afar only the bells chime/Across the forests... For the Lord is crossing the peaks/Blessing the quiet land.) Since the German Romantic era, this transcendent connotation of the ringing of bells has been part of German culture. No doubt, it also influenced the German-descended Max Neuhaus, whose ancestor, Friedrich Neuhaus, built all the railway stations between Hamburg and Berlin, including the Hamburger Bahnhof in Berlin.

Max Neuhaus has created sound installations for traffic-clogged squares, for underground railway stations, but also for museum gardens and staircases. None of his restrained works intrude on passers-by. Rather, they only affect attentive pedes-

trians. Only those who are receptive to the sounds and the atmosphere of a place notice any change, restrained and subtle, yet intense, and all the more clearly noticeable if one is open, if one takes amused or alert notice. Then, the place suddenly seems different, redefined by a special aural structure which can be spatially experienced. This is what happened to me years ago as I rushed up the stairs of the Chicago Museum of Contemporary Art for the first time and suddenly perceived the dark, penetrating sound which seemed to rise up the staircase.

During documenta 6 (1977) at Kassel, Neuhaus implanted his sound installation as a natural part of the environment, as an almost imperceptible, but all the more incisive action upon the wood in Karlsau Park. Wandering through the sprawling park from the wood and steel paths by George Trakas to the rock piece by Robert Morris, one had to cross a small wood in which one suddenly heard a click-like sound which repeated itself. It seemed so natural that only a few people heard it for what it was, an artificially produced sound projected from speakers hidden in the trees. It represented something which had almost ceased to exist – the sound reminiscent of the quiet snapping of a twig, heard even where there was no one. Art transports our imagination back into a reality which has developed in a different direction. That installation was neither a gesture of politico-ideological denunciation, nor was it an emotional and merely reproductive idealization of nature. Rather, it remains the gesture of an alert artist who expects receptive hearers. It is completely different from the perverse falseness with which hackneyed feelings and phoney cosiness are these days sometimes evoked in postmodern metropolitan hotels (it was in Hiroshima that I once heard 'natural' birdsong coming from a speaker hidden in a plastic birdcage).

For his sound installation in Cologne, Max Neuhaus proceeds as he did in Kassel, adding a sound which might be expected by passers-by. But he does not only change the aural space, creating an imaginary aural structure which cannot possibly originate from an 'ordinary' bell. He also creates a new sound. At the testing, the most diverse reactions could be observed: many passers-by walked on unperturbed. A few, wondering, looked up to the steeples, from which, however, the bell-like sound evidently and audibly did not originate. In one particular spot, however, near the two chestnut trees in front of the church wall, a clearly discernible aural edifice with an invisible source was created. Thus, the hearers gained a new awareness of this little park, feeling it anew and perceiving its space, sounds and atmosphere in a new way.

We are looking forward to the birthday gift from Max Neuhaus which subtly links space with time and in which quietness works in sound.

Lecture at the Seibu Museum Tokyo
Talk and question period

I would like to talk about what the installations are and how some of them are made.

The works I will describe are all non-visible sound structures. They exist in both public places and in cultural contexts. They shape, transform, create, define a specific space, with sound only. They exist not in isolation, but within their context, the context of their sound environment, their visual environment, and their social environment. The existing sound environment is an important part of how the works are formed. They are not formed in isolation, but grow from those three aspects, their visual context, their social context, and their sound context.

Some of these works are outside of places where we expect culture to be. The works of this kind rest on two basic ideas. One is to deal in a complex way with a broad spectrum of people, both culturally initiated and uninitiated. The other idea is that they can enter into people's daily lives. They are in places and contexts which allow people to come across them in their daily activities, rather than deliberately going to a specific place at a specific time to hear them.

Not using sound recordings to describe them is a basic principle of mine. There are also some practical reasons for it – the first being that they are, in fact, un-recordable. Many of them have sound components which cannot be recorded. They are also sometimes made up of sound topographies; instead of being spatially one dimensional like music, they have two or three dimensions – they have different sounds in different places. So the question of where to record a work comes up.

But, most importantly, they exist in a specific context, and they grow from that context. To take the one component that's recordable, to take that away from the context, misleads people about the nature of these works.

Tonight I'd like to talk about my process in making them, how they're made, something which isn't evident in the experience of the works.

Because I'll be talking in detail and sometimes in a technical way, I feel that it's important that I have questions from you to tell me what I need to explain. After each work that I describe, I will ask if there are any questions.

The first long term work was set up in New York City in 1973 at the entrance to a subway station, which was also the entrance to a building. (III, 12) A space which hundreds of people walk

through every day in the course of their normal activities. People enter the subway through a stairway and come up from it on an escalator. This space has street sounds; it's not a quiet place. One side is also open to a park.

The work was made up of a field of very soft click- or tick-like sound zones forming different configurations at ear level throughout the space. It was generated by sixteen sound sources, four each mounted on each of four pillars, and pointed in different directions to form areas of sound that people walked through. The areas overlapped and mixed; if you were standing in one you heard its source most, but also adjacent ones as well.

The sounds were short; and they varied between being a sharp click to being long, almost like the chirp of a bird. Each one had a separate, independent speed. Because of these different speeds, they combined to form different rhythmic structures, depending on the listener's location or pathway through the space.

There was another factor which changed the piece over a long period of time – the timbre of each source and its speed changed with weather conditions. Temperature, light, humidity, wind speed, all affected, in a complex way, the speed of each individual source and the nature of its sound, making it more of a click or more of a chirp.

I wasn't interested in weather conditions per se; I wanted an ongoing stimulus to change the sound-generating process I had set up. Most people walked through the space as part of their daily routine. I was interested in a level of perception that usually occurs visually. Along routes that we walk very often, we quickly learn the visual environment in detail; but then we gradually stop seeing it because of its familiarity. But if something in it changes from one day to the next, even if it is a very small part of it, the change immediately jumps out at us. I wanted something like this to happen on an aural level.

As these sounds were very soft and mixed with the street sounds, people had the alternative to notice the piece or not notice it and, as they passed through this space daily, to recognize the effect of weather conditions upon different days. The work was anonymous.

The next work was made in a very different context – part of a visual arts exhibition in Kassel, Germany – a very lush park with, in this case, lots of visual sculpture in adjacent areas. The piece occurred in the clearing, around a tree. (III, 18)

There were eight sound sources, eight speakers, hidden in the tree. These speakers were of a very special nature – more directional than those of the last work, so that the sounds weren't perceived as coming from the tree. They were reflected from the ground; it seemed that the sound was emanating from the grass rather than the tree, forming click points scattered throughout

the clearing. People approached and passed through the clearing in a variety of ways, depending on their movement through the surrounding park.

In this case, the clicks were much slower, with several seconds of silence between each one, so that they didn't form rhythmic patterns as in the first work I described but instead served to define or articulate the space itself.

The timbre of these sounds related to sounds which happen in this environment, the sounds of stepping on a twig, or a drop of water falling from a leaf.

I'd like you to ask some questions to get the discussion started.

Q. What kind of directional device did you use for the subway entrance?

A. They were horns with directive patterns.

Q. How do you contain the area of the sound so that it doesn't scatter elsewhere?

A. A loudspeaker of this kind focuses sound on a specific area. It's a directional source, and therefore it forms that kind of pattern.

Q. How do you make sound into space?

A. I do it in many ways. Or more accurately I use sound to change the way we perceive a space. In the Kassel piece, it was the separate sounds happening slowly in different places which defined the space. The clicks were separated by a second or two of silence, and also had physical space between them. This pointed out, emphasized, directed attention around the clearing in a way that created the sense of this space.

Q. When you make a work, do you know what you are going to do beforehand?

A. I deliberately don't go into a situation with a preconceived idea. For me a work starts by choosing a particular place, then going into it and making sounds, gradually learning about the acoustics of it, its aural environment, getting a feeling for its visual environment, and then slowly defining the work's sound. It's a long term process.

Q. I think what he's asking is if you have the idea first and then try to realize it.

A. No, I don't. I choose a place first; the mechanics of the piece follow that. Then the sound itself comes from working within that place, and grows from my imagination of that place and my experience with its three kinds of context. Did I answer your question?

Q. Yes.

This next work was completed in 1980. It existed in a public botanical garden in St. Paul, Minnesota. (III, 30) The space is an unusual one in that geographical area. It's full of plants, large and

small; and in that part of the United States the weather gets extremely cold in winter, twenty degrees below zero. So it forms a kind of extreme contrast to the outside environment.

It's a very large dome that's one hundred feet, thirty meters, in diameter, and twenty meters high.

The work was formed with sixty four percussion instruments, so to speak, sixty four sources controlled by one computer – each one having a percussive sound, but forming a percussion chorus or percussion orchestra.

This chorus was playing low drum-like sounds in three pitched areas which are resonances of the dome. Each of the sixty four sources was an independent member of the chorus. In addition there was a bell-like sound which seemed to move across the space – once here, then a few seconds later there, continually crossing the space.

Like the other two pieces, the sounds are very soft; the piece is very subtle.

Are there any questions?

Q. Are the sounds made by recording the natural sound environment?

A. No, they're made by sound synthesis circuits which I build. None of the works use sounds from their environment directly. In other words I'm not using a microphone to record those sounds and then reproducing them. But they do grow out of that specific environment. When I begin conceiving of the sound for a work, I do that at the same time that I'm listening to that environment. So the sounds I build grow out of that situation, but they aren't of that situation.

Q. Was the work sounding twenty four hours a day?

A. Yes. This garden's only open about eight hours a day, though, so the piece was only heard for that period of time. Other pieces – the ones that are in public places – are continuous and available twenty four hours a day.

Q. Since you don't plan a work in advance, aren't you surprised when you finish?

A. The process of making a work is one of constant readjustment. I start by identifying a general area of sounds that I'll use in the piece. Making it is a focusing process which gradually becomes more detailed, until it reaches a point of fine tuning. So at the end, no, I'm never surprised. But if I was able to stand back with the perspective I began with, I would be.

Q. How do you compose the work?

A. It's a good question. I don't compose a series of sound events. The piece is made up of a series of processes, which are independent and go on continually – so that, unlike a recording which is repeated over and over again, the work continually evolves itself and never repeats. It just continues to evolve.

Q. How do you make the bell-like sounds move?

A. I project the same sound from different places. Since it's an identical sound, when it comes from another source the illusion is that it has moved.

Q. What is the reaction of people to these works?

A. With all of the works, it's a difficult question to answer. I think it's the same question that a sculptor who makes steel sculpture in a public place has a difficulty answering, too. People walk past or go through these works in the course of doing something else. In a visual work, you can see whether they look at it. But even if they don't look at it, they could be sensing it and seeing it without deliberately stopping and walking around it. There's no way to get an accurate public reaction like one can in a concert hall with applause.

Your question is something I always get asked; usually the person is interested in measuring the success of these works. The success of an artwork is an individual question, one that can only be answered by each individual perceiver for himself, not by counting how many people react to it.

These pieces don't stimulate a negative reaction. There aren't people who are outraged by them. Those who would be, never notice them.

Q. Can you describe the system which produced the sounds?

A. In this work I managed to develop a rather sophisticated computer system. It was the realization of an idea I had had for some time. As I work in the real world, I felt I needed to find a way to approach its aural complexity, which is created by many sources. Even when they are all the same type of source – cars or crickets, for instance – each is in a different place and has a slightly different sound.

Most audio technology is designed to recreate a sound situation – the stereo system simulates the concert hall in the living room. I was not interested in simulating a sound field with stereo or even quadraphonic sources; my problem was to create the sound field. I wanted to approach the level of aural complexity of the world we live in.

The system producing the work in the dome consists of one synthesizer for each source, so there are sixty four synthesizers and sixty four speakers, each one completely independent of the others. While building the sounds, I controlled them by using a modified, battery-operated television set, which I could carry around, with something called a light pen. With those two things I could set any parameter of any synthesizer from any point within the space. And I could also define patterns of each parameter, values which changed in time, by drawing on the screen with the light pen. So with this system it was possible to make each synthesizer do something which is completely diffe-

rent from each other one. Their combination which is perceived as a whole is then never the same; it was always changing and evolving.

Q. I don't understand why you can't do the same thing with tape recordings.

A. For the long term installations, and especially a permanent installation, tapes aren't practical. They wear out. But more importantly the idea of something repeating itself exactly is a very simple one. Even if I set up sixty four endless tape loops, I would have a much simpler set of possibilities than I do here with sixty four synthesis circuits.

This next work was the first sound installation I ever did. It was set up in 1967.

It was installed outdoors on a kilometer of roadway in Buffalo, New York. It was the beginning of these ideas of making work which was integrated into people's daily activities. Buffalo is typical of a number of American cities, where people have stopped walking. They only move through the city by their car. Even if they're going two blocks, they drive. If I wanted to make something they could come across, it made sense to do a work for people in cars.

I set up a number of short-range radio transmitters along this kilometer of roadway. Each transmitter was broadcasting on the same place at the radio, the same station so to speak, but each one had a different sound. Each transmitter had its own antenna which formed the physical shape of the sound. In the drawing (II, 16), each transmitter's antenna or its broadcast area is represented by a different color.

As a listener drove through the area with his radio tuned to the 'station', he heard mixtures of the sounds over his car radio. For example, if he started from the left side of the drawing, he drove into the sound broadcast by the blue antenna; as he approached the area of the orange antenna, he began to hear a mixture of the two. The proportion of the mix was determined by his position on the road; the more towards the blue antenna, the more of that sound in the mix. The attacks and decays of the sounds were determined by the shape of the antenna configuration. If an antenna crossed the road perpendicularly, the sound occurred suddenly; if it crossed the road diagonally, then the sound got louder gradually. If the listener chose to enter from the other end, of course the succession of sounds was reversed.

Like the first piece I described, this work was also sensitive to weather conditions. The sound broadcast by each short-range transmitter was made up of number of sine waves. Their frequencies were determined by weather conditions, so the timbre of each of the transmitted sounds changed with the weather.

Depending on which direction a driver entered the piece, how far to the left or right side of the road he was, how fast he moved through it, and what the weather conditions were, the work was different. He assembled it for himself as he passed through it and for himself only.

I stopped using weather conditions as a stimulus after 1973. I found that it was a distraction for most people; they could only think of these installations as strange kinds of weather forecasters rather than as sound works.

Any questions? Yes.

Q. In this case, do you hear the sound only from the speakers in your car, or outside as well?

A. You hear it only from the speaker of your car, so not only is the piece invisible, it's inaudible until each listener's car radio exposes it to him, when and according to the way that he's driving through the space.

Any more? Yes.

Q. Were the transmitters AM or FM?

A. They were AM here, because the majority of radios were AM, then. But I'm in the process of proposing a new work in Los Angeles which would be FM. It's just a matter of picking the most common form of radio at the time.

Q. How did people react?

A. In this case it was even harder to tell how they reacted, because they were in their cars. It's always a question I hesitate to answer, too. In most of the works, people ask me if I go and sit by them and watch people's reaction. I don't.

Which isn't to say that I don't care how people react to them. But in the process of making them, I'm usually in the midst of people who are using that space. They become a factor in the foundation of the work. Once I've made it, it's theirs and it's up to them.

Q. I think you don't like to impose your work on people.

A. When I work in the public sphere, I am not interested in generating a confrontation. I feel like I am working in a space which is theirs; I'm in their territory.

The public works are all deliberately pitched at a threshold of perception, a point where people can notice them or not notice them. They're often disguised, almost hidden in their environment.

But in the case of the pieces for people in cars, it's a more deliberate situation – a much more obvious sound situation. So they are two different categories. The pieces for cars are separate from all of the other installations in that respect.

Q. What about the hi-fi limitations of the car radio?

A. Indeed. I am dealing with the particular owner's car equipment as the final sound source. When these pieces were

done, the car stereo system was not as popular as it is now. I assumed that I was working with the lowest fidelity radio, and made sure the sound of the piece worked under those conditions. Of course, I listened to it over a high quality radio, also. But it was important for me to deal with the person who did not have any elaborate radio system, the one that came from the factory. One can do that if you are making something; I was using the radio to create something, not recreate. I was using the radio as an instrument. A saxophone, for instance, doesn't need a flat frequency response from twenty to twenty thousand Hertz; the fact that it is not flat is what makes it sound like a saxophone.

Q. How did people know about the work?

A. It was advertised in a newspaper for the time that the work was up, and also a map of the work was given out at the driveway entrance of the museum which was at one end of the piece.

The next work I'll talk about was a short term installation in a historic building in New York City – a large formal room where the customs officers worked in the 19th century. (III, 14)

It's oval in shape, a rotunda with a curved ceiling.

The name *Round*, the title of the work, refers not only to these curved surfaces, concave spaces, but also to a simple musical form, which we all know, or at least in the west, as singing a round. Several people sing the same melody but start successively. The harmony of the piece forms as different notes of the melody occur at the same time.

I wanted to set up a situation where I could turn sounds around the space, to rotate them. I set up eight channels of sound; instead of a stereo system, it was an octal system. Each channel was formed with a row of speakers laid out in a diagonal across the space. I panned the sounds from one channel to the next to move the sound within the space.

For example, in a stereo system we have two speakers; if we put a sound in one and then gradually decrease the sound in that one as we increase the sound in the other one, the sound seems to move gradually between the two speakers. In this case, though, we didn't have two separate speakers; we had eight diagonals. By panning from diagonal to diagonal, the sound rotated within the space. There were four different sonorities to the work. Each one was passed through the eight channels at different speeds. They all moved clockwise around the rotunda but at different speeds, so the faster ones overtook the slower ones and formed a continually evolving set of mixtures for a person at any one point within the area.

This work perhaps clarifies the issue we were talking about before, of the difference in possibilities between a work that's made by synthesis and one that's just a tape being played back.

Any questions?

Q. Was it like a concert, an event?

A. No, people were free to come at any point within its three days and stay for as long as they wanted. Some of them walked around the space. They also could sit in the inner part where there was a carpet and stay for any period of time from a few minutes to several hours.

The next work is in Times Square and was installed in 1977. (III, 20) It has operated twenty four hours a day since then and is now approaching its fifth birthday.

The choice of site came about quite accidentally. I happened to be walking through Times Square one day in 1973 and crossed the street at this particular point and saw the grating in the ground. At that moment, I knew I was going to do a work there. I didn't know what kind of work it would be. I had no idea how long it would take me to finish.

Times Square is the crossroads of many pathways through New York City. A large number of very different kinds of people cross this particular place every day – the work is on an island in the rivers of traffic that move through the city.

The visual context is extremely active. There's a huge amount of advertisement in the square and very bright signs. In terms of sound it is also active. The traffic sound in New York is much louder than here in Tokyo. Not only are there cars and car horns, but the movie theaters on the edge of the square advertise the movies with sound. Also record stores play records through loudspeakers onto the street.

The work's sound comes out of the ground. It's a combination of sonorities which are different in different places on top of the grating – a sound topography (II, 24).

There's a large chamber underneath the sidewalk covered by a grating. The original purpose of this chamber was to ventilate the subway system. It is triangular and quite deep. One side of it has a series of tunnels of varying lengths going back to the subway track, which is under 7th Avenue.

