

**Composer [Anthony Moore](#) has a telephone conversation with Bill Fontana**

Recorded 19 May 2005

(to be published by [Lumen](#) in Leeds in Autumn 2005)

**ANTHONY MOORE:** I would like to begin with a couple of really key things that I think are crucial to your work. One is this term *àtrans-placement*, and the other is that people should perhaps understand the notion that sound does not only travel through the air, but is also transmitted through materials. I remember you describing the accelerometers you installed on the functioning turbines in the Lyons power station, and that when you slid them across the surface of the turbines you were getting a Doppler shift ≠ I find that a perfect example of the kind of fascination that you have with the essence of material. So maybe it is appropriate to start with Lyon.

**BILL FONTANA:** Well, I was in Lyon around the year 2000-2001 ≠ doing a public art project called *Musical Network* with the Lyon Public Transport system, in which I installed a sound sculpture at every station along a new streetcar line. I fell in love with a nineteenth-century building that is the oldest functioning hydroelectric power station; this power plant had a huge effect on the economy of Lyon and the industry there in the late nineteenth century. In a hydroelectric power station you have these immense turbines that the moving water is causing to spin, and these turbines have metal skins on them. The accelerometer kind of enters, in a way the material that it's listening to - *you* enter the material, you can become the material. I think of it as an unheard sound because you can't hear it with your ears. The accelerometer is much more sensitive, your ear is really designed to listen in the air. Using the accelerometer you would start to hear a lot of very rich harmonics from the turbine, but because there's a huge amount of motion going on underneath you, for reasons I can't completely explain, when you move the accelerometer even small distances over the surface you would hear very large changes of pitch. Normally with acoustic sound, the closer you are to a moving source, like a train whistle, the higher pitch it is, and the further away the lower pitch it is, so this was just a really incredible situation. My fantasy about this project, which has not been realised to date, was to install a network of accelerometers on various turbine systems in this power station, and to use the electric power lines to transmit the audio data to a museum in London which is actually a building that had been a power station, the Tate Modern.

**ANTHONY MOORE:** Not only do you give the memory to the destination, which is a gallery that used to be a power station, you fill it with its acoustic memories of the kind of sounds the walls of which might once have heard. But to actually get the sound there using the grid, a network of which the things are designed for!

**BILL FONTANA:** Let's hope that somebody reads this from that institution and we'll get to do it.

**ANTHONY MOORE:** In *Primal Soundings*, I was struck by the way in which you really brought together many of your interests using different sound sources. You had the sound of the water, of the river, being picked up by hydrophones ≠

you had the seismometersä

**BILL FONTANA:** That was the most interesting to me. The seismic events that are generated continually by the sea hitting the coast and then transmitted underground. Theyπre these kind of constant very low-frequency rhythmic sounds geologists call micro-seisms.

**ANTHONY MOORE:** You and I have a friend Florian Dombois who is an acoustic seismologist whoπs been sonifying, tectonic plate activity for a while now, and he reminded me of a beautiful story: they planted highly sensitive listening devices in the desert, a hundred miles, letπs say, from the Pacific coast in the States, and they could make out this strange, rhythmical, regular information but couldnπt understand what it was, until they realized it was the impact of the waves of the Pacific thumping against the rocks over enormous distances.

**BILL FONTANA:** Kind of like a giant bell.

**ANTHONY MOORE:** Can you talk a little bit more about this idea of subterranean listening?

**BILL FONTANA:** The subterranean sources that Iπm interested in are the ones generated by the energy of the sea trembling deep underground. Wind will actually generate a similar phenomena in a forest through the trees because theyπre attached to the ground, they will also transmit energy to the earth and can generate micro-seisms. Iπm interested in volcanic activity ≠ thatπs another source of this, and of course, glaciers. But just the idea of what happens to a sound as it travels a long distance and how the distance affects and changes its character. The other medium thatπs of course really interesting for this is the ocean. You know, whales can communicate with each other over very long distances, by producing low-frequency sounds, and another idea that I havenπt realized to date is a project using underwater listening devices over great distances.

**ANTHONY MOORE:** Itπs interesting because for sound, the denser the medium, the more efficient it is as a transmitter of energy, and it does indeed travel four or five, times faster through water than through air. Isnπt it the case that the Americans during the Cold War had a kind of a network of under-ocean listening devices for Russian submarines?

