I would start by asking what is your personal history with sound.

Well... I mean, first of all as Hildegard Westerkamp said, we are always in the soundscape, right? So of course, as soon as you're born you are surrounded by sound. And that means that most of the time we take it for granted unless something is particularly toxic or annoying. I sometimes wonder at what point does one really start listening? I was raised in a musical family and eventually, after having studied science and technology, I started composing and not just being a piano player. So there's a certain point where you start focusing on sound directly, such as you do with listening to music, that's a good place to start. Although of course today people have music on all the time on their headphones, whereas we didn't have that when I was growing up. Music was still something that was guite special or came on in the radio or something like that. Certainly, where it started to really change was with technology. Working in a studio where I had control over the sound and could design it. In the early days it was electronic, analog electronic, and it guickly moved on to the early stages of digital audio technology. Murray Schafer invited me in 1973 to come to Simon Fraser University in Vancouver and join this new group called The World Soundscape Project. Frankly, I had no idea of what it was about but he said it was the most important work being done in the world and I had to agree, it sounded pretty exciting. So I started doing soundwalks in the city of Utrecht in Holland. So here we were in the studio dealing with the fine minute aspects of sound design and composition, whereas as soon as we went outside we were in this noisy environment which was really never intended for the kind of heavy duty trucks and traffic. So of course then you start to search out other sonic experiences that are more special along the canals, for instance, or when the church bells were ringing or anything like that. Suddenly the environmental sounds that we normally just take for granted, by Schafer having said "listen to everything, open your ears" even if you think your ears are open you suddenly have a different perspective of things. And very simply the rest took its own course after that.

Do you think the collective perception towards the sonic environment has changed since those times?

Well it's a dynamic system because the environment is constantly changing, and you only really notice that when you do recordings or soundwalks or you deliberately focus on sound. You notice those changes only through the technology and that's interesting in itself, that you have now a way of focusing on it. Listening of course constantly changes. When we go back 100 years ago for instance, there was no such thing as a kind of analytical listening to say what was better reproduced sound or not so good reproduced sound. That type of distance, that type of listening analytically to the quality of sounds, that really didn't happen, people just thought all sounds came from a source and as soon as Edison recorded it, and played it back under the right circumstances, people said they couldn't tell the difference between the recorded sound and the actual source... We know now that those early Edison disks were like really poor quality. But all they had to do was identify the singer, and then of course it was a perfect reproduction, right? It was fidelity, it was faithful to the original. So analytical listening, the ability to listen more consciously is always linked

to media and attitude and training. Now there are some people and some professions that have of course been expert listeners. For instance in medicine, doctors had been trained to listen to heart patterns just through the stethoscope. So that is a form of focused listening. We are listening all the time even including in our sleep, because you can wake up to certain sounds and not to others. If you go from a guiet location to a reverberant location, like a church for example, then you experience the importance of the acoustic space. Now, that orientation can be in a kind of interactive way or a more defensive way if the sound is not on the human scale, like heavy machinery, trucks, traffic under a flight path, something like that, then your acoustic space is very reduced and you feel a little bit drawn in and a little defensive maybe. Now, of course, we can put on earbuds and imagine we are somewhere else, right? So that's embedded listening. You are listening here on your earbuds to something and outside there's something else, and it's not a perfect isolation between them. So we are used to very different types of listening, from the most background mundane listening to things that attract our attention, to things we want to focus on. Basically, sound connects us to our environment, it connects us to people, it connects us to events and places, and it can be interactive or it can be oppressive, it can be taken for granted or it can be a source of incredible delight. Now, how you balance all of that in the city, that's of course another matter. But it's important to have that listening attitude to connect and also to make some decisions about "Is this a balanced relationship?" or "If we are cutting ourselves off, what are we missing? What are we not listening to? Are we listening to our kids or is everybody just on their cell phone? Is there conversation, is there human connection?" Because that's the most important thing.