The complex shape of the chamber led to a complex acoustic set of possibilities. I began making the piece by investigating what the resonant frequencies of the chamber were. The next step was a gradual process of selecting which resonances to use and how to use them. I finally determined a set of sonorities, four independent processes, which activate the resonances I chose, activate the chamber.

These resonance-stimulator sounds are produced with a synthesis circuit and come out of a large loudspeaker horn, one by two meters. But the sound heard on the sidewalk is not what's coming out of the speaker. I think the easiest way to think about it is to

think of the air confined by the walls of the complex chamber as a block of material which the speaker is vibrating. The vibration of that block of air is exposed through the opening of the grating in the sidewalk, as the work's sound.

Q. Weren't you bothered by the noisy character of the square?

A. No, the work includes the traffic noises. It's a funny thing. When you mix sound, you can mix sound A and sound B and you don't get sound AB, you get sound C. So, even though the piece itself doesn't by any means cover the sounds of the traffic, it transforms them into something else while you're standing in it.

The work forms an extreme contrast to the very active nature of the square itself. It's a calm place to be, although it is just a small area in the center of this high activity.

Q. Did you want to make it a sensational sound?

A. No, I wanted it to be spectacularly unspectacular. The work forms an invisible and intangible point of contrast to Times Square.

Q. I would very much like to hear it.

A. It's always there, but it's a little far away.

Q. What do you think about noise pollution?

A. A number of things. One is I think it's a mistake to think of all urban sounds as bad. There are sounds in the city which are dangerous to your ears, but they occur in discos and right next to construction. To think of all man-made sound as bad and any sound of nature's as good is simplistic. Many sounds in the urban soundscape are very interesting and complex; we shouldn't reject them out of hand just because they may not be made deliberately.

The most important thing is that we have a choice in what we hear. If we live in a building without adequate sound reduction, we don't have that choice and that tends to make people resent sound in general. It's cheaper to build a building without good sound reduction, and it's not harder to sell: it doesn't look any different. Because the aural component isn't noticed at first, many people end up with apartments where, although their bodies are sitting in their own living rooms, their ears are in the middle of the street or their neighbors' living rooms. We need both aural and visual privacy.

Q. What do you think about BG music?

A. Well, I don't know. I know that BG is a background music company here in Japan, but I'm not sure what their music sounds like. In America we have something called Muzak. It disseminates highly digested melodies from the popular music culture into public spaces. Its advertising claims that these melodies raise production in factories and calm people; and it supports those claims with dubious scientific studies. I've heard of many cases in America where Muzak has been installed and the workers within the space itself have demanded its removal.

I think that sound is one of the most important factors in our environment, even though we may not realize it. It affects the way we feel about a space more than the way a space looks. One should be very, very careful about putting sounds in spaces where people live and work.

Q. You have talked a lot about technical equipment and acoustics tonight. I am not sure whether you are an artist or an engineer.

A. Yes, most of our discussion here has been about technique, the particular pathways and routes I have found to accomplish what we call an artwork.

People who work with sound seem to have always been at the edge of the technology of their time. The precision machining required for a flute stretched the metal-working technique when it was first made; the technology necessary to make a piano was quite extraordinary when it was invented; and the large pipe organ with its many stops and orchestral accessories was an ultimate achievement of the mechanical age. Our need to be able to shape sound seems to be so great that it pushes the technology. Perhaps it's because, unlike a visual image, we have not been able to make a sound 'mark' from the earliest times. The finest technique we have today to make and shape sound is to model it electronically.

I have chosen sound as a carrier of my ideas, so the audio technology which creates and shapes this carrier is something I have to be intimately involved with; and I have felt it necessary to acquire many of the skills of the engineer because I feel the need to be able to mold my material directly, without mediation.

In some phases of a project I put on another hat and pretend to be an engineer or engineering manager. But it's like taking a break, the relief of doing something so simply practical, a vacation from building a work.

But also, our idea about what an artist is and what kind of things he can do seems to have become narrow. I usually manage to find a way to do whatever I am interested in. Sometimes I get interested in inventing things that have nothing to do with a sound work, like making new sounds for police cars. Of course I am not the first artist to do this. At other times artists have done many different kinds of things. There was an Italian named da Vinci who designed tanks and canals, among other things. He was an exceptional painter as well.

I think we have to move on here if we're going to finish. There are two more works I would like to talk about.

The next one was done at the Museum of Modern Art in New York City, in its sculpture garden. (III, 22) It's an outdoor space with trees and water enclosed by buildings and walls, which is

used to exhibit conventional sculpture in changing exhibitions. I was asked to do a work in the garden, and chose to utilize again a ventilation chamber.

I formed a subsonic loudspeaker horn by adding a concrete panel above a slanted side of the chamber, and added four acoustic drivers to the end where they met (II, 18). It formed a huge loudspeaker with a mouth opening of three meters. Contrary to common sense the size of a horn does not determine its loudness, it determines its frequency limits; the bigger it is the lower it can go. The size of this horn allowed me to generate pitches which were below where we have a sense of pitch, subsonic frequencies.

I again thought of this space as a block of air, but this time the block consisted of the whole garden defined by its buildings and the wall along 53rd Street. I tried a number of low, subsonic resonances and identified one particular one to form a topography of highly defined areas where this subsonic pitch was active.

Even though this sound itself was inaudible, its effect was a slight change, a slight coloration, to every other sound in the environment when one was in one of its highly defined areas. It wasn't heard directly; its effect on the environment was the only evidence of what it was.

I'll talk about another work now, and then we can have some questions. This one is a permanent installation at the Museum of Contemporary Art in Chicago (III, 26). I was commissioned to do it at the time of the construction of a new addition to the museum. They asked me where in the museum I wanted to put the permanent work and were surprised that I chose a space which was a stairway; they hadn't thought of it as an exhibition space.

One of the reasons I did was that this particular stairway doesn't touch the walls; it leaves the space intact and forms just a three dimensional path through this vertical block of air defined by the walls of the stairwell. Behind a panel in one corner I installed a column of thirty speakers, each with a separate amplifier – thirty channels of sound, forty six feet high. When one is in the work, it doesn't seem to emanate from the corner where the speakers are. But one enters definite areas, which feel as if they are an entity within themselves; they don't emanate from any particular point within the space. I'll take some questions.

Q. Are the speakers directional horns?

A. No, here they are large base reflex boxes. They serve as the means to activate the column of air at any point within its height. The topography formed in this case isn't the product of a directional speaker, but results from how these particular pitches act within this particular space.

Q. I find it very frustrating to hear all this talk about sound and not be able to hear one of these works.

A. I have no works in Japan at this moment. This is my first trip to Japan. Perhaps something will come out of this trip, but I don't know. I'm sorry that he's frustrated. But there's not much that I can do about it.

I can go ahead and describe one work which is in progress. The space is in the Paris Metro. It's a tunnel two hundred meters long. It's used to connect two subway lines. So far, I've only selected the site.

The space itself has three moving sidewalks in it; people move through it constantly in two different directions. It has an arched ceiling throughout its length, which provides a long acoustic lens.

At this time I have no conception whatever of what the sound content of the work will be. The next step is going in with a sound and, in a sense, illuminating the space acoustically.

One can't take a photograph of the acoustics of a space. The only way to find out about what is going on in it, acoustically, is to make a sound in it.

Lecture at the University of Miami
Excerpts from talk and question period

In 1973, the year I discovered the space in Times Square, I also passed through Paris and came across what was for me an amazing space – a tunnel 600 feet long with three moving sidewalks in it. Its ceiling is arched, an unbroken curve which stretches the whole length of that tunnel. It is an unusual space in the way it looks and feels.

I found the space exciting, although many Parisians detest it. It took me a while to figure out why. I believe it was deliberately designed without visual references to make it look shorter than it is – one long space with no way to establish its scale. Its architect may have thought that, by making it look shorter, people wouldn't mind it so much. In fact, he accomplished the opposite: by making it look shorter than it is, people keep expecting it to end before it does – in effect making it seem endless.

Over the last ten years I have endeavored to do work there, initiating meetings with the people who control that space and talking to them about the concepts of the work. Just this last week I've succeeded in negotiating the first phase of the work.

It will take a year to build and will be permanent. One of the most interesting things about the space for me is that it is a passageway with moving sidewalks running in both directions; 2,000 people, sometimes 3,000 people, pass through it in an hour. It is a space where people are in motion, people's cars are in motion, very much different from Times Square where people can stop, stand, look – here everyone's moving. There is a whole new set of things for me to work with once I know that someone's ears are in motion.

It is also, surprisingly, a very quiet space; few people talk in it. What happens, due to the custom of standing on the right on moving sidewalks, is that people who are together have to line up one behind another, making conversations difficult to the point where most people stop talking.

The Paris Metro has a tradition of street musicians which play throughout its very resonant tunnels. The two ends of this tunnel are favorite places for musicians to set up for several hours and work. The work will act as a transition between two possible sound spaces, as a passage between these two locations.

The process of making a work for me is a gradual one – going into the space, looking at it and learning about it, figuring out its mechanics and its acoustics, and then going in with a system which generates sound and beginning to outline, to illuminate, so to speak, the space with sound. It is very much different from

working as a visual artist where you go to a site, look at what is there, photograph it, make drawings about it. One can't see acoustically what happens in the space until you illuminate it, so to speak, by putting sounds in it.

I know that there must be things which I have not been able to make clear. It is hard to know what point of departure to take with any given audience. So I would like to ask you now for any questions about any of the things I talked about, so that we might have a discussion.

Q. Are you concerned with the effect that your sounds have on people? Are you trying to surprise people?

A. I am not trying to create a surprise. I am concerned with affecting them. The works are not conceptual, they are experiential. I deal directly with how people perceive a space through sound. My focus is not on making sound works which are exhibited to people's ears, but on affecting the way they perceive a space by adjusting or shifting its sound.

Most of us think that what we think about a place is determined by what we see in it. And I think it is for most of us, consciously. But unconsciously there is a perception of a space which deals with how it sounds, what sounds are there, and how sound acts in it and on our sense of sound. We are such a visually oriented society now that we take this perception of space through our ears for granted, it's automatic; but a blind person can 'see' the shape of a room just by walking into it.

Q. Is your style of work identifiable?

A. It is different for each work. We are used to artists having styles; we are used to being able to say that a mature artist is identifiable by what his work looks or sounds like. In my case, because each work grows from the place where I make it, there is no style in that sense.

My idea about making works in public places is about making them accessible to people but not imposing them on people, making them findable for people. The works are usually very subtle, although if we put the sound of the work in Times Square in this room it would be very, very loud, but in its context of the street sounds of Times Square it can be walked through and not noticed.

The threshold of these pieces is a crucial factor. I try to find a point, a common point, where the works are at the threshold of being there and not there, allowing people to find them, not making them so obvious that they are forced to find them.

Q. In the Villa Celle work (III, 34), does it alter the sounds that are presently there?

A. It alters the perception of them but not the sounds themselves. One of my starting premises with each work is the aural nature of the place – the sounds which are already there. In a

wooded area, the most consistent sounds are insect sounds, locusts, crickets. They change with time of day and season.

My idea wasn't to make the same sound or to communicate with them, but to make a sound which related to those sounds so that it fit within that context. Not making sound which was a separate thing in that environment, but making a sound so integrated that it shifted and pulled people into hearing the existing sounds in a different way.

Q. When you started, what got you in this direction?

A. I began as a musician. I was a performer of percussion works, works for a solo performer. I did concerts with many large arrays of percussion instruments, a different array for each work. I was working in an area which dealt with sound timbre rather than rhythm and melody. And I began exploring electronics as a way of expanding the timbres I had to work with. It was a natural evolution.

Q. Are there any recordings of your sound works?

A. That is a question that I am surprised didn't come up sooner – I am standing here talking about something which is sound. In fact I don't record the sound installations, and there is a very good reason. They are about creating places. The sound is only a catalyst for a particular place; it is not the work. If one takes the place away, one only has the catalyst left. We think of all sound art as being capturable with the tape recorder. Some of it is, but mine isn't.

Q. Do you always use normal speakers?

A. Rarely. The speaker in the work at the Museum of Modern Art was a very large subsonic horn (II, 18). Part of the process of making a work is deciding on how I will apply sound to the space. Often I have to invent something.

Q. Could you tell us what you meant when you said there are more things for you to work with when you know people's ears are in motion?

A. Well, my thinking about that piece is still in a sketch phase, thinking about what kinds of things could happen in it with people moving.

One example: it takes some time for sound to move; it takes about half a second for sound at one end of this tunnel to reach the other end. If I put sound sources that had different sounds at either end of this tunnel, as a listener started at one end, he would hear the closest sound source first and the far source half a second later. When he reached the middle of the tunnel he would hear them both simultaneously; they would become vertical. As he passed the middle he would begin to hear the inverse. That is something I could begin to build a work with.

Another area that I could explore in depth is to move sounds through the space – sounds which move at the same speed, which

move a little faster, which move a little slower, which move in an opposite direction.

It is very much like any other artist working with any other medium. One tries things. In my case because the works are large and involve public spaces, that trying process takes a long time and involves planning. It is trying to set up the same situation that a painter sets up in his studio of doing something, seeing how it looks, adjusting it gradually, focusing more and more until you realize the work is done.

Q. Isn't there a strong reaction against sound itself?

A. Yes. The Environmental Protection Agency in New York has an area called the Department of Air Resources. They are so inefficient in cleaning up the breathable part of the air, that they have to do something else to show people they are busy, so they run around and tell people that it is bad to hear.

The concept of noise pollution, which has been foisted on us by those agencies, is oversimplified and is robbing us of a very rich, sensual resource in our environment, i. e. hearing. This concept has convinced us that every sound we hear deafens us; that's the implication. In fact, most of our sound environment doesn't damage our ears at all, even when it is very loud.

I feel a duty to try and counter that propaganda. In 1974 I wrote an editorial in the New York Times condemning the New York City Department of Air Resources. We have been at odds ever since.

Q. Have you ever gone and stationed yourself around your works to check people's reactions?

A. I thought about that when I did *Times Square*, and it seemed to me that it was voyeuristic. Maybe that is too strong a word to use.

Yes, I could go and observe people. But I know what the work is, I know what it can do, otherwise I wouldn't be a very good artist. The direct knowledge I have about people's reaction to it, I like to keep as an accident. People finding it for themselves and knowing about it for a number of years and then finally running into someone who knows it is a work of mine, and they write me a letter or a postcard.

Recently I was up there because someone was making a TV documentary on my work and filming. And an amazing thing happened. As they were shooting the square for background, a woman walked up and started talking about this sound which she had found and how wonderful it was and asked them to listen to it, instead of just pointing their camera around the square. She went on for about fifteen minutes.

Q. What about interactive sound installations?

A. Yes, I know what you mean. I have never done that. I have thought about it quite a bit. I think things of that kind are public

instruments rather than artworks. Usually what happens is that the person with the strongest ego makes the most noise. But culture bureaucrats love the idea; it fits in with their idea that art should be fun.

The ideas that I am involved with are contrary to that – giving each person the possibility to make a work for himself, but for himself only. For instance, by making a work that has a topography, one can move through that topography at one's own pace, stop where one wants to. One has the freedom to form an experience of the work for oneself but not impose it on anyone else.

Q. Where does the money come from?

A. It depends on the situation. In the case of the Metro project, a third of it will come from the Metro Authority itself with a third from the Ministry of Culture and a third from private sources. In the case of a museum, it comes from the museum and the patrons that they can find.

Q. In the case of the Paris Metro project, do you go to the state and say, I saw this place and I want to do this?

A. Essentially yes. But it is a dilemma; here I am walking in and saying, I am an artist, I want you to commission me to do a work. It sounds strange within the context of the way our society realizes works of artists. The artist is supposed to sit in his studio by the telephone waiting for it to ring.

That system, in fact, doesn't always work very well. Usually by the time the telephone rings, someone is calling you about a work which you did fifteen or twenty years ago for a place which is not the same place where you did the other work.

I find the most honest thing to do is to find sites and propose works. By not raising the money myself but going and presenting an idea and asking the place to raise the money, I put the decision in their hands. It is creating a situation which wouldn't happen by itself. No one ever would have commissioned me to do a work in a hole in the ground in Times Square. I had to have the idea. I had to annoy the Transit Authority to the point where they realized that the only way to get rid of me was to let me make this strange thing in the middle of Times Square.

The fact that I work with sound makes the situation more complex. Our sense of the monetary value of art sits firmly on the material instincts of size and weight. The most material thing in my work is air; it's invisible and weighs practically nothing. This in itself presents some problems in convincing people that there are costs involved in making a sound work – manpower, electronic systems but, most of all in my case, time.

Q. What kind of music do you listen to?

A. I don't have a stereo, I don't have a record player. I sometimes listen to popular music on the radio as a way of

keeping current with the sound vocabulary that the rest of the world is speaking, but that is just a way of keeping my ear open.

Q. Have you ever worked with water sounds?

A. Yes. There was period from '71 until about '75, when I did many works in water. In one sense they were sound installations; but because they are in water, such a different medium than air, I think of them as another area. They were done in swimming pools. The sounds were made by using water running through small whistles which made pitches in the water. I set up systems of hoses and plugged it into the water system.

People heard the work, which was only underwater, by going in the water. The easiest way to listen was to float on your back with your ears under and your nose and mouth out. It was my approach to dealing with people who thought they didn't like culture. They sounded like so much fun; few people suspected what I had in store for them.

Many of these works indeed started out as pool parties with people making a lot of noise and jumping in the pool. The noise didn't matter; the sounds in the air could never penetrate the water. As soon as you put your ears in the water, it was another world. The sounds were quite beautiful – rich continuous sonorous structures, gradually shifting in three dimensions. The water was at body temperature. One by one people would disappear from the party until fairly soon everybody was on their backs in the water literally swimming in it.

I did seventeen of those works. In fact, one here in Florida, in Tampa, at the university. I think the largest pool I ever did was there (II, 20).

So, yes, at one point I was extremely interested in underwater acoustics. I call it my water period.

Q. In your selection process, what part is experimental and what part is mathematical?

A. None is mathematical. I use computers; but instead of using a computer to simulate a situation, I use it to create it and to give myself the maximum number of possibilities to try within a space. If I use the idea I described about motion in the Metro tunnel as a point of departure, I will build a computer program that will let me try many of those kinds of things to see how they sound.

It is different with each piece. I go through a development of technique at the same time as I am learning about the site; for each work I build an electronic system. In the case of the Metro project, because it is a very big project, it will probably be rather elaborate. I will start working with two engineers who build software which allows me to start from several points of departure and to explore areas within them by ear. They work with me during this phase, adjusting the software tools to new directions which I find while I'm working.

At the end of the exploratory phase, when I have defined the general area that I want to work in, they start developing software which allows me to do the composition process.

One of the main problems for me, because I make pieces in space that have topographics, that sound different in different places, is how can I set up a situation where I can control a complex set of sound sources from anywhere within the topography without running back and forth to a computer console, listening somewhere else, going to the computer console and typing something in, going back to the place where I want to hear it. Fine discrimination with sounds demands that you're able to change and compare differences quickly.

Several years ago I developed a system which was a portable terminal, made out of a small TV set which was battery-operated, with a light pen, which allowed me to walk anywhere within a space and control all the actions of the computer which was controlling a set of synthesizers. With a light pen I could draw any parameter that I wanted, any parameter of the synthesizers to execute.