**BILL FONTANA:** The acronym for that is called SOSUS, which stands for Sound Surveillance System, it was a very large network of permanently mounted hydrophones intended really to listen for Russian submarines. Parts of it have been declassified and are used for ocean research now. Thatπs the network Iπm interested in.

**ANTHONY MOORE:** That would be a fascinating project, Iπm quite sure, because there is something ≠ if itπs not a bit

too sinister to talk about tsunamis ≠ about the idea of the movement of sound over great distances and the way that it can be propagated through the ocean with a surprisingly small energy loss.

**BILL FONTANA:** Well there's some phenomena where you reach a certain depth in the ocean and the temperature doesn't get any colder, and also a certain depth where the pressure doesn't increase any further. Somehow if you get in between these two areas you get something called the SOFAR channel, which is like an acoustic canyon underwater, and in this channel, sound travels a huge distance. There's something about the depth of the hydrophones in SOSUS that gets into that, and they can hear really far in the ocean, whales use this same depth to talk to each other.

**ANTHONY MOORE:** Presumably they're also, in a sense, listening with their skin, and it reminds me a little bit of this idea of the connection between touch and hearing. G. V. Bekesy ≠ I think he's a Hungarian physicist ≠ wrote about this idea that in water you receive sound through your body and skin using other senses such as touch. This would lead me naturally from recognizing that you would certainly not want to hierarchize the senses and start calling one sense better than another. But having said that we have been living through a couple of thousand years in the sort of post-aural Western culture of a very visual-dominated period.

**BILL FONTANA:** Well, the very word "Enlightenment" is a visual description! In *Primal Soundings* the seismic sounds are played from these immense sub-woofers and you get to experience the sound in a really physical way. In 1991 I made a piece in the Whitney Biennial with the Niagara Falls called *Vertical Water* and I had these sub-woofers that you could actually sit on as a bench and not only hear the sound but actually feel it in your body.

**ANTHONY MOORE:** It's a very remarkable thing, this idea somehow of skin and touch being related to hearing. I do have the feeling, however, that some positive discrimination towards the acoustic is perhaps acceptable, given this domination of the eye. And certainly I think that your work shows us that the ear can be used for very precise measurements, for understanding our environment, and for understanding phenomena. I've always liked that very much about your work, that somehow the ear is a navigational device allowing us to find our way through social spaces, urban spaces, architecture, and in some sense do many of the things that we normally attribute to the eye. Do you have some thoughts about this idea of listening and society and architecture?

**BILL FONTANA:** In my work I've been interested in projects which redefine with sound one's sense of place in an urban landscape, and develop a sense of awareness about the world of sound in an urban context: I'm thinking of projects I have done in Venice [*Acoustical Visions of Venice*], Paris [*Sound Island*], Kyoto [*Cologne Kyoto Soundbridge*] and Sydney [*Acoustical Views*] that in various ways explored the idea of hearing as far as you could see. So that you're contemplating a visual panorama through the medium of live sound transmission from different simultaneous

points from the visual distance. This distance is collapsed and as all those parts of the landscape are acoustically brought together. That, to me, was always an interesting way of re-contextualizing the meaning of sound in an urban landscape. I think the most successful of those was *Acoustical Visions of Venice*. The location of the Punta della Dogana, which is at the end of the junction of the Grand Canal, has this really famous view, so famous that people go and get their wedding pictures taken there. When the twelve or so microphones within the Venice panorama were transmitted there, there were two conditions of the work: sometimes you just heard this ambient and subtle mix of Venice-sounds, but whenever bells rang, which was pretty often, the transmitted sounds would arrive there at the speed of light, and then the natural acoustic sounds would arrive there a bit later. This would create these multi-dimensional acoustic moments which were very surprising for people, because it was suddenly as though a time portal had momentarily opened.

**ANTHONY MOORE:** Echoes of the future. It's absolutely bizarre, somehow, that the mediated information arrives before reality. How are the sounds actually transmitted?

**BILL FONTANA:** In Venice they were transmitted using UHF wireless transmitters. But the transmission's always at the speed of light. I was fascinated by this idea of the difference between the speed of light and the speed of sound in that project.

**ANTHONY MOORE:** What for me is so interesting about this is that it brings in the element of time. In a sense, we've spoken about materiality of the sound, and sound in nature and in materials, but with these kind of delays between the speed of sound and the speed of transmitted sound, you start to explore the element of time, and I think you've been pursuing that quite profoundly in the last couple of years.