And it's amazing how much good architectural design and urban planning can help. Particularly in these Mediterranean countries such as Portugal, there's a great deal of outdoor activity, people like to be outdoors. But do they want to be outdoors in a big concrete plaza? I don't think so. Because it's not on a human scale. I think the sounds that are around us are similar to the sounds we make ourselves in terms of the pitch, and the loudness, and the frequency, and the rhythms and things like that. We identify humanness through voice, throughout human actions and through human interactions. So why shouldn't the acoustic environment be on that scale? Because machines, the urban life is not going to be silent, we do not want it to be silent because that would be deadly, right? We want to have interaction but it has to be balanced and there needs to be a range of options.

But cars just cut it off, right? If we close our eyes right now it sounds like any other city in the world, doesn't it?

Well noise is inevitable, and you can go back milenia, thousands of years, and there's references to noise in cities. Noise is a fact of life, but it's again the balance. Murray Schafer realised back in the 1960s with the Book of Noise and his early antinoise lectures that being against noise pollution, wasn't going to be a solution. It leads to pessimism, "What can you do about it? It's inevitable..." it's very negative. So he switched it around to the soundscape, "What are the positive aspects of listening? What are the unique sounds of our environment? Let's start listening to it". It sounds naive, but in a kind of way you defeat noise by listening to it, or listening to sounds. Well, you don't actually get rid of the noise but you start to make connections to the positive aspects and control where possible. So we could talk about good sonic citizenship, for instance. You know, the fact that you are aware of

that kind of balance and design, and if you have control over certain things, for instance in your own home, do you need to have machinery, music, whatever, on all the time? Just make common sense decisions. Common sense is notoriously not very common. People are aware of environmental sustainability, environmental crisis, climate change, water pollution and things like that. But isn't sound pollution just as serious and something that affects us very directly and affects the quality of life? That should be on the environmentalist agenda.

So what are the options? What can sound studies and practices add in terms of politics and urban planning?

Well, the listening aspect of it, the qualitative aspect. In Europe in particular I'm very encouraged because the acoustic communities, such as the acoustic designers and consultants, are quickly moving beyond the purely quantitative approach that has characterised the last 100 years of sound and noise measurement. I think they realised how far it can go, that the quality of the soundscape is just as important. What makes a good soundscape? That involves listening and evaluation. This can be done on a quasi local level as well, through positive community action. So for instance, you could do something like nominating what we call soundmarks. What do people think are the important sounds of their environment? These are sounds that people notice and value.

Fortunately, today on the academic side of things, sound studies are becoming broadly accepted and practiced across humanities, even in architecture which has traditionally been very visual, now there's more focus on it. So it's a very good time right now, maybe out of necessity, for people to understand the role of sound historically and in our current situation. Then, of course, artists can take a step further as they always do. Many steps further, right? Pushing some boundaries by creating interesting listening experiences out of the concert hall.

Do you think there is an economical aspect over silence and noise?

Sound is always related to power. Who has the power, who doesn't have the power? Yes, it's endless and you can easily make a political economic argument about who controls the sound, particularly now that is also commodified. Sound experiences are bought and sold, that's the other aspect of the technology, it can be made into a commodity which is not necessarily a bad thing, I'm just saying it's a fact of life. It's notorious that building standards for lower income housing generally are not as good as for people who can purchase more acoustic space, let's call it a better protected acoustic space. And I think there is maybe a little more awareness of that, the engineer knows how to do it. But is it cost effective? Well, one bit of optimism is that the same thing that makes a building energy efficient in terms of heat loss and things like that also make it better sonically. Also building practices could change. Whether it's cost effective or whatever the engineering principles are, if sound is a priority, if it's given a priority just like energy efficiency is and sustainability is increasingly, then you will find that noise is lost energy, it's inefficient, it's lost energy, and is something you don't want to build into buildings. So it's not necessarily going to be a question of class and money, it's also a question of will and using the technology which is there. Is there a will to do that? Can it be regulated from above, could it be demand from below, from the population? Those are much trickier issues to handle.