I work as much as I can with my hand and my ears, setting up a situation where I can control sounds with my hand and listen to the results. It is hand, ear, brain, hand – a circle.

While building a work I am constantly switching between being an engineer to solve practical problems, and an artist to solve aesthetic ones. The only way to make aesthetic judgments with sound is by ear. You cannot engineer a work of art; its parameters cannot be found by measuring.

Q. What actually would the synthesizers be doing?

A. Generating sounds. I am now in the process of designing the synthesis module that I will use for Paris. It will be digital, partly so that I can duplicate an image in each source to create the illusion of movement.

When I start a work, I start a process of research in technique. I am looking for the best means available at this time for this particular piece. If I had done this work ten years ago I would have a wholly different set of things to choose from. I don't think it changes the essence of the work; it just changes the means I have to realize it. It is like picking a set of paints.

Q. Are any of the pieces self-supporting in terms of their power sources?

A. No. *Times Square* is connected to the street lighting system, so when that goes, yes, it goes. There is no other way for me practically to power that piece. It only draws as much as a 50 watt light bulb, so it is not a matter of cost. I have made proposal for a *Time Piece* for Munich, though, which would be solar powered.

Q. Does that make a difference?

A. Well, it just makes it independent of the power company. It makes it more of an permanent entity.

I mean it when I say that these sound works can be permanent. Last week I met the maintenance person of the Metro. He maintains all the Metro stations south of the Seine. We were talking in broken English and my broken French, and after about five minutes he was trying to explain what he felt his function was in this project. Usually the maintenance man is one of the most difficult persons in a project because he thinks of the building or the space as his property in some way, and the artist is doing something which he doesn't quite understand to this 'possession' of his.

But this man was entirely different. After about five minutes he stopped and said, my job is to make sure this piece lasts a hundred years. And I said, great.

Q. What interests you in the issue of permanence?

A. If the sound in a work of mine is no longer there, the work ceases to exist, it can't be moved somewhere else. Nothing remains; one can't even be reminded of it with a photograph or recording. The experience that happens when sound engages mind in a work of mine can never occur again.

Q. We are talking about the equipment and not the sound?

A. No, the sound – the sound work.

Q. The sound is obvious.

A. You were really asking about an aesthetic issue about permanence.

Q. Not as an aesthetic issue so much as a conceptual issue.

A. It is no different than the destruction of any other work of art. Just because it is made of sound and we have this leftover idea that sound is temporary, doesn't change that.

Q. But is it permanent, like stone, I mean is it that kind of thing?

A. *Times Square* has existed for seven years without anything except dusting it occasionally. We have the means today to make a sound which lasts for ever; even if the equipment that generates it disintegrates, sound can be described so precisely now that it can always be rebuilt from its description.

But we have inherited some assumptions about sound which are no longer true. One is that sound is temporary. This is because in the past sound has always been associated with an event – thunder, a voice speaking. When the event is over, so is the sound.

My work turns that idea around. The sound is not a result of an event; the sound I make results in, manifests a place.

Q. Well, the stone, it has always been there, and you come upon it and obviously it has a different meaning for people now than it did then, but it is a permanent thing.

A. In my case an intangible work can be more permanent than the stone.

The fact that it is sound doesn't change anything. To think about removing it is not different than thinking about destroying any other space or object created by an artist.

Q. I don't know if you are aware of it but you have an entire class of the University of Miami here tonight, because we are very interested in keeping up with and learning all we can about what is going on in the contemporary field of music. You have given a very interesting talk, and you showed us some interesting slides. I am very pleased to hear about all the things you do and all the work. And I would like very much to know what kind of music you make.

A. I have never written a piece for conventional instruments.

Q. I realize that. But we would like to know something of what the music is like. You have told us what you wanted to do. You have told us how you want it to affect us. But we don't know anything about what it sounds like.

A. Indeed. In my case it is not possible to play examples, to go to a piano and render something which sounds like it. It is not possible to move it from the place. All I can do is tell you where the places that they exist are and hope that when you go there you will go through them. And by talking about the work perhaps stimulate you to find them.

The Institutional Beast

In 1973 when I happened to be passing through Paris, I was asked by a local organizer of music and dance events if I would do something there. I agreed, but said I didn't want to do an event, but instead, an installation. I also insisted that I wanted to do it in the city itself rather than a theater or concert hall.

At this time the idea of contemporary artists working in public spaces rather than exclusively in the cultural context of museums had not yet been established in the United States, and it would be another fifteen years before it arrived in Paris. My host was naturally puzzled, but in good faith agreed to try.

She assigned a translator to take me around the city to look for a site. As they thought of me as a distinguished musician, they felt nothing but the most prominent landmarks of the city would do. It became clear fairly quickly that, unlike New York with its many raw, rough and ready sites, most of Paris had already been done in some fashion or another. I tried to explain that what I was looking for was something ordinary that I could make into something extraordinary, but I was stepping into dangerous territory – they did not want to entertain the idea that it was possible for me to reject a famous Paris landmark as a site for a work of mine.

On the second day, while on the way to one of these landmarks and when we couldn't find a taxi, we were forced to take the Metro. As it happened, we had to change trains at the Montparnasse-Bienvenue interchange. After winding our way through several narrow tunnels, we suddenly came out at one end of a long wide corridor with three moving sidewalks. I was stunned. The bell rang.

I insisted that this was the place. Over many objections, even after we got past the no landmark issue – if it has to be a tunnel in the Metro at least do the one at Chatelet, it may be small and constricted, but it's near the theaters – it was agreed to go ahead... but things did not move very fast.

On my once or twice a year sojourns through Paris, contacts were made and a few meetings with the Metro administration (the RATP) occurred; but basically throughout the seventies, they humored me. In the early eighties, though, a group of sociologists working within the RATP heard about the project, and became interested. Their role in the organization was to find ways to make the Metro more amenable.

They wanted to know what it would be like. I told them I didn't have the slightest idea, and explained my method – entering the space without preconceptions, exploring with sound by ear, and

forming the work from what I found there. It took another year before their Cartesian inner voices could be muffled sufficiently for us to proceed.

In 1983, they provided some money to allow me to start exploring the space with sound. At this point they proposed that we contact the Ministry of Culture. In France, organizational responsibilities are clearly divided and there was no way they, being under the Ministry of Transportation, could proceed with a cultural project without the agreement of the ministry which governed culture.

This is where the real trouble began. First, the ministry was deeply offended that I had approached the RATP first instead of them. In my naive manner, I had thought that if one had a proposal for a particular space, one should approach the organization which controlled that space. In fact, it turned out that I was right – the Ministry of Culture had been at war with the RATP for years. If I had approached the ministry first, I would not have gotten as far as I had.

Given this bad start, it was a miracle that I got any further. Eventually the project was grudgingly shoved down through the various layers of the ministerial bureaucracy to a new program concerned with ‘connecting the arts and the private sector’, i. e. Arts and Business, an already very tired idea in the mid eighties.

By that time I had begun working with sound in the corridor from one to five in the morning, when the Metro was closed. After several months of negotiation a meeting was finally set up in the tunnel one night, between myself and the director of the Arts and Business program (I’ve forgotten his name).

It did not begin well. He began by saying he hadn’t been in the Metro for years, but it was much nicer than he remembered, without all the people. Next, he wanted to know exactly what the work would be; he wanted me to play the piece for him.

We had had discussions before about my method and the reasons for it, but I think he had dismissed these as obfuscation and, more important, a challenge to his authority to decide whether my work was worthy of support or not.

I played nice.

Explaining carefully that it was impossible to ‘hear’ the work before it was built, I went on to give him and his cohorts a demonstration of how I could transform the huge rumbling sound of the moving sidewalks, simply by mixing with it some sound colors I had been preparing. I felt that I should also explain why I was interested in working in a place they disdained so much, and the next day wrote the following statement:

‘Although I work in the cultural context of museums, many of my installations have been in public places – on the street or as

part of transportation systems. I am always surprised when people ask me why I am interested in working in such places – as if these places were somehow unworthy of serious aesthetic endeavors. The idea being, I suppose, that unless we carefully prepare and maintain special places like museums and concert halls, and educate audiences in how to perceive works of art within them, the aesthetic experience cannot occur.

‘I feel the opposite, i. e. that the aesthetic experience is natural to the human being, a phenomenon of living, and further that it is highly unique to each individual. By limiting it to one singular approach or particular kind of place, we have codified and classified it to the point where we begin to endanger the possibility of its occurrence.

‘The impetus for my first sound installation was an interest in working with a public at large. Inserting works into their daily domain in such a way that people could find them in their own time and on their own terms. Disguising them within their environments in such a way that people discovered them for themselves and took possession of them, lead by their curiosity into listening.’

It didn't take. The message from the ministry was that without a maquette there would be no support. This turned out to be such a laughable response (they wanted me to build a model of an empty tunnel with an invisible sound work in it?) that later they decided to make a deal, hoping that they could finally rid themselves of this troublesome project: if I could raise seventy percent of the budget, they would provide the remaining thirty.

I didn't mention that I thought it was supposed to be their specialty to connect the arts and business, realizing that getting artists to do their work for them was probably their technique. I am sure they never thought I could do it (he can't even speak French).

I found someone who could help with the fund raising, and went on working in the tunnel. After six months, they were presented with commitments from the RATP and a major French bank for the seventy percent.

Then I waited.

After a year, the support from the RATP and the bank disintegrated: they were mystified.

The ministry had simply never replied.

When it became clear that no one else dared even to ask them why, I bowed and admitted defeat. And went on to other things. This story does not depict a particularly French problem; it could have happened anywhere – cultural bureaucracy is a global disease. In fact, often the French are more bureaucratically adept than other cultures.

The problem lies with the mixture of something new with the dogma of ingrained institutional habits, and the tendency of bureaucracies to collect the inept. The larger the bureaucracy, the more slowly it adapts to change. Frequently it consumes the core of the innovation while absorbing it, leaving only a hackneyed skeleton of the original idea.

Cultural institutions commonly rely on committees to make their decisions. It's safe; no one has to take responsibility, nobody can be blamed for anything. Yet the nature of committees is political.

Even if the committee is composed of dedicated members of the cultural community, the nature of the organism itself dilutes its concern with the aesthetic. By definition a committee cannot have a leap of imagination.

Sometimes attempts are made in the cultural world to justify the committee as democratic. This poor word, recently mauled as a euphemism for capitalism by the free booters to justify global economic exploitation, and in the process applied to the arts as a justification for mediocrity (a more broad based line of products). And leading then, through further semantic confusion, to 'non-elitist' art – not a bad idea if applied to the audience of art (why should the appreciation of art be limited to those with insider knowledge?) – but becomes a disaster when applied to the art itself.

A culture is not a form of government. It grows only with a constant and passionate refinement of its particular way of life – its language, its food, its art... its spirit.

When it stops growing, it begins to die. It needs constant replenishment by consideration of its current options. Its essence is to discriminate. It must differentiate the alive from the vacuous, the altruistic from the commercial, the truth from the convenient lie – or it dies.

The accomplishment of a work of art is not a common occurrence; it is rare because it is difficult. When it happens it is always extraordinary. Experiencing it is automatic; we all know when it's there. Yet in our present day world where the mediated reality of television is becoming the only reality for many, and the arts are becoming just another form of business, many people now deny that the extraordinary exists.

We are in danger of losing it.

Looking back at the statement I wrote for the ministry now after more than ten years, and at my ideas about working outside the cultural context fifteen years before that, it is clear the conditions are no longer the same. Working as an artist in the public sphere is no longer moving in uncodified territory. 'Public Art' has become simply urban decor as it slipped into the cultural

muck of the mainstream. The habitat of this particular institutional beast seems to be expanding – its offspring spreading as the underdeveloped develop.

Which means, I suppose, that to do something interesting there now, one has to be just that much more diligent... and clever.

Harald Szeemann

Within the framework of the exhibition *GAS* (Grandiose Ambitieux Silencieux) at the capc Museum of Contemporary Art in Bordeaux, Max Neuhaus created a sound work which is now part of the museum's permanent collection. He gave it a verbal component: 'Two passages, bearing in between, shadow and daylight, identical in form, diverging in spirit' (III, 68).

The passages are two stairways in the museum, each at a corner of the cloistered mezzanine surrounding the 'grand nef' exhibition space. These ascending and descending spaces with barrel-vaulted ceilings, unsuitable for material works, are the spaces of reception, receivers for sounds which Max Neuhaus creates – sounds that are barely audible.

One has to invest time to hear these sounds, to come to a spatial conclusion, and then to fuse sound and space, to grasp this quality of contemporary sculpture: its site specificity.

Initially the work presents itself as a question about the sources of the sounds, which seem without beginning or end. We then discard previous knowledge and pursue these inconceivable, indefinable tones. Next evocation appears. Now, we want to know where the sound is coming from and what it is. Then, the question of genesis – Where do we come from? Who are we? Where are we going? – is subtly disturbed by the timelessness of the succession of sound impulses. Their time-dependent logic and the sequence embedded in the course of time are dissolved.

The 'who are we?' in these two stairways glides in real time into the question: From where, through the sound in these spaces, does the ego get its ability to imagine? And only then do we realize that it is a sound texture which carries us and makes us spatially active.

Just as visual sculpture detached itself from an object which could be contemplated from all sides and incorporated the site itself into the sculptural event as a fourth dimension, Max Neuhaus has detached sound from music, from the confinement of a sequence with a beginning and an end, and transports us into an immediately spatial experience without detouring through materialization.

These two spaces in the museum are symmetrical – the reason they inspired the artist to create a dialectic sound form. The right-hand space is filled with a vibrating, relatively aggressive sound, which for me does not involve the body but stops abruptly after reaching the inner ear. The listener's state of siege here contrasts with the left-hand stairway with its spacious and peaceful sound. This sound resounds like distant evening chimes, sometimes far

away, and then as though within ourselves, activating fundamental distances – the internal and the external.

The visitor who goes from one space to the other compares the sounds and experiences something akin to a visual parallel: an encounter with a differentiated monochromy. An experience where attention to the incidence of the brush, not only says nothing about mood and style, frame of mind and historical dimension; but instead compels absorption into the essence of an ahistorical experience. Tones thus become sound, noises become streams of hearing. Interlaced rhythm becomes like a conveyor belt, addition becomes synthesis, the conveyor belt becomes the environment, synthesis becomes a simultaneity of hearing and seeing. The walls, the arched ceilings, the steps become projection levels of our own imaginations, released by the sound. Thus, here we have a series of Haikus, and there the picture of the 'Angelus'.

Max Neuhaus provides each of his sound works with a drawing which is neither musical notation nor an artistic or technical sketch. Here, he has drawn two stairways in perspective, one blue, one violet. He has taken the spaces as a starting point for the sound structures which, of course, can not be represented. The drawings, lacking information about the sound components, must be seen as process-related notations in combination with an accompanying text. They refer more to spatio-sculptural occurrence, not unlike the traditional form of sculptor's drawings where the contour alone implies plasticity.

In a similar situation with two symmetrical rooms (Hamburg, 1989), Max Neuhaus once wrote: 'When certain kinds of sounds are very soft, they become something which is sensed rather than actually heard – a presence more than a sound. The two spaces of this work each have a different sound of this kind. These two sounds have contrasting natures. Although the two spaces seem identical when one first enters, after a few moments when aural attention has had a chance to focus – one realizes that they are, in fact, quite different'.

In the beginning there was perhaps the word, then the image; in the end, there will undoubtedly be the sound.

The entire length of the space is crossed by a continuous line of sound (II, 30; III, 48). Its content is something like a rustling sound, although it is impossible to decide with any certainty what it is, or to locate its source. A frail sound, at first almost imperceptible, yet insistent, which soon comes to impose on our sense of hearing, leaving us curiously free of all visual distraction. Following this line that comes from above, which stops abruptly when one moves a step away from it, the physical marks to which we are accustomed and by which we regulate our movements lose their solidity. We have not left the floor, the space has not changed, and yet something is happening around us that is also happening within us. Our sensory hierarchy is being deconstructed, our perception reorganized.

This line which the listening body passes through, crosses, leaves and returns to, acquires a tangible reality which marks the space without dividing it. Deprived of both its storing and its demonstrative functions, the Magasin in Grenoble, an old warehouse converted into an art centre where Max Neuhaus has created this line, no longer seems to be one thing or the other.

Max Neuhaus's work is essentially distinguished from music by the fact that its dimension is not so much time as the space in which it occurs and from which it cannot be dissociated. The more we expect music, blind to the world and measured in terms of its own sequence, the more the sound forms of Max Neuhaus are always already there, made luminous by replacing our gaze with a direct perception of the space in which we coexist with them.

From 1961 until 1968 Max Neuhaus was a percussionist, giving concerts with Pierre Boulez's Contemporary Chamber Ensemble, collaborating with Karlheinz Stockhausen, playing as a soloist at Carnegie Hall. His first independent work – a series of sound walks across urban and rural sites in 1966 – started off his reflection on the space of sound. 'I began my career as a musician working in a sphere of music where distinctions between composer and performer were beginning to disappear. I became interested in going further and moving into an area where composer and performer would not exist.' However, Neuhaus does not base his work on Manichean oppositions of the passive/active type, any more than he is involved in a psychological theory about audience participation. From the start it has been a matter of getting rid of a certain number of mediators and approaching a new dimension by entrusting the hearing of sounds to the person listening.

Ceasing to perform in public and pursuing his research on a computer, Neuhaus broke with the traditional concepts of art, from production to reception. His work today examines the very function of art. There is no ideological theory behind this work, nor can one be deduced from it; the work quite simply begins with the space, and remains within the aura of its reality.

The choice of the site is the first stage of any installation, determined by its architectural, functional and acoustic properties. This choice is carried out in the world; there is nowhere that is necessarily inappropriate. The variety of sites used by Max Neuhaus bears witness to this: elevator, swimming pool, museum, metro station, public park, telephone system, radio, road, airport, etc. There is no privilege, no impossibility, no constraint: it is understood that this order of possibility is also a part of the work.

The preliminary survey of the site that Neuhaus carries out is a work of total perception, in which all the elements and their interactions appear. The space is not a reality made up of autonomous parts connected by relations of cause and effect and perceived by our senses in an analytic sequence. The space is a density. Thus it will not be solely a matter of acoustic questions, treated so as to optimize the specific qualities of a place in order to obtain the maximum number of effects, but of conceiving an authentic form which will be integrated with it, which will be able to crystallize, through its own uniqueness, the total perception of the space. The plainness of the form and its mimeticism are the conditions of this crystallization.

The programmes worked out in the studio are modified on site, reworked and readapted. The system is never completed, does not become reified in a coded language which would apply in all cases. The distinction between tool (the computer) and instrument is important because it determines a relationship to technology which is not one of dependence but rather of freedom. There is no fascination or naive faith in progress here, no fetishism or narcissistic fixation. Pragmatic, Neuhaus's work does not chatter but rather makes one hear.

Thus the form is a direct part of the space: it simultaneously emanates from it and reveals it, comes from it and returns to it, coincides with it and becomes distinct from it. It is volatile and figurative. It has no source because its sole end is its clear integration with the space. The sound sources are invisible for reasons which are inherent within the project itself: the sound is a part of the space like the air that flows in it – immediate, without any instrumental constraint.