**BILL FONTANA:** Especially in *Speeds of Time* with the famous acoustic icon that is the symbol of time ≠ Big Ben. I really wanted to deconstruct it so that you could no longer use it to tell time. Live microphones in the bell chamber and accelerometers on the clockwork mechanism relay real time sound into a matrix mixing system that multiplies every actual sound by 8 so that there are always 8 different moments of time in 8 changing spatial positions. Only one of these moments of time are correct, the others are all delayed. The effect of this is to create a universe out of Big Ben where it is perpetually making music with itself, but its iconic meaning as the symbol of our certainty of time is gone.

**ANTHONY MOORE:** This feeling for the passage of time, and events and pre-events and repetitions and memories and so on, are very brilliantly encapsulated in that piece. I enjoyed it very much. This feeling of time in your work is not a new element, but one you're concentrating a bit more on than when you did the more, let's say, trans-placement works with the Bahnhof in Berlin and Cologne [*Entfernte Z\_ge*].

**BILL FONTANA:** Well there were different senses of time in that work. In a translocation of the Cologne station to Berlin, you're not dealing with senses of instantaneous time as much as more acoustic memory and historical time.

**ANTHONY MOORE:** The time element there being that the Bahnhof in Berlin was no longer a Bahnhof and so you were bringing some of its history acoustically back to it.

**BILL FONTANA:** Also, in a much older work of mine, called *Landscape Sculpture with Foghorns*, that really dealt with time. There were eight microphones positioned around San Francisco Bay to map how the foghorns on the Golden Gate Bridge travelled through the bay, this was transmitted to the side of a building that was actually *on* San Francisco Bay, so it became the ninth location in the network. That was really about the speed of sound and, in a sense, the relationship of the speed of sound to time.

**ANTHONY MOORE:** Was there a feedback situation in there ≠ If the eight locations were being transmitted to a ninth position?

**BILL FONTANA:** Well, it would interact, because it was a place you could have equally have put a microphone. It interacted with the time structure of the other eight, so in that sense there was a feedback. The other thing that was interesting is that because the weather was slightly different at the same moment in different areas of San Francisco Bay, the pitch of the foghorn was slightly higher or lower depending on whether it was foggy or sunny in a particular microphone location.

**ANTHONY MOORE:** That's extraordinary. I thought, perversely enough, that now might be a good time to start at the beginning can you tell us something a little bit about the early beginnings?

**BILL FONTANA:** Well, I began in the late 60s, when I was a student in New York and I'd taken a John Cage course at the New School, and was really beginning to experiment a lot with sound, found sound, recording sound and playback. The very first sound installation I made was in the very early seventies called *Sound Sculpture With Resonators*, in which I took some resonant objects, like large bottles that someone had made wine in, and placed them on the roof of a building in New York and put little acoustic microphones in them, and transmitted the sounds to the gallery space below. So you'd hear the object which became this very musical, filtered noise of the city. That's probably one of the earliest works for me. I suppose something that changed my life more than anything was going to Australia in 1974 and getting a job with the Australian Broadcasting Company to record what various parts of Australia sounded like.

**ANTHONY MOORE:** Was it connected to urban or natural sites in Australia?

**BILL FONTANA:** It was really anything I wanted, anything that I felt was interesting to record. It was actually connected to the Radio Drama Department of the ABC, because they were loosely going to use this as material in their drama productions, but there were no restrictions put on me; I was never told that we need certain specific sounds for a certain production, they just said go out and record then we'll figure out what to do with it. But the wonderful thing about this experience, which lasted about five years, was that it gave me a chance to have this feeling that I had all the time and all the space in the world to use the best technology at my disposal to record and listen to anything and everything I could, and it was in this period that I made a recording that was a real turning point for me, a piece called *Kirribilli Wharf*, recorded in 1976. In that recording, I had access to what was called an outside broadcasting van, with a one-inch eight-channel tape recorder. We drove it to the end of this pier in Sydney Harbour in the middle of the night and set up microphones on this floating structure and got these amazing kind of sounds happening in different parts of it. It was a real sound-map of this structure. That, to me, was in many ways, like the beginning of the beginning, I had dreamed about making recordings like that and using that kind of methodology and those kind of situations.