The extreme precision of the sound forms allows a multiplicity and individuality of experiences. Given that our personal perception of time and space is the main agent, it is clear that these

installations produce different experiences and do not assign to the space one sole nature which would then be an unambiguous totality. The singularity and the richness of the possibilities are directly proportional to the precision and the strictness of the terms.

Some works, such as that carried out in the pedestrian zone at Times Square in New York, or the Montparnasse metro station project in Paris, have the characteristic, among others, of being practically anonymous. The uninformed passerby can walk past without noticing their existence. Only sustained attention enables one to discover them or to disentangle the various strata of coexistent sonorities. In operation twenty-four hours out of twenty-four, the Times Square work questions our presence within the space, without creating an effect of surprise, but opening up the possibilities of the world, not in a fiction, but in the actuality of everyday life.

If Neuhaus exhibits in a gallery or a museum, he alters our expectations, contradicts our reflexes, inverts our atavism. It is not a question of competing with the visual arts; we have already observed the principle of plainness behind this work. A recent work reveals another aspect: the sound installation can only be perceived after dark, when the photo-electric cells reveal their function. The sequence, which seems to be irregular, invades the space of the gallery, which is neither empty nor full but deprived of its purpose.

Max Neuhaus's work is an active phenomenology which, instead of taking our senses into account, redistributes them in the immediate infinity. The work creates a space within a space, without indicating or marking it, without even appropriating it, without subsequently interfering with the truth that constitutes it. The sound is within us as we are within the space: that is the principle of this place in which we are sent to live, and which is, however, neither arbitrary nor metaphoric. This place cannot effectively be transferred to any other place: it is a moment of our awareness. A mental place more than anything else, elaborated within the limits of our presence in the world.

Using the barest of descriptive styles, Neuhaus in his drawings records the mute data of the landscapes. The lines, the curves, and the grey shading do not offer an ideal equivalent, but they do enable us to measure the parameters of the landscapes such as we shall never see them. Finally, the drawings do not prescribe any attitudes for the beholder to take, nor do they offer directions for use or describe experience. They testify to the essentially irreducible character of the work, closing the illusion of reproduction and insisting on the work's own demands: hearing the place in the landscape, the place of the world.

For a celebrated young percussionist to suddenly give up performing when at the height of success might appear surprising; but today, some twenty years later, the step he made fits in as part of a logical evolution. It is not so much that Max Neuhaus' reasons seem like the ambition of some virtuoso, but more the kind of thinking which led certain sculptors to abandon the pedestal in the past. He no longer wanted to project his sounds to the public from the stage, in the highly structured context of a concert, but rather present individuals with them in their daily lives.

The space of a concert hall is merely a technical element. Neuhaus makes the space part of the work itself – an idea of work which can no longer be understood as part of any kind of aesthetic category of music. Freed from all inherited ritual, the place Max Neuhaus chooses to work in is initially nothing more than an aural space. Every place has its own noises, dictated by particular sources, the shape and mass of the volume of air, the way its different surfaces reverberate sound, anything which resonates, unpredictable outside events, etc.

The work in Grenoble, like many of Max Neuhaus' sound installations is a static aural topography, made to be heard and interpreted individually by listeners as they move through it. (Another type of work based on moving sound images will not be discussed here.) As a visitor enters the main hall and advances into the middle of the space, when he gets to the second pillar he suddenly hears a sort of lapping sound which may remind him of a stream of water or is it rain on the glass roof? The right direction, in fact, for the sound indubitably comes from the roof. When he moves a few metres to the right or left, the sound disappears and he can't help becoming aware of the air-conditioning. If he listens more carefully to the lapping sound, it becomes clear there is nothing natural about it at all. It is perhaps possible to recognize that it is an electronically-generated, shimmering sound image which clearly follows a constant ascending movement. Moving lengthways through the space, the sound can be localized quite precisely along its axis. Its intensity increases near the middle of this axis and diminishes again as one moves into the distance. However, it is never loud. If it is raining on the glass roof, the sound is almost inaudible.

In a way, Max Neuhaus is repeating with aural means what Richard Long showed before him visually with 30 tons of anthracite: a line 2 metres wide and 60 metres long lengthways in space. However, the two pieces were conceived independently of

each other. In fact, Neuhaus' work had been finished before that of Richard Long. All sound-generating facilities and the computer programs were invisibly installed during Long's show, just waiting to be switched on. This axis is quite simply the most obvious line in the space. Neuhaus, however, does not limit himself to that. He includes the whole space in his work. One's perception wavers between the image for the eye and the sound image for the ear.

What Neuhaus adds to this environment can perhaps be compared to Carl André's sheets of steel: it can often hardly be noticed at first, you have to listen. However, once you are aware of his addition, all sound present can only be heard in relation to it. For instance noises like the air-conditioning or the traffic outside, which you don't normally hear because they are too monotonous, play a new role as components of the physical fact of being there in that precise space, the place in question. To describe such a work of art by just the added sound image would be in no way exhaustive; the work transforms the place and all that is visible and audible into a new entity.

The noises which give a place its character are constantly changing and stem from many different sources; and the added man-made sound should be close to these given characteristics, since it must become an integral part of them. By superimposing different sound systems and the constant modifications this leads to, you can create and develop exceedingly complex sound structures. In this process computers are used to 'create, store, reconstitute and compare' a sound's micro-structures. When Neuhaus started to work with computers it was technically not possible to control multiple sound sources by a remote means. In order to have the possibility of changing any parameter from anywhere in a given space, he devised remote control for a central computer and a network of sound synthesis computers.

Despite the use of this advanced technology, Neuhaus' work is not in the least conceptual. Neither the computer programs nor the sound sources' technical characteristics can be determined theoretically in advance. Although it is possible to put forward a few suppositions as far as the space is concerned, their accuracy and significance nevertheless have to be explored, which becomes a way of building the sound image piece by piece. To explore a space, Neuhaus uses sound which is standardized and precisely orientated: certain pitches from the audible spectrum are arranged into a sequence which is repeated at varying speeds, and a horn-type loudspeaker allows the sound to be directed precisely. As it is easy to manoeuvre, different positions and directions can be tried out and the reflecting qualities of the space's walls tested at will. The only instrument of measurement used here though is the human ear, which makes Max Neuhaus'

process – and this may seem paradoxical – similar to that of a more classical artist; but it is just this leading-edge technology which enables him to hear what he has programmed on the computer immediately.

These 'measurements' result in speakers being specially designed for the space and a program being defined for each computer which is stored in an EPROM (Electrically Programmable Read Only Memory), each of which constitutes a layer of the final sound of the work. These are the technical conditions of the work, which remain invisible. The person visiting the exhibition sees nothing but empty space; all he can count on are his ears.

As a result the work cannot be communicated by photograph. It is no accident that Max Neuhaus is one of the few artists who explain their work. He has done it more and more over recent years, adding sketches a little like an architect's drawings. This should not be misunderstood as a symptom of some vague fear that perhaps his work might not be sufficiently well understood on its own. In the end, these drawings and explanations are the evidence which remains of his temporary installations. Not everybody is able to go to New York, Chicago, Kerguéhennec or Pistoia to visit his rare permanent installations. It is however important not to confuse these drawings and explanations with the sound work: all they are are traces and Neuhaus thinks it important they be presented separately. 'To shape, define, transform, create with sound only...' Neuhaus remains an artist beyond categories – a status which he seems to enjoy. Even today he cannot deny his affiliation with music and the creative means he employs are still extremely unusual in the visual arts, even though their spectrum has considerably widened.

Because of its radical nature and the total implication of both space and listener it demands, Max Neuhaus' work is one of the most convincing contributions made by contemporary artists in the domain of 'site specific work'.

Images for the ears: American artist Max Neuhaus's sound installation at documenta (III, 66).

Three young people come racing into the building, arm in arm. They are laughing, talking, pushing each other around. Their heels clatter loudly on the floor. They climb the steps, to the first, the second, the third floor. Still laughing and chattering. 'Nothing here, is there?' one of them finally says, petulantly. They leave.

But there is something here. Here, in the plain fifties staircase of the AOK health insurance building on the edge of Friedrichsplatz in Kassel. It's just that the three young people didn't notice it. They were making too much noise, and that made the work of art disappear.

Max Neuhaus's documenta installation, *Three to One*, is quiet. And absolutely invisible. If you want to experience the high art of the simple you have to tread softly, take your time and keep quiet. You'll feel yourself suddenly starting to listen, your senses sharpening, and your perceptions changing.

At first you just hear a single, constant gentle electronic hum filling the staircase. But as you move up the stairs you realize that each storey has its own note. The three humming notes drift up and down and mix together, and also blend with external noises. Hence the title, *Three to One*. *Three to One* is a place of meditation, one of the few at this documenta. It was designed by a great documenta outsider: Max Neuhaus, 53, is the only artist to make art for the ears and not for the eyes. The only sound sculptor, sound painter, sound poet here, internationally known for nearly two decades as someone who experiments more boldly, cleverly and consistently with sounds than any other fine artist.

Neuhaus was attracted by the idea of acoustic counterpoint. A few subtle sounds set against all the noisy images, objects, videos.

Actually he doesn't like large-scale shows. Too many people, too many works. How does that leave you the time and energy you need to pay attention to a work of art? 'Exhibitions are dangerous places for art,' he says. This American, who took part in documenta for the first time in 1977, only gets involved in group shows every few years - 'so that I can keep being rediscovered.'

Even his neighbors on Ischia, workmen and peasants, know that it's been a long time since he needed to be discovered. They call him 'il famoso,' the famous one, but only behind his back. They leave the kindly, round-faced loner in peace. Neuhaus ended up on this Italian island in the Mediterranean off Naples by

chance. Four years ago he was intending to spend the summer on Capri, but when he got there he found there was an artists' colony. He dislikes artists' colonies as much as he dislikes big shows. So he took the next ferry to the neighboring island of Ischia. Since that time he has rented a narrow, three-storey house on a tiny mountain road in the little village of Campagnano from the local police chief. He lives here from May to October, and in Paris and New York for the rest of the year.

From his terrace Neuhaus looks down on Ischia Porto, where the ferries come in, over the fortress in the bay where the inhabitants used to seek refuge when under attack from the mainland, and over the island's green mountain range.

Because the art he makes cannot be collected, Neuhaus does not feature on the art market. He doesn't have to dance to a collector's tune or keep galleries happy, and he doesn't have to attend openings. This means that he can live and work as he pleases. 'So why not somewhere beautiful?' he asks. His working resources on Ischia: a personal computer and a digital sound processor. His links with the outside world: a fax and a telephone.

He lives exclusively from commissions, and not badly at that. If you want a temporary Neuhaus for your museum or gallery it'll cost you at least 50,000 dollars; if you want a permanent installation you'll have to invest at least twice as much. A large-scale work can cost half a million dollars.

Neuhaus has to give his buyers a reason for prices like this. 'Most people don't understand that it costs time and money to create a sound.' Not just any sound, of course, but the right sound, the one that fits, the only possible sound. The sound that shapes a place as Neuhaus wants it shaped.

Shape a place with sound? 'Of course,' he says, 'what we hear contributes to our impression of a place just as much as what we see.' He is an acoustic architect. He can use sound to make a small space large and a large space small. He can even differentiate two identical spaces through sound in such a way as to make them seem to be different sizes. He'll make you trust your ears instead of your eyes.

How he does this? Neuhaus is not telling. He conceals the electronics, the wires, the loudspeakers. He wants emptiness. He wants pure sound space. Mysterious, magical, enchanted, almost eerie. All you can hear is buzzing or clicking or a bell tinkling. This is how he creates places that suck you into nothingness, tailor-made for trance and dreams. And therein lies the secret of his art.

Neuhaus the magician lives in the digital age. Barefoot, in shorts, shirt unbuttoned over his paunch, he crouches on a chair with a torn seat and types program commands on a PC keyboard.

He looks down at Ischia's shimmering bay, groans, types again, giggles, lights a cigarette and thumbs through a manual. He's learning a new computer language intended to make his art easier. It's called Max. 'But not named after me.'

A weakness for fiddling around with delicate technical matters runs in his family. His great-great-grandfather designed the Hamburger Bahnhof, a major train station, in Berlin. And subsequent generations included many engineers, among them Neuhaus's grandfather, who emigrated to America, and his father. But Max did not want to be an engineer, and definitely not in the provincial Texas town of Port Arthur.

When he was 14, he knew he had to be a musician. By 16 he was drumming for a stripper in a bar. At 18 he was hired by a big band that had lost its drummer on a tour. Max took the phone call at midday, drummed for his audition in the afternoon and was sitting on the band bus by evening. And so he got to Chicago. And from there to New York.

He became famous in his first career as a percussionist after a very few years. He concentrated on New Music, played with Pierre Boulez and Karlheinz Stockhausen and made a record of solo percussion pieces for the 'Columbia Masterworks' series in 1968. He was just 28. And then he gave it all up.

He had had enough of performing music in concert halls. He wanted more than music: noise, din, any type of sound one can hear at all. And he wanted more than concert halls: ordinary places like streets, houses, squares, even swimming pools.

He joined the ranks of those crossover artists who had been blurring the dividing line between sound art and pictorial art since the early Modern period. The Dadaists, for instance, who had been playing around with images, music, language and nonsense sounds in the twenties. Or their artistic successors, the Fluxus artists, who had been fighting since the sixties to extend music's classical sound repertoire. They included everyday sounds in their performances. They smashed up pianos and violins. They made offensive noise into an art form.

The great mentor of the Fluxus movement was the composer John Cage. In his 4'33" he made a pianist sit on the platform for four minutes and 33 seconds without playing. The piece consisted entirely of the noises the audience made in this time. That was revolutionary. But Cage stayed in the hall with his listeners. Max Neuhaus took them outside.

His first action: he invited friends on a walk through Manhattan. He stamped 'Listen' on their hands and led them through the streets. He wanted to show them the sounds of New York, the city symphony made up of the rumbling of the subway, of swishing tires, shouting, noisy people, hissing air-conditioning, the sound of car engines and the clatter of deliveries being made.

This was absolutely natural for someone who lives almost like a blind man, in an acoustic world. Neuhaus says that he recognizes people by their voices, not their faces. And it sounds as though he's amazed it could be otherwise.

In 1977, eleven years after his last *Listen* walk, Neuhaus made a personal contribution to New York's sound scene with a dull, sonorous buzzing that rises incessantly from a ventilation shaft in Times Square. Most pedestrians who walk over the shaft at this gateway to Broadway don't even notice the buzzing. But some stand still, look around, surprised, vaguely confused and take notice for a moment. 'I have the feeling,' says Neuhaus, 'that in this way Times Square belongs to me.'

By now eight places in five countries belong to him in this way: permanent Neuhaus installations buzz and hum in galleries, in a museum staircase in Chicago, a Cologne art dealer's kitchen and the surroundings of the Kunsthalle in Bern. If it were up to him the sound staircase in Kassel – so far sponsored by German broadcasting company RTL Plus – would stay as well. (In March 1994 the work was reinaugurated as a permanent entity. Ed.)

When documenta is over he would then remove the information column on the ground floor. Nothing to draw attention to his sound space anymore. In public places he prefers art that does not show that it is art. Art that is just there, unobtrusive, subtle and almost modest. Art that's waiting, wanting to be found. Ultimately his works should not belong to him, says Neuhaus, but to the people who live with them.

And if they just don't notice his work like the three young people at documenta? He shrugs his shoulders. 'I can't set up rules for visitors. They'll become aware of my work when they are ready. Not before.' Neuhaus is completely unflappable. His art is intended to develop its effect over months, even years. Truth be told, it would like to be eternal.

Notes on Place and Moment

I

The major amount of energy that I put into making a work is in the construction of its sound. The real effort comes there – the process of placing the first sound in the space, listening to it and finding the next thing to try. It is a process of learning, on my part, about sound in that place, in the place that exists before I begin, but also this imaginary place or moment that I want to build.

In the beginning, the differences between the things I try are large. As my definition of this imaginary place or moment progresses, the sound of this imaginary entity progresses too and they become closer.

In these works I am not trying to build a sound image for its listeners to hear; I am building a sound to bring this imaginary place or moment of mine into being. I see these works not as definers of a single frame of mind for all individuals, but as catalysts for shifts in frame of mind. I am not concerned with a specific individual's frame of mind.

Sometimes when I finish a work I take several people through it before it opens to get a sense of the range of what they are hearing, but I am not interested in knowing what they are experiencing. In a way it is none of my business. I am concerned with the catalyst, the initiator; their individual pathways are very private, their own.

I think that it is this, the individual's process of experience in a work of art, that artists try to initiate.

II

In these imaginary places that I build, often the moment the listener first walks into the space, it is not clear that a sound is there. But as you begin to focus, a shift of scale happens. At first you hear what could almost be a room sound, which then suddenly becomes huge. As you enter into it, you move into another perception of space because of the change of scale.

I am always amazed, myself, by the difference between being outside of that scale and going into it. When I am building a work, near the end of the process when I am making the very small changes to the sound, after ten days of building it, I know its inner structure, how it is made, how it sounds. I leave the work on overnight and come back to it in the morning after sleeping and after having walked outside, pulling back. In working a sound, the only way you can get distance is over time, unlike working with something you can see, where you can step back from it in space.

I am always amazed by the difference between the moment I first walk in the space after a night of not hearing it, and two seconds afterwards, when I am back into the world where I was making it. It is a crucial point in building the piece. I am working with the plausibility of its sound.

I often make a sound which is almost plausible within its context when you first encounter it. The point where a person realizes that it is not plausible is when he jumps into the piece; he's swimming on his own from then on. It is a way of working which I use often in the place pieces; it is usually the way I build the entrance to the work.

I call it the entrance, because if you do not go through this refocusing you do not get through to the work. Some people call my work meditative because of this need to focus. I don't like the baggage the word carries. These works demand only attention; they cannot be consumed in passing.

With each place and each condition it is a different kind of problem to get that to happen. To get it to happen in a museum is more difficult. In the work at the Museum of Contemporary Art in Chicago, there is exactly that situation: everyone knows the piece is there, but many people walk through it and do not hear it.

This is an important point, a deliberate point of making the sound almost plausible within the space. It also leaves it hidden and means you can only find it by bringing yourself to the point where you can hear it. A beautiful thing about the piece in Chicago is that, although its sounds are huge and loud, because of the plausibility of these sounds, many people still after fourteen years deny it exists.

On the other hand, I sometimes construct an almost physical place with sound. The piece in Times Square is a good example; it is outside, in the middle of a large open plaza. It's a large block of sound, which you walk into. Even though invisible and intangible, it is like a solid place in the middle of this open space.

Times Square is not a place where you expect cultural intervention; if there is one, you expect to see and hear it. It was not hard to make something that people had to find in that situation. There, there is no need to alter your aural focus; you alter your contextual focus when you find that work.

In very subtle works like *Three to One*, the 'almost plausibility' of the sounds are things that draw you in, in a different way than if the sound were overt either in its character or in its loudness – the quality that it is both there and not there.

You change the scale of how you hear. When you change scale, you start to look at things differently. When you look at painting your visual scale also changes. The same thing can happen with sound.