**ANTHONY MOORE:** The opportunity to take eight separate channels simultaneously onto eight separate tracks of one piece of tape, then play it back through eight loudspeakers. 1976 is quite early for multi-track recording in an experimental sense. Especially of real-time events out in the world.

**BILL FONTANA:** Yes. It was a real turning-point. That recording then became an installation, first installed in the Sydney Opera House. It was mixed as a stereo piece for radio, and exhibited at the Whitney Museum in the mid-80s. I really regard that piece as kind of the real Opus One.

**ANTHONY MOORE:** And did you do more pieces in Australia?

**BILL FONTANA:** Yes, I actually had an exhibition in 1977 in Melbourne: it was a little mini-retrospective exhibition of Australian multi-track recording. I recorded a bridge in the middle of Australia, it was a wooden trestle bridge called the Prince Alfred Bridge that made these wonderful percussive rattles when cars drove over it. That was an eight-channel recording. There was a small airport outside of Melbourne for light aircraft, and I was interested in the Doppler effect of these small airplanes. The National Gallery of Victoria, actually requested military assistance from the Royal Australian Army Signal Corps, and a platoon of these guys with wireless transmitters went out and we made an eight-channel recording at the airport.

**ANTHONY MOORE:** It's an enlightened interpretation of radio drama. In Germany we know it, of course, through Hoerspiel and this Studio for Akustische Kunst which comes a little bit later in your story and was certainly remarkable for the way it expanded the definition of what radio drama could mean in terms of experimental work. So you were in

Australia from 1974 what brought you back?

**BILL FONTANA:** Well it was really for personal reasons. My father died in 1978. I came back to the US for his funeral, and when I left Australia I felt like I had woken up out of a dream, I just suddenly got this feeling like I needed to live somewhere else. On the way back to Australia I passed through San Francisco, and I remember late one evening, going under the Golden Gate Bridge at one o'clock in the morning on a very foggy summer night, and hearing the foghorns. I decided then on the spot that I was going to move to San Francisco, because I had to be in a city that had a sound like that in its environment! That may seem like a silly reason to want to move to San Francisco, but I just remember that moment, really, really clearly.

I started living in San Francisco and got a job with the Oakland Museum Natural Sciences Department to record Californian natural sounds, and so again, I found a job where I was paid to go out and listen and record sounds. I've done that at different stages in my life: I did it in Britain for the National Maritime Museum in Greenwich in the late nineties, they hired me to record the sound of the sea in Britain, and I travelled the British coast. I loved those kinds of jobs, because I love to kind of go out and listen and record sounds.

**ANTHONY MOORE:** Using, in the earlier days, presumably, NARGRAs and Stellavox [portable tape recording devices]?

**BILL FONTANA:** I had a Stellavox when I lived in Australia, and I used that until I started doing digital recordings in the eighties. Actually I also used a Sony Walkman professional cassette recorder using metal tape which actually gave very good results. The great joy of my recent life is I acquired this 4 channel hard disc recorder made by the American company Sound Devices which can make field recordings that are 24 bit 192k if you want, and it's just a superb recorder, there's never been anything as good as this.

**ANTHONY MOORE:** When did you make *Sound Sculpture With a Sequence of Level Crossings* ≠ the wonderful recordings of the trains and the crossings and warning bells?

**BILL FONTANA:** I think that was the early eighties, 1982.

**ANTHONY MOORE:** Were trains considered to be part of Californian natural life!

**BILL FONTANA:** I've never been someone who's separated natural sounds to urban sounds, I've always thought of having a natural ear so I'm interested in everything, I guess, that makes noise. There's an area of Berkeley that has a sequence of railroad level crossings that were adjacent to each other, and in North America, whenever a train gets to

a level crossing itπs required to blow its whistle. So if you have a consecutive series of intersections you get the whistle each time. So I installed live microphones at a sequence of level crossings and transmitted this to a museum here in San Francisco. I was interested in the simultaneity of the Doppler effect ≠ hearing the train whistle from the front and the back at the same time. It ended up sounding to me almost like a harmonica imitating the sound of a train.