There is a wonderful contradiction in *Three to One* that not

many people see, although they all hear it without realizing it. The three spaces, although visually distinct, are for the ear one large space because of the opening for the stairway connecting them in their centers. Yet when you first encounter these spaces you hear separate sounds on each floor, three distinct layers in what is acoustically one space (III, 66).

It took me a while after I had finished it to figure out how I had done it. In fact, certain parts of each floor's sound spread to all the spaces (II, 52). These common components are perceived completely differently, though, when they mix with the sounds specific to each floor. By utilizing the components that go between all the floors in a different way in each place, the same thing on each floor is heard as something completely different.

But this changes after you have been in the work for a while. After you've heard these common components in their three different contexts, your memory comes into play. The sounds of the three floors fuse into one whole with many variations – the perceiver's perception of the unity.

III

In the seventies, I began experimenting with the idea of making a sound by taking a sound away. This had occurred to me as an idea, but I wanted to see how other people felt about it. I could not find out much by just asking people directly, so I built some alarm clocks which functioned in this way. By connecting it with sleep I thought it would be closer to the reality; their reactions, in that way, would be real information. It was not a scientific investigation. I was talking to people about their feelings with this experience. This idea is not something that happens in nature; continuous things do not disappear suddenly in this way. Yet it happens in the modern world. The most startling example for me in everyday life has always been the coffee grinding machine in a café. When somebody turns the machine on in a noisy café, you do not register it. It just seems to make talking a little harder.

That is quite amazing in itself, because the sound is quite loud. But your mind just puts it in the class of the sounds that are an expected part of the café and goes on with what it was doing.

Then, when it is finished and suddenly stops, there is a huge silence which envelops the café, even though it is still very noisy. I've always loved that moment.

The moment or time pieces are also connected to ideas we may have always had in societies about sounds: signals. Concepts about sound are not well articulated in history. Most writing about history is more about visual and social environment than about sound. It is very hard to find out what our sound world was like before sound recordings. How can you know about a sound made a thousand years ago? There are no records.

But it is clear that, in Western culture five hundred years ago, sound signals from the church were an early form of broadcasting. Cities were divided up into parishes whose borders were fixed by the range of their church bells. If you were outside the sound of the bell, you had no information; you were outside the community.

A sound signal is a unifier and communicator over a whole area simultaneously. It is perhaps the first concept of large scale broadcasting, the concept of a medium that many can get information from without actually being in one place, that the information can be transmitted to many places at the same time, unifying them.

The basic idea of the moment works is to be without place; they encompass places rather than being only in one. That is the real difference. For a place work you have to go to the place; for a moment work you can be in any of many places at the moment.

These moment works depend on a long term relationship in order to function; they need to be lived in – a small shift on a regular basis throughout the day, that you forget about, and then encounter again. They cannot be visited like an exhibition.

I envy the people near the Kunsthalle Bern. Although I made this work and know it intimately through making it, they know it better than I do. They have spent more time with it than I have. They've had three years with it.

It was a strange piece to build because I was building a sound for its afterimage. The sound I was building is not the thing I was building; I was building the thing that happens when the sound disappears. It's fascinating to construct. It's also strange because of its time scale; in order to hear it disappear, I had to wait for it to grow each time.

In many of the place pieces there is an afterimage also, but of a different kind. After leaving the work, you can find yourself beginning to hear the work's sound in other places. By building sounds for these works which are close to things which can be there, outside sounds can trigger a memory. Then that outside sound becomes the sound of the work. It's not the afterimage of a moment work; it is an image of the work which gets superimposed on things or which everyday sounds evoke.

IV

These terms 'place' and 'moment' which I use and within which I work have evolved into general forms – two complementary areas within which I group individual works.

The thing that makes moment pieces different from place pieces is that the moment pieces are in all places, but only occur for a moment in all those places; while the place pieces are only in one place, but are continuums which are always there.

The moment pieces don't construct places, but they cause this realization of place to happen when they disappear; in the same way that the place pieces do not construct time, but they allow your own realization of time to happen within their static nature.

Each one generates in the perceiver the opposite of what it is: the moment pieces generate an instant of being in one's own place; place pieces generate a period of being in one's own time. They are two opposites; each one is what the other is not.

I

Refusing any identification with pre-established genres or artistic categories, the work of Max Neuhaus is an attempt to redefine both the essence of art and its function. Of course, Neuhaus is neither the first nor the only artist to pursue such a goal. But Neuhaus is one of the few artists to formulate a project that is both structured and complex, imaginative and complete. From its beginnings in music, his work has developed into a singular conjunction of sound and space in which each work creates a definition of place founded on the aural experience of individuals in a given environment. In most societies, art has usually constituted a form of relationship to the world specifying men's sensory experience and appropriating places, functions, and customs. In contrast, the significance of Neuhaus' work lies precisely in its ability to confront us with our physiological limits and ideological habits.

Neuhaus sculpts sounds and traces aural passages. He uses noise and confusion not to imitate a given environment, but to express the nature of sound and place. His work involves many kinds of spatial arrangements of sound, such as we find them in the world about us and in the means available to us to discern, designate, and transform them and – with them – reality itself. It uses all kinds of natural and mechanical sounds, both emitted and reflected, in both rural and urban environments.

Place in Neuhaus' work is never pre-defined by some abstract principle: it is always and only place in the present. Active experience of this present-ness itself generates new possibilities for transformation – a parameter which measures nothing if not itself. In this sense, the work consists of place becoming event. Differences between one place and another are never confined to, or given by, history. They do not correspond to pre-established categories of place (country/city; house/public space; open/closed; museum/factory). The characteristics and functions of each place are defined uniquely by the individual's experience of them. The place we perceive in Neuhaus' work is nearly always a place within the place, another place that specific experience and active perception define as being there and nowhere else. It is a place where reality and sensation connect and merge, where things are neither translated nor represented. Here, things return to and become part of the site, becoming not that 'other place' of music or painting, but the place itself, as it was before and as it is, in itself and for whoever experiences it.

If we wanted to find historical antecedents for such work, we

would have to look elsewhere than among the works that embellish the neutrality of our artistic and cultural institutions. Its true dimension cannot be deduced from paintings and museums, compositions performed in concert halls or texts published in books. To approach it, we would need to look in the area of oral poetry, at the Homeric, Indian, tribal, or popular tales that accompanied people's lives in different periods; at the bell towers of medieval villages, the stained glass windows and the organization of light in a Gothic cathedral along a pilgrimage route; at the shadow cast on the desert by an Egyptian pyramid, at the Zen gardens of Japan or the fountains and waterfalls in baroque gardens and palaces; at trompe l'oeil architecture, anamorphoses, halls of mirrors and panoramas; at Tibetan or Byzantine monasteries, at Mongol chants, at the interplay of tomtoms in Africa or at the arcades of nineteenth-century Paris. But, however long, this inventory cannot provide us with a context similar to that of Neuhaus' sound works. Discovering these has nothing to do with listening to what the artist has composed or inserted into the landscape or site. It has to do with discovering our own ability to listen and be involved, to experience the sound and substance of this landscape, to measure the volume of our own presence there. This can be done only through the concrete experience of place. In this sense, Neuhaus' intervention represents only the first in an infinite series of possibilities. Similarly, the work exists simply to set things in motion. It is a catalyst, a medium through which the subject enters or exists in the space, through which he becomes aware of place. The sound itself is just one example, organically linked to the infinite parameters of the place. This sound is generated electronically, not as a final autonomous achievement but as another threshold – to extend the limits of sound possibilities. It exemplifies active memory and the mechanisms of the mind, mechanisms of the mental abstraction of space, within which a place takes form as it fulfils its conditions of possibility.

II

It took over a quarter of a century for Neuhaus to transform his work into the place within contemporary art that it has now become. He started his career as an innovative percussionist, thus gaining a sense of timbre, sound colour and duration which would stand him in good stead later. But even in those early days Neuhaus eschewed the kind of frontality that characterized the pianist's relation to his instrument, and the demonstrative technique associated with the violin virtuoso. He rebelled against the mechanism of repetition, calling into question the role of the interpreter and the canons of performance.

Speaking of this period, Neuhaus has said: 'I began my career

as a musician working in a sphere of music where distinctions between composer and performer were beginning to disappear. I became interested in going further and moving into an area where composer and performer would not exist. In the early 1960s, I used acoustic feedback in my stage performances. The room itself would generate the sound; it was always outside of my direct control. I gradually adjusted the levels of the amplifier channels until things began to move, but I had no direct control whatsoever over the sounds and their movements. Finally, I made a mass-produced box [the *Max-Feed*] which could be placed near home hi-fi systems to produce this same type of feedback. It no longer seemed necessary for me to do it on stage. I began to understand that I wasn't interested in making musical 'products' but instead I wanted to be a catalyst for sound activity'.

While *Max-Feed* was the first tool born of the performer's convictions and the creator's intuition, it was with *Drive-in Music* (1967) that Neuhaus first set up the effective structure of his sound installations or sound topographies as we know them today. Taking a long stretch of road, he installed seven broadcasting sound sources in the trees beside the road. Each vehicle driving along this section of road received sound signals varying according to its crossing time, position and speed, and on the listener's choice when operating his radio set. No two drivers heard the same thing. The drivers moved within a space whose aural and acoustic conditions were specific and, above all, specified. The drivers thus participated in the act of specification as listeners recognizing the limits of the space, actively experiencing their movement within a space. Such were the themes and effect of this founding work.

Since then, Max Neuhaus has worked with cities (1974, 1977) and subway stations (1972-1984), stairways (1968, 1979, 1980, 1992), swimming pools (1971-1978), church spires (1980, 1988), woods (1983) and lakes (1986), tunnels (1985) and darkrooms (1984, 1988, 1990), automobiles and airports (1985, 1989), alarm clocks and sirens (1978-1991), telephone and radio networks (1966-1978), and crossroads (1977), roadways (1967-1968) and parks. His work may take place wherever a human being can pass by and stop, wherever an aural experience or the particular situation of a space allows us to take hold of ourselves, to discover the reality of a place. And if no category or inventory can ever account for the types of environments used in Neuhaus' work, this is because all places are possible places. Similarly, any strong presence in a place ends up leaving its mark on it; and every event - in this case, the work - is in fact an agent that activates a place and defines it.

When, between 1969 and 1978, Max Neuhaus used a volume of water to shape sound topographies, the water element was

both a source (whistle) and a carrier of sound (within the swimming pool). These works could be heard only from within the water. They defined another aspect of a place, that of a compact and enclosed body of water, moving within the infinite contiguity of its parts.

Neuhaus' finely attuned response to the specificity of place can best be illustrated by taking two contrasting installations, *Domaine de Kerguéhennec* (III, 44) and *Times Square* (III, 20). For if these works appear to be exact opposites, it is not because Max Neuhaus contradicts himself, but because of a fundamental difference in their place and conditions of possibility.

The first is a work in depth, catching the intensity of a place, concentric and overwhelming. The second is expansive, eccentric and discreet. Yet both are equally unexpected, unimaginable and pregnant. Both examples demonstrate the freedom at the heart of Neuhaus' work, not through statements and signatures but through their use of the natural constraints of a given environment.

Created within the park of a Brittany estate, the *Kerguéhennec* work inscribes a place within the place of a lake, like a centre of gravity to the landscape, a cross-section of experience and environment. Four sound sources horizontally activate the water surface and project their acoustic image in a persistent, rapid and changing movement – a fluctuating hum, moving as if given to particular moods, like a water spirit or the essence of its expanse and surface. At the same time, like an invisible reflection echoing the marsh's depth and immobility and defining a maximum height, another high-pitched sound, insistent and unwavering, brings together the centre that is the sky and the vertical, upwards movement of head and eyes at the limit of aural perception. Set at the farthest point of sound, it is inaccessible, like the transparent, sightless mirror of the tangible, a faint yet crystalline intensity, the very substance of being, the soul of depth.

To the diagonal or X-shaped movement set up by the four sound sources answers the perpendicular criss-cross movement of the listener's ears and eyes. To the circular movement of the pathway around the marsh answers the spiral movement marking the listener's immobility and instant of perception. An oblique and multifaceted being seems to shimmer and echo through a double depth – that of the lake and that of our listening – through the double height of refracted light and of the air as it becomes sky and open space. The event before us becomes the event that contains us. What is inside extends to what surrounds us. The secret geometry of movements disappears without vanishing or merging with the surrounding world. It becomes structure and architecture in a place where nothing is constructed, nothing but the possibility of full presence in and to that place. To the site's

serene silence comes the bustling response of nature. Passive contemplation of the landscape becomes active perception of beings present to themselves and to the world.

In Times Square, the earth seems to move under one's feet when one unsuspectingly crosses this narrow strip of sidewalk in the middle of one of the city's busiest crossroads. And yet this underground sound, which seems to emanate from some great force to assert an absolute verticality, is as complementary in relation to its environment as the horizontal ripples that project from the surface of the water at Kerguéhennec to the most subtle reaches of our senses. Leading us down to the depths from which it rises, this vertical line of noise is like an answer to the hubbub of the street, its chaotic traffic and everyday confusion. This vertical axis marks the common origin of all those who cross it, in their active, upright posture, their sovereign erectness as they awaken to themselves and their senses on the site. There is a barely perceptible discrepancy between meaning and event, between sound and auditive experience, a discrepancy denoting, surely, the existence of another place within the place, a place which is no doubt within each individual and in the place that unites them.

III

If Max Neuhäus' work is more accomplished than others, it is not because it deals with place, but because on each occasion its theme is the difference, the diversity and specificity of each place. At the same time, the identity of the work lies in the event and reality of an individual achieving a state of self-awareness and appropriating the place for him or herself, becoming conscious as a self within the world.

A place marked by an event, a place enabling the event – a reality occupied by a presence that a presence appropriates as history, a history not ready-made but ready to make, the history each one of us makes by appropriating a place through an active experience of the world.

This is probably what historian Paul Veyne had in mind when he said: 'It is the place that creates history'. This sense of history runs through all Neuhäus' work, whether we are standing on Times Square or walking around a Brittany estate. In the former case, we discover our static, upright selfhood; in the latter, we bask in the sensations created by the shimmering light of the water.

Such is the meaning of an art that establishes our freedom and respect for the environment, an art that does not comment on historical facts but creates them and lets them take place through the definition of our senses and of place. Neither pedagogical nor anarchistic, it lies outside the genres of art; it is *sui generis*. Yet it achieves a specific essence, a possible sense and function for art in

the world today. Neither ornament nor comment, Max Neuhaus' work creates a reality within which we can come to terms with our own self-awareness. This process is our own responsibility; all the work does is to provide a place that our presence and only our presence can activate. This is the event of the work.

The unheard-of and the unutterable are one and the same. Whether the 'absolute sound' without beginning or end embraces the entire cosmos, as Vedic science holds; or the principle of the 'logos' is the foundation of the universe, as Heraclitus declared; or Yahweh's 'Word' creates light, as in the Old Testament – all are agreed that in the beginning there comes sound. Sound possesses primal creative energy. For human kind, it remains at once unheard and unutterable.

The modality of behavior which characterizes modern civilization seems diametrically opposed to ancient writings concerning the mystery of creation. It is as if the visual emphasis of cities, housing, and gardens had displaced the ear to the perimeter of consciousness. We have lost the exalted cultural sense expressed in the Greek or Roman amphitheaters – those constructions so reminiscent of the ear which nowadays we marvel at for their miraculous acoustics – or in the art of medieval churches, which were built (as if such a procedure were only natural) in obedience to many kinds of rules, including those of ideal resonance. Our sense of hearing has degenerated to such an extent that an artist such as Max Neuhaus, who has devoted his efforts to sound and its spatial values, speaks of 'open terrain' and 'new territory' when describing his explorations beyond music and language. Max Neuhaus began performing in public as a drummer in 1954 at the age of fourteen. By the time his career as a solo percussionist was at its peak, following his work with Boulez, Stockhausen, and Cage in the '60s and all the concert hall experiments with everyday sounds, he was itching to put his own ideas into practice. Rather than have everyday sounds experienced in aesthetic contexts, on the contrary he wanted to guide the audience through the aural spaces of their immediate surroundings. As if determined to bring home to his 'listeners' their own faculty as 'resonance chambers,' ('mon corps entier, boîte à musique ou à langage, caisse de résonance, airain retentissant', Michel Serres, *Les cinq sens*, Paris, 1985, p. 146) he accompanied them for an event entitled *Listen* (1966) through areas of Manhattan which were particularly rich in sound and had distinctive aural characteristics.

Nearly ten years later, at Times Square, he created the first permanent acoustic space. A virtuoso work, of a kind. In the middle of the noisiest square in New York, Neuhaus put up an invisible space marked off by acoustic walls. Initially it is imperceptible because the sound enters its acoustic environment stealthily, an intruder in disguise, and is in any case cognate with

that environment, so that only gradually does it reveal its own extrinsic character. But those who locate that sound experience it as an acoustic threshold crossing into a clearly defined space which continually sounds across the years, day and night, without interruption. It is not something that happens. It is something that is. It exists. An invisible sculpture. Molded sound, precisely formed within defined limits. It was the first time that technology had made such an option possible, and the first time anyone had had the idea of using these media to such artistic and skillful effect. In a square where the noise level was low, the sound would drown out everything else: in Times Square it is barely perceptible. On the one hand it uses automobile and aircraft noises, and on the other it mixes in peaceful sounds such as tolling bells and organ music. The aural impression impacts most powerfully on the memory when you leave the acoustic space and it is suddenly absent.

Of course, Neuhaus is a formidable virtuoso: for example, in a sound installation in an open stairwell such as that in the Chicago Museum of Contemporary Art (1979), the sound altered in open space as you changed your position, acquiring different acoustic qualities – a technique that would baffle sound technicians and which cannot be measured. But the artistic quality of this work resides in the phenomenon of a sound-and-time space defining itself as something distinct and extrinsic within a given interior or exterior space. The use of sound compositions and acoustic reflections, verging on the magical, is solely a means to the end of establishing a new space created by the artistic, intuitive imagination.

Neuhaus does not in fact calculate his spaces. He trusts his ears. He tries it out on the spot till the sound is right and the space is right. At times, drawings may help define and place a particular area more precisely or sound out acoustic reflections. But a sound installation is never finally established on the basis of such drawings. Setting up the acoustic space is a matter of purely intuitive experimentation. Drawings and texts possess great significance as a reflective medium and are a constituent of Neuhaus's work in their own right. The drawings are done in graphite and colored pencils. The graphite pencil indicates the area and the colored pencil the sound. The way various acoustic qualities are juxtaposed like new walls beside existing walls or criss-cross the space like energy currents is simplicity itself. The drawings have none of the function of musical notation, in fact, but rather recall the tentative definition of electrical, nerve or brain impulses. Neuhaus distinguishes between the 'working-learning drawings' and the 'how-I-did-it drawings' – the proposals and the diptychs consisting of text and drawing. For Neuhaus, the diptychs constitute a vital establishment of dis-

tance, affording an overview of the work. For those who experience the work, they are a complex means of approaching it: what the text cannot express, the drawings fill in, and vice versa.