**ANTHONY MOORE:** When did you first make contact with Klaus Sch¶ning in Cologne?

**BILL FONTANA:** That was in 1984. I was living and working in Berlin on a DAAD (Deutscher Akademischer Austausch Dienst) residency programme. I had been asked to develop a site-specific project ≠ *Entfernte Z\_ige* ≠ for a place in Berlin called the Anhalter Bahnhof, which was the ruin of a very famous train station that had been bombed out in the war. What I wanted to do was reconstruct the sound of the contemporary German train station on that site. I went travelling through Germany looking for a train station to bring there, and the station that I became interested in was the one in Cologne because it was the busiest. I communicated with the German National Railroad about getting permission to put all these microphones in there and they thought, ¶no, we don¶t want to deal with this American artist. Forget it.¶ So I contacted John Cage actuallyä

**ANTHONY MOORE:** Who was a great friend of Klaus¶s, of course.

**BILL FONTANA:** Right. And I said ¶do you know anybody in Cologne who could help me move the Cologne station to Berlin!¶

**ANTHONY MOORE:** And John said ¶I know exactly the man!¶

**BILL FONTANA:** Right, so I wrote him this very matter of fact letter saying that I was an artist and I was doing this project, and can you help me to bring the Cologne station to Berlin? Of course he did, and that was the beginning of a long connection.

**ANTHONY MOORE:** A long and very productive and creative relationship with the Studio Akustische Kunst and Klaus Sch¶ning. Could you just touch on some of the pieces you did with Klaus?

**BILL FONTANA:** I think the most memorable project from that period is actually the *Soundbridge K¶n/San Francisco* which was done in 1987, and what that did was it brought together two very large projects that had been realized independently of each other: one was a project in San Francisco that was called *Sound Sculptures through the Golden Gate*. It was done at SF MOMA and was essentially a live duet between the Golden Gate Bridge and the Farallon Islands National Wildlife Refuge, which lies thirty nautical miles west of the bridge. For that project I had microphones in



various parts of the bridge, and on this island, and made this very large installation out of these two very different situations. In Cologne I had done a project for Klaus called *Metropolis K`In*, and it was really a live sound portrait, a live sound exploration of the city of Cologne, with microphones in a lot of different places. For the *Soundbridge K`In/San Francisco*, both of these installations were running at the same time independently of each other, in Cologne and San Francisco, and I made a live mix via radio of these two pieces. In that the method of transmission was satellite.

**ANTHONY MOORE:** So effectively you're bringing live recordings from the two sites in San Francisco, from the islands and the bridge, to Cologne?

**BILL FONTANA:** Yes, and I mixed them with the sixteen microphones installed at various locations in Cologne. It was like a live performance of a band. It was a live radio broadcast that went out all over Europe and the United States. In 1987 that was a real broadcasting milestone. That work was actually published as a CD by Virgo.

**ANTHONY MOORE:** That's the label that distributes a lot of the work of the Studio for Akustische Kunst. *Metropolis* was actually a series he commissioned with a couple of other people wasn't it? I think Klarenz Barlow did Calcutta. The wonderful Pierre Henri did Paris, which is a nice one ≠ the click-clack of stilettos on cobbled streets and other such wonderfully erotic acoustic images of Paris. It's a very fascinating series and great work by Klaus to pull it together. What was the piece that involved you putting loudspeakers on the famous cathedral in Cologne?

**BILL FONTANA:** Well, that was the first version of the *Metropolis K`In* in 1985. Klaus was so happy with that, that project, he thought we would do it again but combine it with this San Francisco project, so I made a new version.

**ANTHONY MOORE:** When do we come to that wonderful idea of bringing the Normandy coast to the Arc de Triomphe?

**BILL FONTANA:** *Sound Island*, that was the summer of 1994. I was commissioned by the French Ministry of Culture and the city of Paris to do this project in Paris, on the occasion of the fiftieth anniversary of D-Day, the location of this project was the war memorial in France, the Arc de Triomphe. What I did was really simple. I installed a massive sound system cloaked with camouflage onto the Arc de Triomphe. There were seventy speakers on the four sides of this monument that you didn't see. They were really camouflaged. Then I had live microphones and hydrophones on the Normandy coast and wrapped that monument in the live sound of the sea for the summer of 1994. When you went onto this architectural island, you could not hear the traffic because the sea is natural white noise, and it would mask the sound of the traffic. So it's a very, very simple idea.

**ANTHONY MOORE:** I find it very moving; it is perhaps simple, but very beautiful, the idea of, again, this memorial,

which is, of course, a touching thing.

**BILL FONTANA:** Well, the tomb of the Unknown Soldier is there, and there's something in that war memorial called an eternal flame. For me, the sound of the sea is acoustically like an eternal flame, because it's a timeless sound. It's a sound that's been going perpetually for millions of years. To me it's related to that.

**ANTHONY MOORE:** The masking effect is interesting because of the acoustic mayhem as well as traffic mayhem around there! Are there a couple of pieces you want to just drop in the space between?

**BILL FONTANA:** In 1990 I did this large project in Vienna which was called *Landscape Soundings*, commissioned by the Vienna Festival. In this plaza named after Maria Theresia between the Kunsthistorisches and Naturhistorisches Museums ≠ so architecturally you have art and nature represented by these two buildings, and they asked me to do a project on the topic or theme of *Kunst und Natur*. What I did was took an ancient Danube wetland from eastern Austria, that was the last remaining example of an original Danube wetland, and, with the help of the Austrian radio and television, put a network of microphones in that landscape and translated that wetland to the middle of Vienna in this space. One of the things I remember is that I'd done a lot of research on the birds of that forest, and the most interesting bird there was the cuckoo. If you go into the forest yourself and sit for hours hoping to hear one, they're always really far away from you. They're shy, they don't come close to you. But when the microphones were installed for a long time they'd become part of the forest, and when they were transmitting to Vienna these birds would come and sit, sometimes right next to a microphone. Kind of like a cuckoo singing into a microphone. Calling out to this huge PA system in the middle of Vienna. It was just really, really funny.

**ANTHONY MOORE:** When did you produce the Brooklyn Bridge piece? That was a marvellous piece. And also, of course, poignantly enough, involving the facade of the World Trade Center.

**BILL FONTANA:** That project ≠ *Oscillating Steel Grids Along the Brooklyn Bridge* ≠ involved taking a sound that no longer exists ≠ in 1983 the Brooklyn Bridge had a steel grid roadway that made wonderful oscillations, droning sounds, and I transmitted that to loudspeakers that were hidden in the facade of the World Trade Center about a hundred feet off the ground. You couldn't tell how high the sound was above you, it was just sort of floating above you. Neither the sound nor the building, of course, exists any more.

**ANTHONY MOORE:** Are there any particular pieces you'd like to bring up? Perhaps we could start to talk about your more recent work?

**BILL FONTANA:** Well I think that the most important work in the early 90s was the project at the Whitney Museum

called *Vertical Water*. That was a work that was commissioned by the Whitney Biennial and was about the exterior architecture of the Whitney on Madison Avenue in New York ≠ the fact that the building, if you look at it ≠ and I used to buy postcards of the building and turn them upside down ≠ looks in an abstract way like an upside down waterfall to me. And I was thinking about a sound to put on the façade of the building which is in a very noisy part of Madison Avenue, and decided to take the sound of the biggest and most famous waterfall in North America, Niagara Falls, and very sculpturally place it on the façade of the Whitney which made it sound not only like a waterfall but also masked the traffic noise on Madison Avenue.

**ANTHONY MOORE:** Moving on we met at the Ars Acustica in San Francisco though an introduction by Klaus Schöning. There we got to know each and the idea was born for you to have a position as visiting professor at the Academy of Media Arts in Cologne. You had this idea of building an institute that you put under the heading of Acoustic Phenomenology, could you say a few words about that?

**BILL FONTANA:** The idea of the institute and the courses and workshops I gave at the academy was really to approach the world as this vast unexplored acoustic frontier in a way. Most people I find know very little about the myriad of sounds and vibrations that are hidden in structures, hidden under the surface of things ≠ people don't pay too much attention to their ears in a normal built environment. Every material that you see, every surface that you walk on, is full of vibrations, full of acoustic energy from the air, from the wind, from mechanical vibrations generated by machinery, the motion of people on a surface like on a bridge. All sorts of interesting vibrations accumulate and I've sort of made it a practice since that period to explore this and investigate it using listening devices that structural engineers use like accelerometers and hydrophones. I wanted to take groups of students into the built environment of Cologne ≠ and we also made a little expedition to the Rhine Falls in Switzerland ≠ to collectively listen on headphones to the phenomena that we discovered walking around using various kinds of sensors. This idea of an institute was not only to do activities of this type but to relate to how the natural sciences ≠ particularly geology, geophysics, oceanography ≠ use live listening networks under the ocean and under the earth to map and understand various kinds of physical phenomena. I felt that accessing some of these networks in an organised way for the making of art was really, really interesting.