The diptychs of text and drawing sometimes operate as a kind of foreword: in advance, they preclude crass misunderstanding and, in restrained descriptive terms, prepare us for the experience – as at *documenta IX*, for instance, where the text accompanying *Three to One* drew attention to three distinct acoustic tonalities that could be heard in the stairwell of Kassel's AOK health insurance building (III, 66). But of course the texts are merely tangential to the essential, inexplicable, immeasurable core of the work: the mystery of a relative space.

Sounds from outside penetrate into the entrance hall and commingle with the recollection of that outside which we bring with us, in the inner car. The extrinsic sound is already there, but for most people it is not yet perceptible. As if in disguise, it makes its presence gradually felt as we approach the stairs running the height of the building. It becomes clearer and clearer, and becomes a certainty: a calm, full-bodied, vibrant note that seems to feel, to 'sound out,' the first floor landing with real precision. As we climb higher, some hear the sound at a lower pitch but in Neuhaus's terms it becomes more open while remaining as complex. On the second landing, the note fills the space up to the brim, making it seem greater than the space below. On the stairs to the third level, our ear is now so practised that we can indeed distinguish an acoustic threshold. The topmost space seems to expand as the two notes converge, seeming to become a whole open landscape of a space.

It is sheer prejudice, then, to suppose this work invisible. Acoustic installations create a new experience of space, one which is visual in nature too. The impression of an extrinsic sound and time is registered in a visual alteration of the space or even, in fact, in the recognition of an altogether new space. The given available space, be it man-made or natural, which is customarily represented in perspective, is not a norm; rather, it is a phenomenon in a state of flux. Max Raphael gave an unrivaled account of this when he wrote: 'Space is a general category. Everything that would be manifest as a phenomenon can only be such if it takes on spatial qualities. Thus it is not enough to say that space is the external manifestation of the form, since space is more than mere form, or at least not simply an abstract form entirely independent of its content; since things require manifestation that have no real presence in the environment and thus cannot be represented by environmental space either; and since space and time, though different, are inseparable.' (Max Raphael, *Raumgestaltungen*, Frankfurt, 1969, p. 62.) Examining the entire history of art, Max Raphael distinguishes the space of the

dreamworld, the space of the unconscious, in Hals or Velázquez; the space of transition from this world to the beyond in Tintoretto or Hugo van der Goes; the space of absolute being in the stained glass of Gothic cathedrals; the space of infinite emptiness, in the Egyptians; the space of infinite amplitude or fulfillment, of the soul's inner attunement, the space of contemplation in the Indians; the space of charged energy between this world and the beyond in El Greco; the space of this world's dissolution in Bosch; and, indeed, Raphael continues the list to include space of life, of death, of formal consciousness, of chaotic unconsciousness, of static being, of metamorphosis, and of transparency. Max Raphael concludes that 'anything that would be perceived by the external senses must take on that spatial (and temporal) form that accords with its own content.' (Ibid., pp. 62 and 63.)

In a series of works, Neuhaus has presented spaces identical in their contours, light values, and moods by using different sound installations: for example, the *Two Identical Rooms* (1989) for Harald Szeemann's exhibition in the Deichtorhallen in Hamburg, the startling virtuosity of which consisted not only in the different experience of the spaces but also in the fact that the sound did not issue from the wide entrance. One of the most striking spatial displacements Neuhaus has achieved was in the Karsten Greve Gallery in Cologne. In a tiny kitchenette that opened off a larger room, he located barely perceptible acoustic signals that would, strictly speaking, have been characteristic of vastly spacious halls and vaults. The eye saw a cramped cabinet space but the ear registered the large sounds and echoes we hear in a big space. The eye enjoyed a clear gain. But not for long. When you moved into the exhibition room, with its normal sound character unchanged, it suddenly seemed to have shrunk – the ear had established new relations, and the eye suffered a loss (III, 54).

To present something by the absence of the intrusion, to whet attention by removing an extrinsic sound, is the motif of the *Moment Pieces*, which are juxtaposed against the *Places*. We are all familiar with the phenomenon. An electric coffee grinder is loudly rattling away in a café, say, the sound unnoticed in the general noise of the café, and then suddenly the machine is switched off – and the cessation of the sound is experienced as an advent of silence. The café seems larger. We find our tête-à-tête more pleasant.

The Kunsthalle in Berne is situated on one of the busiest squares in the town. The noise of trams and cars provided a daily backdrop and setting for the extrinsic sound Neuhaus installed there. The title of the work was *Time Piece*, Kunsthalle Bern (1989). A few minutes before every hour and half hour, the note fades in, only to break off abruptly on the dot of the hour or half hour. That is to say: the work operates like a clock, marking time

by means of silence. What is more remarkable is the use of something that is merely there in order to point up its own absence: what counts is the aftermath of the sound. Most passers-by and museum-goers experience this similarly: the note itself exists in memory. When the note ceases, the auditory sense consciously registers that it has been perceiving something that is suddenly no longer there, and it hankers after the missing tone. In comparison with other aural installations which do consist of some kind of material – sound material, sound texture – the *Moment Pieces* are genuinely immaterial. The aftermath of the sound which the works prepare is an experience located in the hearer's own inner ear. In the aftermath, though, the place itself seems suddenly altered. The eye begins to seek what the ear now misses, and discovers the place anew in the process. The *Places* strangely exchange roles with the *Moment Pieces*. While the *Places* tend to throw us upon our sense of time and almost make us forget the place, the *Moment* or *Time Pieces* sharpen the attention we pay to the place and prompt us to a real experience of our own presence in a given place.

This dispensing with a definable something, this use of something purely as a preparation for the moment when it is removed, perhaps recalls the phenomenon of negative sculptures – as if the relativity of zero had been displaced, as Walter de Maria did in his *Vertical Kilometer of Earth* at the 1977 *documenta*. But Neuhaus himself, asked if he is consciously working with a philosophy that entails dispensing with images (in the broader sense), replies laconically, 'I'm just working with something and nothing.' (Max Neuhaus in an unpublished interview with the present writer, July 1992.) Observations Adorno made – such as 'Non-being in works of art is a constellation of being' (Theodor W. Adorno, *Ästhetische Theorie*, Frankfurt, 1973, p. 204) – or hair-splitting such as Cage's thoughts on the 'nothing in between' that 'is neither being nor nothingness' (John Cage, in Thomas Dreher, *Après John Cage: Zeit in der Kunst der sechziger Jahre – von Fluxus-Events zu interaktiven Multi-Monitor-Installationen* (catalogue), Munich, 1991, p. 61) – are foreign to Neuhaus.

Beside Cage's orientally-influenced view of a filled silence innocent of purpose, the peacefulness and contemplativeness of Neuhaus's works seem almost pragmatic. He is most certainly not innocent of purpose when he sends gallery-goers or passers-by into his sound and time spaces. The work he does on these entrances is of a sophisticated nature, aimed at making the work as powerful a subjective discovery as possible for every individual. He counts on the ear being closer to immediate perception than the eye. The tranquility and the spiritual energy manifest in his works are free of emotionalism and mysticism alike; rather, they are pure. They are islands in the prevailing barbarization and

banalization. Neuhaus himself calls his works 'catalysts', and it is true that they can open our ears to other registers of consciousness for the perception of small changes, of minute differences, of immeasurably slight displacements. This is the register of contemplation in a state of the highest alertness. And it is in this sense that the sound spaces initiate a catalytic process: in the sense of a catharsis that is no longer necessary in order to refine human kind, as in the classical understanding of the term, but rather has long since become a question of survival.

The route taken by Max Neuhaus through art and the exploration of sound finds its coherence when conceived in strict relation to the changing fortunes of 'sensation' – meaning all sense experience, including hearing – in the forms such experience has taken on since the sixties, through the dissolution of the conceptual closure of the arts that had allowed for the separate functioning of sculpture and painting, dance and theater, music and architecture. The breakdown of this closure led to a language system in which the parts mix and blend, always referring to each other and interacting to create a new artistic topology. The fall of the centers produced an upheaval in which the activities and territories of the individual arts expanded and intermingled, establishing harmonic relations that instituted an 'open-weave network' without any privileged element to orient the experience and give it a single sense. Sculptors from Morris to De Maria and dancers from Rainer to Forti, painters like Johns and Rauschenberg and musicians like Tudor, Cage and Neuhaus all met in this continuous interweave, where the performer – whether actor or spectator – could participate in the dialectic between the arts. The release from any center opened an infinite, unprecedented discourse, valorizing the ephemeral and the invisible, agitating the monotonous flow of differences, bringing on the rediscovery of 'sensation' in all its diversity. Indeed, from then on, sensory participation has acquired a new dimension with respect to action and thought, according it greater power or at least a privileged place by comparison to the cognitive and practical fields.

The change can be confirmed today in the expenditure of aesthetic energies that human beings must invest to absorb everything that happens around them. The expansion of sensory information, pressing around the senses, designates the territory of the individual and the collectivity. Each person, directly or indirectly, lives a condition where the project of communicating revolves around a diffuse aesthetics, whose essential rapport with sensation and pleasure was demonstrated by Marcuse.

An aesthetics understood as the philosophy of pleasure tends to underline the relation of sensory participation between beings and objects. A critical rapport is established between the two, assuming diverse forms depending on the characteristics attributed to the subject. Hearing, and perception in general, never escape the individual's capacity for distinction. In 1966, with *Listen*, Max Neuhaus based his particular kind of music on a new relation of sensibility between sound and subject, engaging

himself and his listeners in the search for an aesthetic dimension of the aural, based on a critical and pleasurable consideration of urban noises. He invited his listeners to the streets of Manhattan and set them free to take possession of their own hearing. The parameters of the operation were double: on one hand, it clearly demonstrated that the subject is the fulcrum for the existence of musical pleasure; on the other, it stressed that in the wake of musical events from Russolo to John Cage, music could acquire an anonymous, impersonal, socialized dimension, which demands only to be found and retraced. It's a dialogue between hearing and the already heard, where human beings find themselves at the center of an aural pleasure or pain (and Manhattan in its richness presents both extremes) in which it is necessary to orient oneself, to find references that are either proportional to one's own sensibility or that stretch toward the dissolution of one's identity as a subject. In this sense Neuhaus' work has from the very beginning been contrary to the neo-classical ideal of harmony, of conciliation of opposites and resolution of all conflicts. Rather it moves in the ambit of pleasure defined by the historic avant-gardes, the sphere of 'difference' and 'confrontation', where the subject exists but disappears, such that pleasure prevails over reason.

Since 1966 his activity, following certain situationist and minimalist trends, has been turned toward the search for occasions: unique contextual events permitting the realization of a sonority that extends its field to a public and intersubjective process, analogous to the process-nature of other activities. To speak of 'occasions' here means leaving behind the rigidly prescriptive territory of music and hunting for unknown and unpredictable situations where the sounds can rise up and come to life, proliferate and die. The occasion is a mental opening, outside the schemata of music's traditional horizons. This is like an artist who finds a ready-made and manipulates it, provoking an incandescence of meaning that makes the object crackle under the gaze. Neuhaus does the same when he draws sound and its surroundings out from obscurity and silence. He sharpens one's vision of an underground space no less than its aural perception; he provokes an opening in the circle of sensation. Thus 'occasion' does not mean casual chance, but the determined search for a target that presents itself to sight and hearing, as a sudden and unexpected clarity.

The occasion denies the interchangeability of situations. Neuhaus projects and adapts himself in relation to the unrepeatability of each space and time, just as it is found or offered. Invited by the Albright-Knox Gallery of Buffalo in 1967, he took as the basis of his work *Drive-in Music* (II, 16) the virtual 'corridor' beginning at the entrance of the museum and developing over

approximately one-half mile along Lincoln Parkway. The work consisted of a number of radio transmitters placed along the entire stretch of road and heard by drivers and their passengers over the car's radio, who could change their perception by altering the speed of their vehicles. The subject here is a passage: either of sound emerging from nowhere, or of an aural tunnel causing a sonic architecture to appear as an extension from the real building (the museum), or of the driver/passengers who effect an interchange, or of the celebration of a circumstance or an occasion, which passes and disappears.

The occasional sound is seductive because it is connected to a perceptual surprise – in the literal sense of something that grips you suddenly, without warning – and a temporary intoxication. It is almost a subtle nervous jolt coursing through the body, an overload of perception that runs from the ear to the nervous system. The pleasure or trauma of shock or discovery and the exceptional qualities this implies were sought by Neuhaus in his 'underwater works', a series begun in 1971. Here the upsurge of the exceptional in the linear process of silence and sound was confided to the listeners, who were invited to immerse themselves and actually swim in a pool brimful with water, at New York University. Discovered through the immersion in the pool, the unexpected character of the sound from *Water Whistle* (II, 20) broke through the everyday context with a marvelous event, something seductive and magical: 'The whistle completely surrounded you with sound. Because of the way the forehead transmits sound waves to the ears underwater, you almost felt as if the sources were inside you. It was an all-encompassing sensation' (Max Neuhaus, quoted by Carter Ratcliff, 'Aural Spaces', *Art in America*, October 1987). The aural structure was based on a grid of sound sources around a limited perimeter, each swimmer being invited to seek out his or her own sonic pattern without any pre-established schema. Such a sound quest thrives on the occasion provided by the architectonic territory – the pool – as well as on the occasion and chances of the swimmer's movements.

All Neuhaus' work is as elaborately formed as it is extremely occasional, because it presupposes the reality and diversity of beings and things: 'Underwater listening isn't supposed to be stationary and yet it's not athletic. Swimming temperature is lower than listening temperature, so the pool had to be warmer than normal. There was the effort of getting undressed and putting on a bathing suit, which is a nuisance, though a clear sign that you weren't going to a concert'. (*Ibid.*)

The definition of Neuhaus' work seems to satisfy the demand for an art that is less culturally solemn and less hallowed by tradition, an art that has the expository and spectacular dimen-

sions of a culture of channel-hopping or 'zapping' which makes it so easy to enter or exit a source of information, in an all-pervading and yet democratic process. Such an art is founded on a dialogue that leaves the listener free to move or have adventures within a terrain, but also to exit or dissolve it. One can plunge into it or emerge from it, open a dialogue with it or remain outside. What counts, then, is movement, coming and going, which creates the experience and the consciousness of sound. Thus for Neuhaus the work is passing through sound to dissolve it or empty it of all metaphysical significance, in the attempt to bring art to the dimension of a real language that speaks with us and through us.

But if this art issues forth from architecture or from the city, it appears unexpectedly, in such a way as to make the passerby's senses gravitate toward its existence. In 1977 Neuhaus constructed his first permanent piece of sonic architecture. In the middle of Times Square in New York, he built a sound volume defined by sonic walls bordering the ventilation grillwork of the subway. Although immaterial, the construction aimed at permanence, seeking to create an aural space cut out from the noise generated by the traffic. With its constructive idea, the work is meant to face and overcome the challenge posed by the destructive aspect of the city. It fights on the same terrain but produces 'difference', cutting through the chaotic transmission of urban sounds with a carefully designed and elaborated sound that can be received by any city dweller. Instead of a decor, Neuhaus' work is a ceremony. The complex of sounds does not resonate distinctly in the ear, it does not shine or excel, press up or jump free, in order to mark a distinction from other sounds. Instead these sounds simply exist, they adapt and relate to the others, they are only an occasion for listening. In fact they are deduced from the environment, built through the use of a computer-controlled sound palette, an instrument that Neuhaus employs to model the physical structure of real sound, to modify and develop it such that his sound is finally different from the real one. Thus the computer is not used to generate new sounds, but to mould reality, which nonetheless remains similar to itself.

Sound continued to radiate forth, from the garden of the Museum of Modern Art in New York in 1978 and in the stairway of the Museum of Contemporary Art in Chicago in 1979. In both works the sonic pattern acquired volume, quality and intensity of timbre according to the position of the listener in the garden or on the various levels of the stairway. At times the integration of sound and place reached a point of maximum identity between space and volume, level and surface, such that a continuous sound texture could construct a wall or define a passageway.

In other cases, the anti-metaphysical approach leads to a sound

that is 'fitting' to the social dimension, a design that results in a 'true' sound, one that serves society, adjusting to it and becoming a usable innovation, beyond its aesthetic and sensory quality. Still in 1979, Neuhaus adjusted the alarm clock to the sensibility of the sleeper who wants to wake up at a certain time. He designed a sound that does not disturb sleep, but whose disappearance and subliminal absence strike the sleeper and bring about awakening. What counts here is not the form or presence of the sound, but its efficacy.

This work is not a decor, but a ceremony (from *carimonia*, which in turn comes from *careo* = to lack, be deprived). It is a way of differing from the tradition. Not fullness of sound, then, but lack or movement in the interval between fullness and emptiness. The first in the series of *Time Pieces*, realized in 1983 on the occasion of the Whitney Biennial in New York, operated precisely on the discovery of the sound work in its absence. Constructed in a sunken plaza in front of the Whitney Museum, the piece consisted of a subtle 'crescendo' of live urban sounds and noises, filtered once again through the computer-controlled sound palette: moving automobiles, horns, squealing brakes, motors revving up and accelerating, in short an ensemble of sonic information from Madison Avenue, the street that fronts the museum. The crescendo dispersed into the real sounds, but when it disappeared it revealed its presence, offering new occasions to perceive the city.

Neuhaus' aural ceremonies designate a ritual of sound, a vision of the outside as a mode of being, able to produce spaces and moments that can be integrated into the fabric of city life, but that are completely different from it, wholly other. In 1988, at the Parc de la Villette in Paris, Neuhaus proposed 'a sound to create a silence. La Villette is noisy. The périphérique, Paris' beltway, runs nearby, so this time the piece would have to be quite loud before it shuts off. But I want the timbre to soften as the volume grows, which means that, in a way, the sound will be getting louder and quieter at the same time'. (Ibid.) Of course the capacity for an encounter/confrontation consists in an ability to harmonize with the opportunities offered by the environment. This sometimes means moving in relation to the rhythms of bureaucratic ceremony, as in the case of the proposal for a sonic redefinition of two hundred meters of the Montparnasse-Bienvenue station of the Paris Métro, based on a dialogue from 1973 to 1987 with the Régie Autonome des Transports Parisiens (RATP). Another such case: the 1978–1989 project for new siren sounds for police cars.

If one intertwines the ceremony undergone by Neuhaus and the ceremony undergone by the members of the public who circulate within the aural installations, it can then be confirmed that both operations are instruments of initiation, an almost hermeneutic

proposal in which the author and the listeners are called upon to modify or transform themselves. With his work on sound, Neuhaus attempts a transition from one condition to another, excluding competition or imposition in favor of a perceptual opening for himself and others. The artist is both initiated and initiator, and both lose and rediscover themselves in the process. Thus the installations often take the form of a tunnel or of ascending levels, like *Sound Line* (1988) at the Magasin de Grenoble, which consisted in the creation of a 2x60 meter sonic space, crossed by natural sounds so as almost to form part of the forest; or like the permanent work *Three to One* (1992) inaugurated at Documenta IX in Kassel, where the empty interior of an office building with its system of stairways was filled with three different tonalities of sound. The strict determination of the sonic spaces and of their diverse perceptions introduces another level of reading, giving the impetus to an aural mentality that renders all the determinations fluid, ambiguous and uncertain. Thus Neuhaus succeeds in uniting a definite rule with the most pragmatic and sensory interpretation. Intertwining the absolute and the indeterminate, he constructs a veritable labyrinth, rich and suggestive, where everyone can lose themselves, let themselves be charmed, and open their own path to initiation. It is an intermediate sound which you pass through, to hear and sense yourself.