**ANTHONY MOORE:** I have a recollection that you took a group of students to a place called Schaffhausen which is in a way the beginning of this great National Geographical feature of Germany, the Rhine, which runs more or less on Germany's Western border with France and Belgium and Holland all the way through. You took the students there to listen to the stone if I remember rightly?

**BILL FONTANA:** They were really hybrid recordings made on a multi-channel recording system that mixed acoustic microphones with hydrophones and accelerometers. The accelerometers were listening to some stones and sometimes

to some trees, the hydrophones were listening really to the motion of water there, and the acoustic microphones were listening to the natural white noise of the moving water. I was interested in exploring this environment in three mediums of vibration simultaneously. These became six or eight channel recordings in the end which were very interesting.

There's a chance I might do some work like that in Birmingham because I've worked quite a bit in the past year with BEAST which is the University of Birmingham's electro acoustic studio. They're quite interested I think in pursuing some of these ideas so I might continue with this there.

**ANTHONY MOORE:** I certainly think that the term acoustic phenomenology is an interesting term that does have this strong connection with the natural sciences.

**BILL FONTANA:** Well the word phenomenology as it comes out of philosophy is also I think interesting in relation to this because the original phenomenologist wanted to think about the world before your preconceptions in a way, and get back to the basic kind of connections to your perception of things.

**ANTHONY MOORE:** Another topic that returns from time to time in your work is this arts and science bridge and the importance of understanding the relationship between the two. It's often important to keep arts and science separate and not just to join them blindly in some sort of amorphous soup of multi-sensual perception.

**BILL FONTANA:** There's very much a difference of purposes between the two. I'm currently developing a project in London with the Millennium Bridge which will ultimately involve putting a bunch of live accelerometers on the bridge and transmitting the sounds hopefully to the Tate Modern and to a couple of interesting Underground stations. I've been working with Arup Engineering who actually built the bridge and if you remember there was a famous incident when it first opened that it actually wobbled too much. I took someone from Arup onto the bridge and we were listening with accelerometers ≠ they had never listened to their accelerometer recordings when it was wobbling because they were measuring and looking at it as graphical data. It was really surprising for them to experience it as sound and hear that it was more than just information. They're going to go into their archive and give me access to their recording from when it was wobbling - I'm very curious to hear that. It's a wonderful structure to listen to ≠ very musical.

**ANTHONY MOORE:** Whilst there is this very satisfying conceptual content with your work, it's always to do with sifting out sounds, and if those sounds aren't there then you simply won't use it.

**BILL FONTANA:** As us Americans would say, the kind of bottom line for me in this work is that it has to translate into some kind of interesting listening experience and if it doesn't do that then I won't do it.

**ANTHONY MOORE:** The other thing that I very much would like to talk about is the St Kolumba in Cologne. Could you talk a little about this very new piece?

**BILL FONTANA:** *Pigeon Soundings* [2005] is a new piece but I've never taken so much time to do something partly because the building took a long time to finish. It started in the early 90s when I was approached by the Diözesan Museum in Cologne to create a site specific work for a new museum they wanted to build on the site of a ruin of a bombed out church called St Kolumba. This was a gothic church, quite large but small in comparison to something like the Cologne Cathedral. They commissioned Swiss Architect Peter Zumthor to design this amazing museum to be built on the site, but their intent was to preserve the ground floor ruin of St Kolumba and that the museum would frame this and somehow be built around it. They asked me to think of something and I became interested in the idea of acoustic memory. I went to Cologne in 1994 with an eight-channel recording system and set up eight microphones in this ruin and for days recorded thousands of pigeons cooing and flying around in there and also the ambient sound of Cologne from this site ≠ bells ringing, traffic. Here we are in 2005 and I finally hear back from the Diözesan Museum that they're going to open the first part of the museum this year and could you please come and finish the piece. So this work was really like a time capsule because I hadn't listened to these recordings since 94 and the kind of machine they were recorded on doesn't even exist today ≠ which was a DA88. So I had to find a machine like this, transfer the recordings, re-master them, and then revisit the recordings with the set of aesthetics I have in 2005 ≠ which are somewhat different to those I had in 94. Then I made my first site visit to the construction site and saw what this space that they've built around it was, and it's incredible, the ground floor is completely open and the exact dimensions of the original ground floor of the church. It's about 30 feet high, completely open and on the floor beneath you can see some of the original archeology from the site; Roman walls and other churches that had been there. I installed a 24-channel speaker system around the perimeter of the space and made a very spatial piece with these recordings of the pigeons so that they're sort of moving around in there. The walls are quite porous and not isolated from the outside so when you hear it you can't tell what's real anymore. So this sound will permanently inhabit this space and it'll be the acoustic soul of that building.

**ANTHONY MOORE:** Could you remind me and elaborate a little bit on the project connected with Jerusalem? In an interesting anti-chronology we're jumping nicely back and forwards but gradually entering the present.

**BILL FONTANA:** That's another kind of time capsule. The Jerusalem idea ≠ *Acoustic Transparencies* ≠ began also in the mid 90s and I've been trying unsuccessfully for a decade to realize it, partly due to the politics there. I made some research visits in 1995 that were funded by the DAAD Berlin and I was really interested in exploring the simultaneity of sound in this multicultural city where religion is on top of each other and language is on top of each other. It's a pedestrian city with a wonderful topography and you get these crazy mixtures of sound ≠ I wanted to do a live sound piece that maps this and sends it to several European sites at the same time. There are probably around 20 sites in the

city where sound would be transmitted from; the sounds would be brought through wireless transmitters to a central receiving point where they would be up linked by satellite or streamed over the internet. The general concept was to think of it as kind of a reverse pilgrimage, because Jerusalem was always this city that people were making pilgrimages to from North Africa and other parts of the Middle East and from Europe. Because the situation there has been slowly improving with forward and backward motions, I'm hopeful to be able to resurrect the idea. I'm confident that I will do this, I'm just not sure exactly when.

**ANTHONY MOORE:** Perhaps we could bring this to a close by talking about *Sound Lines* [2005], the piece that was very recently installed in Leeds.

**BILL FONTANA:** *Sound Lines* is a site specific work installed in a very interesting space, these arching tunnels below the Leeds Train Station. Four of these tunnels intersect a road called Dark Neville Street that is perpendicular with the train station below it. These tunnels were constructed in the Victorian Era and control the flow of the River Aire that passes under the station ≠ these tunnels are called the Dark Arches. So you have The Dark Arches on Dark Neville Street that create this wonderful Victorian quality space. And it's a transitional space between the city centre and the regeneration zone that is the old industrial part of Leeds. Historically it's an area which had been considered a bit dangerous and undesirable, and they saw the creation of this art work as a sort of beginning of making this a more desirable location to walk through. So I explored the relationship of Dark Neville Street to the station above it, and there's sequences of speakers mounted in there which bring live acoustic sounds of the station down below into Dark Neville Street, and these sounds are moving in the space, announcements, trains themselves. I've also placed accelerometers on a couple of rails in the station which occasionally gives you this very powerful somewhat abstract sound of the wheels of a train passing through a rail. Then I've got hydrophones in the River Aire itself in the arches, so these three elements mix together and create quite a presence down there.

**ANTHONY MOORE:** Are these sources pre-recorded or trans-placed live?

**BILL FONTANA:** The sources are trans-placed live but the physical distance isn't as far as the psychological distance because in fact the place where you're hearing this is just one floor below, it's the basement of the train station. But when you're down there you get very little perception that there's a train station above your head so it could be much further away than it actually is. But what's more important is this sensory immersion in sound you get in that space, it completely transports you and takes you into another dimension, and it's a very enveloping artwork. It's quite sensual, the underwater sounds from the hydrophones are quite beautiful.

**ANTHONY MOORE:** It's no doubt in my mind that you're going to continue on with different and exciting projects which will have strong connections to your overall life's work, but nevertheless will explore new sonic territories and will

reveal more and more to the listener about the resonating world we live in. To conclude do you want to make a short statement about the future?

**BILL FONTANA:** We talked earlier about the Kolumba piece and that it took years to realize, in a way I feel like my whole body of work is like this unfinished symphony, like a continuous work in progress. I feel very connected to where I started in the mid 70s but gradually my abilities have increased and expanded with my understanding of the conceptual things, the phenomenological aspects, and the technological aspects. So I anticipate that the best is yet to come

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