For many years the phenomenological description of the entire process, based on an osmosis between the real world and the sonic one, relied only on the preliminary sketches and on an account of the listener's experience. But around 1974, Neuhaus made the decision to confide a 'de-monstration' of the work to drawing. The hypothesis was that of attempting an exhibition or visual explication of the interpretation, from one language to another. The action of making visible, which has a hermeneutic aim, has also become a proof of an 'already activated' operativity or effectiveness; it is the a posteriori assertion of an experience. Indeed, operating on the discovery of a sonic theme or an aural contextuality which always has to be found in situ because it always depends on the place or the environment, Neuhaus cannot design – and therefore cannot draw – a priori. The drawings are a non-verbal materialization of an aural installation which has already taken place, or which in other cases has been thoroughly explored but not realized. In contrast to the direct sensation of the work, these drawings go beyond immediate perception, reintroducing the metaphysical aspect.

But the drawings are of different natures. The rougher, hand-worked variety serve to 'announce' the aural installation or construction, in the sense that they define a potential topography for the sound-paths; they are a formal jottings, almost sketches or

notes, which record developments in technique without actually defining the piece. The most detailed and constructed drawings, however, are those constructed a posteriori, after the work has been put into place. Instead of being turned toward the technical and operative dimension, the interpretative effort is here directed to the communicative dimension. It operates through a complex semanticization of signs, which are distinguished by the colors, the tracing in lead pencil, the trajectories and undulations of the lines, setting up a visual exchange between image, sound and architecture.

Being an instrument for the 'disclosure' of the project, the drawings emphasize the two primary components or mainstays of Neuhaus' approach: architecture and the experience of sound. The first is conveyed through the medium of a traditional technical drawing, an architectural study, and serves to introduce the context in a cold and impersonal manner. The second, on the contrary, is often 'narrated', translated into words, written in Neuhaus' own hand. Halfway between the two is the sound or the sonic topography. This constitutes the essence of the work, but translated into drawing; it is made manifest with color, from black pencil to yellow, blue and red pastels, the primary colors. In the drawing *Times Square* (III, 20), the sonic construction, forming a block, is defined by the solar sign of yellow, while the reverberation, which touches the urban structure, becomes red. In this sense, color functions as an architectonic code, serving to construct the unreal city (the one in color) in its distinction from the real city (sketched in black).

Sometimes the drawing is a landscape, excluding architecture and plunging into the green of parks. It traces trees and meadows, to define and unveil a sequence of clicks, as in the drawings from the work in *documenta VI* (III, 18) and in *River Grove in Aspen, Colorado* (III, 50), which create a second forest of sound. Elsewhere, when the space is an art gallery, as in the drawing from the work in the Bell Gallery at Brown University, Rhode Island (III, 32), the walls are markedly empty, to evidence the absence whereby the sound/void cuts into the walls and forms a moving sonic band. Faced with the need to disclose the complexity of the three sound sources in the work for the Basel Kunsthalle, the drawing (III, 38) operates by a plenitude of color: the noises coming from above through the skylight, like water, are indicated in blue, while those from the heating unit are in red, and those from the unjointed flooring are yellow. Neuhaus filters all these and adds another level of sound, whereby the aural reality of the museum space 'resounds' by itself.

The drawings concern a rediscovered sound; they are Proustian pages of sonorous memory. They redirect to the eye what was or will be for the ears. They aspire to bring back an

intoxication of which there is no record, except in the account of its author. They are paper leaves plucked from history, with the aim of constructing a topography of events and tales, sometimes absolute and rational, sometimes romantic and programmatic, speaking of the decline of the great cities and the evanescence of all things. They take on the significance of a voyage in the style of Walter Benjamin or Thomas Mann, where words are replaced by sound. Following their lines and perceiving their masses of color, one is pulled into a vortex of events forming a sonic constellation, indispensable for understanding the history of an interweaving of contemporary music and the plastic arts.

Conversation with Ulrich Loock

I

Loock: Consider the piece you just finished in the Persano Gallery (II, 36; III, 62), which is different from most pieces you've done previously but relates to the one you did in Paris (III, 46).

Neuhaus: I think the basic idea of an elusive source of sound separates it from a large body of my work. It's a phrase of click-like sounds which gradually rise in pitch and accelerate and decelerate. It forms an endless pattern. The source of the sound when you walk in the space appears from the back wall; as you move towards the wall it disappears. As you walk around the room, in many places you can't hear it at all. This idea of actively seeking the source in this piece and also in the Paris work, I think, is one of the major differences.

Loock: And the sound you are using for this piece, you describe it as a click-like sound. Do you have a specific reason for using this particular sound idea for this structure?

Neuhaus: Although in some contexts this sound can relate to sounds which might be expected, in this context it's a completely abstract sound. It's not unnatural, it doesn't sound artificial; but it doesn't sound like anything definite either. You might say it sounds like a snap of your finger, but it's really free of literal connotations. In a practical sense it works very well in terms of projecting sound; in a technical sense it's useful.

Loock: So in this case you didn't take up sound from the environment, because that as I understand is another entrance or another starting point for sound installations you've done.

Neuhaus: Yes. Here it's because it's a gallery; people are deliberately going in to hear the work. It is different than putting it anonymously in a public place; the idea of finding it is a different one. They already know there is a piece there. Beginning this game of hunting in a gallery or a museum is very much different than beginning it in the street.

Loock: I propose that we try to compare this idea and the experience of the work you describe by the term 'elusive sources' to other works you have done recently, to try to situate it in the body of work you call sound installations or sound works, in order to find out what the different possibilities or means are that you've been using. There are three pieces you've developed recently which you call 'Like Spaces', each using several spaces which look similar but have different sounds.

Neuhaus: Exactly. It's working with the idea that the rooms are visually or physically either identical or very much alike and transforming them into very different places by using sound.

The first one, *Two Identical Rooms* (1989 (III, 56)), which was done in Hamburg, takes two wings of a very large exhibition space and treats them with sound textures which are opposite in nature. One on one side is like a fluid; it envelops you when you walk into the space. The other is a texture of very dense clicks which seems to be suspended over your head when you walk into the space. Both sounds are at levels which demand that you focus when you walk into the space. When you first enter these spaces, you see nothing and you hear nothing; after a few seconds through searching, your aural focus shifts and you realize you're in one of these textures. This work was in the context of the visual exhibition, two empty spaces adjoining other spaces which were highly charged with objects.

The next one of these works took the idea to its extreme. It was called *Two Sides of the 'Same' Room* (Dallas, 1990 (II, 34; III, 58)). I took one room, placed a wall down its center dividing it into two spaces and then placed a different sounds on each side. These sounds sounded identical, though, quite unlike Hamburg where the sounds were clearly different. The difference between the two spaces happened only after you spent a little time in each; each side evoked a completely different frame of mind even though they sounded identical. One sound evoked a feeling of openness, the other a tight and constricted feeling – taking one room and using sound to turn it into two places which are opposite yet sounded the same.

The third of these pieces is the permanent one in Giorgio Persano's Gallery in Torino (III, 60). It takes three spaces which are visually similar, not absolutely identical, and makes them into three different spaces using only two sounds. The rooms are in a row with two connecting doorways; each of the rooms on the ends has only one sound, and the room in the middle has both those sounds mixed together. The mixture isn't separable into its two parts; it forms a third space. Here the sounds were not as soft as in Dallas or in Hamburg, but they still demanded a shift in focus.

Loock: It seems to me that these three pieces make very clear the difference between what you do to the space and what is spatially given in terms of a site. You have two identical spaces given, architectural givens. You alter them by putting in different sounds, creating different sound environments which make the experience in each indeed very different. On the other hand, one knows very clearly that the spaces are the same.

Neuhaus: Yes. One of my premises is that although we perceive space visually we also perceive it through our ears; and even though we don't talk and think so much about how we perceive it aurally, it's a dimension which is as powerful as the visual, but less conscious. Sound is my choice of a means of communication

with people, with mind. It's free of cultural baggage, the overload of information that we have visually; it's almost a fresh territory.

II

Loock: Your sound works in general cannot be experienced outside of the space where they exist. They cannot be recorded; they're not only aural experience, they are connected to a certain given space. But on the other hand I think they are not site specific. This is an interesting contradiction in a way, don't you think so?

Neuhaus: I do, yes. People's first assumption usually is that they are some kind of new form of music. In fact they differ in two principal ways from music. One is that they're not a succession of sound events in time, which is one of the basic definitions of music: a series of sound events that progress from one to the other, and that draws a line in time.

The other difference is that the sound is not the work; the sound is the material that I make the place out of, that I transform the space into a place with. So recording this material is as silly as taking the paint off the canvas and thinking it's still the painting.

Loock: So these works are not about the experience of the space or of the architecture itself; they are not about, say, any institutional or cultural implications of the space you're using and which they're not to be divided from. But what they are doing is forming a place of their own.

Neuhaus: Indeed. The social context, the physical context, the architectural context, the acoustical context are my building blocks; they're my bricks and mortar. That isn't to say they determine what I build, but they are what I build with. They're the foundation I build something on.

Loock: Maybe we can even say that what happens to a perceiver of a work of yours is a certain change of perception. I think back to the Hamburg work. As you said, you walk into an empty space, and it's in the context of a visual art show; and you're in the section of, say, the minimalist and site specific artists who are in the same show. The space of Rabinowitch, for instance, looked almost as empty as your space; and then you detect the circles that have been cut into the plaster of the walls. They change the whole spatial situation; they kind of dislocate your body in relation to the walls and so on and so forth. I think they're strongly about a bodily experience.

And entering one of your rooms you might expect a similar work; but then I think the idea is very important that your work is hardly audible at all, at first at least. Then you are concentrating so much on the sound texture, on the auditive given, that your perception changes from a visual perception to an aural one, which means that the place that is created by perceiving your

work takes you in a way out of the actual architectural space you're entering.

Neuhaus: Most of us are visually oriented, so that shift from visual to aural in itself is a removal; it's a mover.

Loock: It's a mover to another level of experience, to another type of experience, because the experience is not just the spiritual experience, it's definitely a perceptual experience in your work.

Neuhaus: But my goal, I think, as an artist is communication with the spirit; and what we are talking about is my means in 1990 of managing to do this. We live in a time where it's harder to make this communication; the routes are overused, the paths more disguised.

III

Loock: Let's try to talk about the different notions of the experience of place your works are proposing, because I think that in the different works you've done the notion of the form or shape of the place you're creating is quite different. If we go back to earlier sound installations, I think the idea of a topography is prominent.

Neuhaus: Yes, the idea of an aural topography.

Loock: Aural topography which means a defining of points or marks like landmarks or ...

Neuhaus: ... a terrain ...

Loock: ... a terrain, or what is superimposed on a given extension of terrain or superimposed on a space that is given. So these earlier works create places by defining certain points or areas ...

Neuhaus: ... or features ...

Loock: ... features where this sound is audible ...

Neuhaus: ... or where different kinds of sounds are next to other kinds of sounds. The idea of sound having a physical shape is not something we experience in our everyday life. We are used to sound being uniformly dispersed. You can even hear it around the corner. Discovering that a sound can have a shape in a room is already a step into this other dimension. But these three works we've talked about are spaces without terrain; they are spaces which are consistent throughout.

Loock: Yes, that's a different type of work. I was referring to earlier works like already the very earliest ones, like *Drive-in Music* (II, 16).

Neuhaus: Yes, that was the first definition of an aural topography.

Loock: But then other works, like the one you did for Documenta in 1977 (III, 18) or the one you did for MoMA in 1978 (III, 22), all of them work with the idea of creating certain aural spaces, even cutting them out of a spatial continuum.

Neuhaus: Documenta in a different way. But very much so in the case of the MoMA work where the sound itself was inaudible; what was audible was its effect on other sounds. It was a terrain of an inaudible sound which modified all the existing audible sounds.

Loock: So your work there would emphasize or recolor or highlight certain sounds.

Neuhaus: Yes, recolor the everyday sounds in these invisible, almost physical pockets.

Loock: I just want to emphasize the point that these works are places, patches, pockets, and changes in physical sounds that are superimposed on a larger space. I think this type of work can be differentiated from other works where the sound would completely fill the space, where you don't have this kind of punctuation which exists in the earlier works.

Neuhaus: In the non-topological works, it's making a smooth texture, a fluid which envelops one in the space. It's not about differentiating parts of the space; it's about building a uniform space.

Loock: Yes, and I think that this already triggers an experience which is very different from the one of different points in a space or of different patches or pockets. Here you are more of an observer, while in the other works that fill the space or recolor all of the auditive environment you're immersed in this space. You're enveloped; you're not in front of the piece in the same way.

Neuhaus: Exactly. But in the three works we talked about earlier we have more than one space; so although you're enveloped in each part of it, you're still an observer in that you can go from one part to the other. You juxtapose the two, you see the difference, you examine, you compare.

Loock: What about the piece you did at the ARC in Paris (III, 36)?

Neuhaus: That's a good point. The conception of that work came from my feeling, a physical feeling in that space before I started to work, that it demanded a fine screen of almost inaudible sound throughout it.

Loock: All through the space.

Neuhaus: Yes, this mesh of sound that shouldn't be different, that should be fine and even.

Loock: It seems to me that the most recent work you did here in Milano connects to a piece like the one at the ARC at least in the sense that you're enveloped.

Neuhaus: No, in ARC you're immersed in an almost inaudible sound.

Loock: But at least in Milano there are not clearly defined sound events taking place in the space.

Neuhaus: Or sound features. Yes and no. I think it's a different category of idea, that the source is elusive instead of enveloping; it evades you. The sound is always putting you in a position of seeking it; it's not surrounding you. You don't walk into it; it's the opposite in a way. By putting you in the mode of seeking it, it removes you the most from the place. Your attention becomes focused on following your ear, and the walls just become points where you can't move any further. It removes you from the space more than any other form.

IV

Loock: You've brought up the idea of elusive sources; we've also talked about a notion of elusive terrains in relation to this work. And it seems to me that the major difference to other works is that the topography of this work isn't static but seems to be shifting or dynamic. You're not able to identify clearly certain places in a space, sound places in a space.

Neuhaus: You can't find them, can't go back to them.

Loock: You're moving around without ever mapping out the thing it is. What is elusive is not really the sound source; that is not so interesting. But the definite shape of the sound place is elusive.

Neuhaus: Exactly. The terrain is shifting.

Loock: So this is the work. It seems to me that it's most radical in dissolving the urge to identify features of a place. It's most demanding by taking away the possibility of definite orientation, of having fixed points.

Neuhaus: It puts you up in the air. It destroys the stability of the space even though it's in a room made out of stone. You're off the ground.

Loock: One cannot even say it blurs contours; that wouldn't be right. It shifts contours; it continuously shifts points of orientation. Put differently, this is a piece that makes you walk around trying to find specific points which might be the source, the sound source; and you do not find it. So it's not about blurring the contours, but it's about being involved in a space that is without the possibility of finding a standpoint. There is nothing firm, and what is perceptually shifting continuously are the points of reference.

Neuhaus: Yes.

Loock: And would you agree that this makes a difference in relation to earlier works?

Neuhaus: I guess so. But, you know, being the maker is a very different perspective than being the perceiver. You're standing on the other side of the mirror; everything is the opposite.

It's difficult for me to look back at the works and see them as a whole. I see them as individual entities which keep jumping out of

any structure. I find that as soon as I put a structure on it the next work I make is, almost by definition, outside of the structure which I have defined. The elusive source idea came after I started articulating a lot about topographies.

V

Loock: Usually your works are produced and perceived in the context of the visual arts, so I'd like to talk in a more general way about the implications of switching from the visual to the aural.

Neuhaus: Most people assume we perceive the plastic arts with our eyes, and what I'm saying is we perceive space with our ears as well; and in fact they are my chosen channel. We live in a world that demands that I function in some existing category, and the one that relates most directly to these works is plastic art.

Loock: Still I should like to ask you if you have any specific ideas about essential differences between visual perception and visual orientation in the world and aural perception and aural orientation in the world.

Neuhaus: I personally perceive the world aurally rather than visually. I recognize voices before faces; I can know who's on the phone before I know them face to face, and many times I don't recognize people face to face until I hear the voice.

We know that the aural and the visual are complementary perceptual systems. Ear is complementary to eye; each one fills in the holes of the other. People say that since the invention of the printing press we've become more and more visually oriented. Before that, history was aural. If we go back to very early man, survival depended in many cases more on the aural than the visual; in a forest we could hear danger further than we could see it. We've turned ourselves over in some way; still our ear/mind is by no means in a state of atrophy.

The fact that we speak and understand language, and understand not only language but a tonal language superimposed on the verbal one, not only this tonal language but that we can distinguish the difference in origin of a person from the way he speaks – these are levels of nuance that still can't be analyzed by computer science; we can't measure them. We can hear the difference between two people who come from two towns which are forty miles apart. This is an incredibly fine facility. It is largely unconscious. We think about our eyes, we think about what we see; but most of us while listening to someone talk don't realize we're hearing.

Loock: Right. And I'm quite sure that you're using sound, without meaning it in a pejorative way, you're using something which is below the level of linguistic articulation.

Neuhaus: Outside of that level.

Loock: I think the visual sense has much more to do with

identifying things, with making things worthwhile or grasping things, while hearing doesn't identify in the same way. It is not so much about objects; it seems more about events. It doesn't seem to work in the same way towards identification.

Neuhaus: Working with sound by definition makes what I do intangible, which is a good place to start if one is trying to talk to the spirit.

Loock: I think that is a very important point. The visual has a tendency to make things tangible. And probably this shift of the visual, this historic shift of the visual, has to do with the development of society, with the development of means of production. The aural is not as useful at manipulating things, objects, goods.

Neuhaus: It can change things radically even though it's immaterial.

Loock: You can hear things you cannot see.

Neuhaus: You can grasp the thing that is making the sound, but you cannot grasp the sound.

Loock: And so already our senses are different. For instance, you can move your eyes; you can focus very easily.

Neuhaus: Physically you can focus your eye; you focus your ear with your mind.

Loock: In a way you focus; but for instance you cannot close your ears, not in the same way you can close your eyes. You cannot open your ears in the same way you can open your eyes. So the ear seems to be a medium, a sensual medium, which has to do more with situations, with being somewhere, with being in a situation and not so much with selecting, with grasping and making things tangible.

Neuhaus: It's also a more direct channel to the unconscious, I think.

Loock: And then there is another thing which you pointed to before – the aural is culturally not as loaded as the visual. The aural seems to be freer of cultural baggage, of cultural definitions.

Neuhaus: I think it is. Cultures develop this very codified sound language called music. We also develop spoken language, this means of articulating ideas, which uses the ear but it has other dimensions. Once you move outside these two aural areas, there is a huge expanse of free territory.

Also what goes in the ear is never fixed; if we write it down on paper it is fixed. What goes in the ear is constantly influenced by its past, its future, its current need.

VI

Loock: Maybe at this point it is possible to talk about the difference of your artistic practice to music. You come from the field of music; and probably your work has developed in relation to things we all know about, John Cage's works, say, which most of the time are situated in the context of music. You don't situate yourself in this context. So what would be the difference of your sound work in relation to music?

Neuhaus: I think there are these two points I mentioned earlier. One, I don't make sound events in time; I don't make a series of sound events in time, which progress in time. You don't come to a sound work of mine at the beginning and leave at the end; that is a basic definition of music.

But the most important point is that in music the sound is the work and in what I do the sound is the means of making the work, the means of transforming space into place.

Loock: Think of this famous piece of Cage's, this silence where he invited the public for a performance and opened the window and didn't perform at all.

Neuhaus: There are a couple of pieces. In one, 4' 33", the pianist comes in, opens up the cover of the keyboard, sits for four minutes and thirty three seconds without playing, and then closes the cover. I feel it's about the sounds of the concert hall itself and its audience.

But there are other works of Cage's which are about bringing the outside sound into the context of the concert hall. As a performer I discovered Cage when I started going to the conservatory, when I was nineteen. And I felt that the idea or the result of having a concert audience sitting in a hall and bringing sounds from the outside in fact didn't open up their ears. Contemporary music society only saw these works as a scandalous thing to do, esthetically scandalous.

And this wasn't my interest; my interest was to refocus and I think Cage's original interest too was to refocus attention on sounds that we live with every day. I felt that perhaps the way to do this was not to bring the sounds in but to take the people out. I began this series of works where I stamped the word 'Listen' on people's palms and took them for a walk, focusing my own attention so intensively on what I was hearing that it became contagious. People caught this disease of mine and in fact did change the way they heard.

Loock: I think it can be said that this practice of Cage's is basically a practice of transfiguration of the commonplace, of taking everyday sounds and transposing them into another context, and changing the perception of the sound. And indeed, I think your works that come after *Listen* are different. You are using sounds to create a place that is then completely, almost

absolutely separated from the everyday experience. It's not so much a transfiguration of the common, but creating a completely different experience of being somewhere.

Neuhaus: Indeed.

Loock: Your basic definition of music was that it was a putting in line, a phrasing of a number of tones, sounds, and sound events. And now the sound structure of your most recent piece at the Persano Gallery in Milano does in fact use a certain phrasing of sound events. So how does that still distinguish your work from music?

Neuhaus: It's another nice contradiction, but again we go back to saying that this series of sound events in time is not the work. It's the chase of this series of clicks in time. Also the nature of its phrase – I've defined it by writing the program which produces it, which causes it to develop endlessly, to never repeat itself, to continually change, to evolve. So it's a written statement of idea but it's also embodied in a dynamic way, because these written phrases which tell the computer what to do make it real. A dynamic embodiment of idea rather than a paper embodiment, although it's still done on a typewriter. But what is contradictory to music – which is finite, which has a beginning and development, many times a recapitulation, and an end – is that this line is endless. You think it's gone as far as it can go, and it just keeps going.

Loock: And that of course helps the intention of creating an experience of place, of a very elusive place.

Neuhaus: It's the current that leads you through this place.

VII

Loock: In the case of the presentation of the work you did in the Persano Gallery in Torino, you showed alongside the work two drawings outlining the structure of this aural work. Isn't it contradictory on the one hand to propose an experience of place that you can only have by being in this space and having the aural experience, and on the other hand to show drawings which give you definitions of this sound work?

Neuhaus: Well, first of all it's not two drawings; it's a diptych which consists of an image and a text, two panels. The text and the image function together; sometimes the text talks about the image, and sometimes the image talks about the text. One of the ideas about the text is to place people at a point where they can find their way into the work, to make it clear to them that they're not going to listen to a piece of music, that they don't have to get there at a certain time, that there are sounds which they may not hear at first. In Hamburg I used the text as a label for the work: without it, most people coming into that exhibition would have walked into my spaces and thought it was a conceptual work

about an empty room, so the text has an important role in that respect. Ironically, it's only within a cultural context that this problem exists. It's not important when you find a piece on the street like *Times Square*, because there are no expectations, no preconceptions of what it will be.

There is also a discrepancy in discrimination between the aural and the visual in the art context, which has to be overcome. I was struck by the fact that in the same exhibition in Hamburg were fifteen or twenty white paintings of Bob Ryman's. It never occurred to anybody that one would have to point out to a public that these were paintings, not blank canvases.

Besides, I think that life is not quite so simple. We not only experience things, but it is inevitable that we think about them, we talk about them; and the discussion, the intellectual dimension of something, the articulatable dimension of something, doesn't necessarily preclude the experiential dimension.

The drawings are never shown inside the work; they're always outside of it. If people's curiosity or their way of approaching things is through a publication, there is nothing to stop that. It's making another dimension of the work available for people.

Loock: So it's more about the level of reflection, like now we are trying to reflect on your work and taking it to the level of linguistic consciousness. It would be a key to that.

Neuhaus: Yes. It's also another articulation of the idea. The work itself is experiential; but the idea can be articulated in other terms, it shows other sides. There are things I want to say; and in a way I'm very lucky because the work itself can't be captured, it can't be reproduced, it can't be photographed. I'm free of many of the dilemmas of the visual artist.

By choosing the language of drawing as another means of articulating the idea, I go into another territory, separate from the experiential part of the work.

There are also other kinds of drawings besides these diptychs. In the process of making a work there are many times where in order to explain what's going on in the space, to keep track of elements or features which I'm manipulating when I'm making a work, much of this ends up on paper; and those papers form some of the history of the process.

At other times I draw to propose a large scale work. Because the works are intangible, they can't be modeled and are also free of the market a model makes. On one hand I'm free of it; on the other hand I have a burden of delivering an idea in a form that can be grasped by people who make decisions about large sums of money. It's much more powerful to make a visual statement about that idea, to use the language of drawing not to try to make a model out of the idea, but to articulate it in some other way which doesn't contaminate the idea.

Loock: In your work there are two levels in a way. One is one of experience; and the other one is to think about this experience or to make this experience into something which is conscious and not just overwhelming. So I think on this level the drawings also have their function as well as a talk or a writing in relation to your work.

On the other hand it is true that in your work there exists a strong notion of anonymity and of proposing an aural experience which is not to be identified. I am referring to some public works which are not labeled at all or just very marginally; for instance, the Times Square piece which has been anonymous and unexplained at the site at least for more than ten years now.

Neuhaus: Fourteen. Most people don't realize that I had to fight to keep the Times Square piece anonymous. The people who sponsored it just thought it was an eccentric artistic whim that I didn't want a brass plaque embedded in the sidewalk. They certainly did.

Whether or not I make a work anonymous has to do with the context. I mean, not all my works are anonymous. In this case it has to do with keeping the piece as much of an anomaly in that place now, as it was in 1977.

We mentioned this idea of doorway before. Its anonymity is one of the main doorways, the entrance to this work, the dilemma of having no way to explain this sound. At first thinking it almost could be an accident, but it doesn't sound like an accident, but there is no other explanation.

Loock: Right. I also think it keeps the work as far as possible away from cultural appropriation; at least it keeps it clear of a too fast cultural appropriation, this uncertainty about whether it is a work or is it maybe some technical occurrence that comes from the subway, or something that has been installed deliberately to make a difference.

Neuhaus: Most of the people who don't know what it is take it as a beautiful anomaly in the city that they found, like they found the special window in a building that at a certain time of day happens to reflect light in a certain way, something which is inadvertent which they take as their own. I think the best way of putting it is that by not claiming it myself I allow them to claim it. And that's what I was trying to do. Because it's their experience, it's not mine; they should claim it.

VIII

Loock: Let's talk about concepts of public art works.

Neuhaus: I think the demand on the artist to be site specific is not something new. Traditional art forms are specific to the very uniform site of the museum or the sculpture garden. Not that museums aren't different, but the paintings are usually hung on white walls and sculpture is most commonly shown on grass.

But when we move to another site, it demands that we develop new forms. Unless we have the idea that we want to make the whole world into a sculpture garden and unless we plant grass in a lot of places that can't stand it, we are making a mistake. The new forms have to deal with the fact that the place is a public domain.

Loock: Well, of course ideas about public art and public sculpture are not quite as conservative as you seem to think. We have to take the most advanced examples to place your work at the position where it is supposed to be; and there I think that almost all public art which is site specifically placed in a cityscape, in the middle of an urban context, starts from assumptions about a public, starts from assumptions about a problematic situation. It starts from assumptions of the necessity of criticism towards a given situation; it starts from assumptions of a set of givens.

It seems to me that works like the Times Square piece (III, 20) and the *Time Piece* in Bern are not assuming givens as public art does. It can either be perceived or not; you leave it open if somebody is prepared to be willing and attentive enough, and you even give the chance to somebody who perceives the work not to want to perceive it. In your work there is no idea of confrontation; there is no idea of forcing people to change their consciousness. It seems to be something which is so discreet that it can be easily ignored; and if you don't want to ignore it you can hear it, you can listen to it, you can make use of it.

And I think that is a viable mode of doing public art now since nobody knows what it really is, a public, or since the notion of public seems very feeble, since maybe there doesn't exist anything like a public nowadays.

Neuhaus: But there are people walking in the street.

Loock: Yes, there are people walking in the street. But who has the right to put a sculpture as advanced as it may be in front of these people?

Neuhaus: The first works that I did were about that public; they were about taking myself out of the confined public of contemporary music and moving to a broader public, a deep belief that I could deal in a complex way with people in their everyday lives, not making a simple piece for a simple people but making something very special accessible to anyone of those people who were ready to hear it, but not confronting them with

it. It's making something which they can find, making the work in such a way that it leads to discovery, that you discover it rather than having it imposed upon you.

Loock: And it becomes a feature in the environment, a modification of the environment but not an effect of this specific artistic consciousness, of this artistic ego.



Provenance of the Chapters

Calvin Tomkins, 'Onward and upward with the arts – Hear', *The New Yorker*, 22 October 1988

Max Neuhaus, 'Modus Operandi', first published in *Artforum*, January 1980

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Max Neuhaus, 'Notes on Place and Moment', 1992

Denys Zacharopoulos, 'Max Neuhaus: A Place within a Place',

1992, translated from the French by Charles Penwarden

Doris von Drathen, 'Max Neuhaus: Invisible sculpture, molded sound', *Parkett* #35/1993, translated from the German by Michael Hulse

Germano Celant, 'Max Neuhaus: An Occasion for Listening', 1994, translated from the Italian by Brian Holmes

Ulrich Loock, conversation edited from transcript, Milan 1990

Appendix

A number of works originally commissioned as permanent and described as such in the texts are no longer sounding due to lack of maintenance or other circumstances. The dates in the following list of works reflect their status as of September 1994.

works

- 1966 *Public Supply I*, WBAI, New York
- 1966/76 *Listen*, 15 sound walks, various locations in USA and Canada
- 1966/67 *American Can*, New York
By-Product, New York
- 1967/68 *Drive-in Music*, Lincoln Parkway, Buffalo, New York
- 1968 *Fan Music*, rooftops of 137–141 Bowery, New York
Southwest Stairwell, Ryerson University, Toronto
Max-Feed, New York
Telephone Access, New York
Public Supply II, CJRT, Toronto
- 1970 *Public Supply III*, WBAI, New York
- 1971 *Water Whistle I*, New York University, New York
Water Whistle II, Newark State College, Newark
- 1972 *Water Whistle III*, Walker Arts Center, Minneapolis
Water Whistle IV, California Institute for the Arts, Newhall
Water Whistle V, University of California, La Jolla
Water Whistle VI, State University of New York, Buffalo
Water Whistle VII, Jewish Community Center, Buffalo
Water Whistle VIII, University of South Florida, Tampa
Water Whistle IX, Central Michigan University, Mount Pleasant
Water Whistle X, Michigan State University, East Lansing
- 1973 *Water Whistle XI*, York University, Toronto
Water Whistle XII, Everson Museum, Syracuse
Water Whistle XIII, University of Southern California, Los Angeles
Water Whistle XIV, Rochester Institute of Technology, Rochester
Public Supply IV, WFMT, Chicago
- 1973–77 *Walkthrough*, Jay Street subway station, New York
- 1974 *Water Whistle XV*, Leo Castelli Gallery, New York
Water Whistle XVI, John Weber Gallery, New York
Water Whistle XVII, Sonnabend Gallery, New York
Listen, Editorial New York Times
- 1975 *Drive-in Music*, Lewiston State Arts Park, New York
- 1976 *Round*, Old U. S. Customs House, New York
Underwater Music I, Radio Bremen
Underwater Music II, Institute for Art & Urban Resources, New York

- (untitled), Rooms, Institute for Art & Urban Resources, New York
Listen, Brooklyn Bridge, Institute for Art & Urban Resources,
 New York
- 1977 *Radio Net*, National Public Radio Network, USA
Underwater Music III, Radio RIAS, Berlin
 (untitled), Documenta 6, Kassel
- 1977–92 *Times Square*, New York
- 1978 (untitled), Museum of Modern Art, New York
 (untitled), Stichting De Appel, Amsterdam
Underwater Music IV, Stichting De Appel, Amsterdam
Listen, postcard decal, New York
- 1979 *Five Russians*, The Clocktower, New York
- 1979–89 (untitled), Collection Museum of Contemporary Art, Chicago
- 1980 (untitled), Como Park, St. Paul
- 1983 (untitled), ARC 2, Musée d'Art Moderne
 de la Ville, Paris
 (untitled), Kunsthalle, Basel
 (untitled), Bell Gallery, Brown University, Providence
Time Piece 'Archetype', Whitney Biennial,
 Whitney Museum of American Art, New York
- 1983–90 (untitled), Villa Celle, Pistoia
- 1985 (untitled), Promenades, Centre d'Art Contemporain, Geneva
- 1986–88 (untitled), Domaine de Kerguéhennec, Locmiec
- 1986–93 *Works for One Person I*, Galerie Eric Franck, Geneva
- 1988 *River Grove*, Roaring Fork River, Aspen
Sound Line, Centre National d'Art Contemporain, Grenoble
- 1988–89 *Infinite Lines from Elusive Sources I*,
 Galerie Ghislaine Hussenot, Paris
- 1989–90 *Two 'Identical' Rooms*, Einleuchten, Deichtorhallen, Hamburg
- 1989–91 *A Bell for St. Cäcilien*, Kölnischer Kunstverein, Cologne
- 1989–92 *A Large Small Room*, Galerie Karsten Greve, Cologne
- 1989–93 *Time Piece*, Kunsthalle, Bern
- 1990 *Two Sides of the 'Same' Room*, Dallas Museum of Art, Dallas
- 1990–92 *Infinite Lines from Elusive Sources II*,
 Galleria Giorgio Persano, Milan
- Since 1990 *Three 'Similar' Rooms*, Galleria Giorgio Persano, Turin
- 1991 (untitled), Lake Luzern, Switzerland
- Since 1992 *Three to One*, AOK Building, Kassel
- Since 1993 (untitled), Collection capc Musée d'Art Moderne, Bordeaux

publications

'Noise Pollution Propaganda Make Noise', *New York Times*, 6 December 1974

'Time Piece Series', *Max Neuhaus, Two Sound Works 1989*, (German, English), Kunsthalle Bern and Kölnischer Kunstverein, Cologne, 1989

'Audium, Projekt für eine Welt als Hör-Raum', in: *Vom Verschwinden der Ferne, Telekommunikation und Kunst*, pp. 118–128, Du Mont Buchverlag, Cologne 1990

'Listen', Max Neuhaus, *Elusive Sources and "Like" Spaces*, (Italian, English), Giorgio Persano, Turin 1990

'Siren – Aural Design' (Dutch and English), *Kunst and Museum Journal*, Volume 4 Number 6, 1993, Amsterdam

'Sirenc' (German) and 'Listen' (German), *Welt auf tönernen Füßen, Schriftenreihe Forum/Band 2*, Göttingen 1994

catalogs

Max Neuhaus, Sound Installation, (German, English) Kunsthalle Basel, 1983

Max Neuhaus, Sound Installations, Bell Gallery, Brown University, Providence, Rhode Island, 1983

Max Neuhaus, (French, English), Edition du Centre d'Art, Domaine de Kerguéhennec, Locmive, France, 1987

Max Neuhaus, Sound Line, (French, English), Magasin-Centre National d'Art Contemporain de Grenoble 1988

Max Neuhaus, Two Sound Works 1989, (German, English), Kunsthalle Bern and Kölnischer Kunstverein, Cologne 1989

Max Neuhaus, Elusive Sources and "Like" Spaces, (Italian, English), Giorgio Persano, Turin 1990

Chronology

- 1939 Born Beaumont, Texas, 9 August
- 1942 Family moved to New York State
- 1944–53 Bedford Road Primary School, Pleasantville, New York
- 1949 First studies in drumming
- 1953–55 Pleasantville High School
- 1954 Decision to become a musician
First work as musician, jazz, rock and roll, dance bands
- 1955 Family moved to Houston, Texas
- 1955–57 Lamar High School, Houston, Texas
- 1957 Enrolled Manhattan School of Music
to study percussion with Paul Price
- 1958 Became interested in contemporary percussion music
and performer-determined compositions
Decision to become a percussion soloist
Met John Cage
- 1961 Bachelor of Music
First trip to Europe, Darmstadt Courses for New Music
Met Stockhausen, Boulez
- 1962 Master of Music
- 1962–63 Tour with Contemporary Chamber Ensemble
directed by Pierre Boulez
- 1963–64 Solo recital, Carnegie Hall, New York
Percussion soloist: Karlheinz Stockhausen, touring USA and
Canada
- 1964 Begins experimentation with audio-electronic circuitry
- 1965 Solo recital, Carnegie Hall, New York
Solo tour
concerts in major European cities
recordings for radio stations
Artist in residence, University of Chicago
- 1966 First independent work as artist, *Listen*
First broadcast work, *Public Supply I*
- 1967 First sound installation and first work of public art, *Drive-in
Music*
- 1968 Percussion repertoire recorded, Columbia Masterworks
MS 7139
Cessation of activities as performing musician
Further experiments in acoustics and electronics
as artist in residence,
Bell Telephone Laboratories, Murray Hill, New Jersey
- 1969 Begins living on a boat, journeys along eastern sea coast of USA
and into the Bahama Islands
Studies in underwater acoustics

- 1973 Music Fellow, National Endowment for the Arts
Conception of *Times Square* and Paris Metro Project
- 1974 Preliminary studies for *Radio Net*
Formation of HEAR Incorporated
- 1977 Participation in Documenta 6
Visual Arts Fellow, National Endowment for the Arts
Conception of *Audium*
- 1977–78 Fellow, DAAD, Berlin
- 1978 Begins development and construction of first computer-
controlled multi-synthesizer sound system
Conception of siren project
- 1979 First collection of a sound work by a museum,
Museum of Contemporary Art, Chicago
- 1981 First outdoor experiments on siren project
Lecture tour, California
- 1982 Lecture tour, Japan
Visual Arts Fellow, National Endowment for the Arts
- 1983 First works for European museums
- 1988–89 Design of new techniques for sounds of emergency vehicles
in California desert
- 1991 Award of U. S. patent for siren sound design,
first patent issued for a sound
- 1992 Participation in Documenta 9
Begins research for *Audium Model*

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