# Clarence Barlow

## Interview by Bob Gilmore
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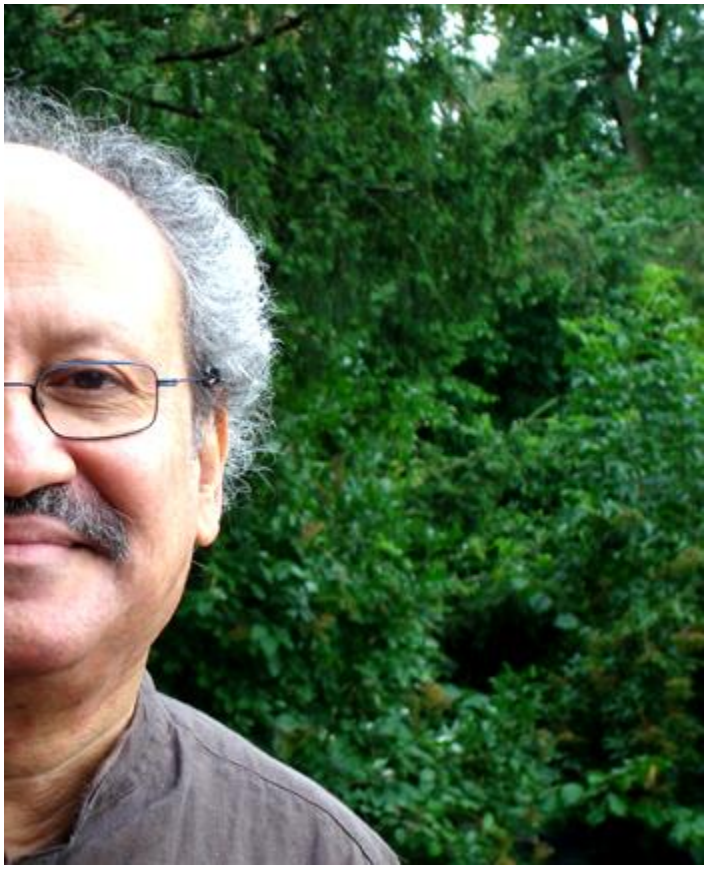

http://www.paristransatlantic.com/magazine/interviews/barlow.html

*Clarence Barlow was born in 1945 into the English-speaking minority of Calcutta, where he went to school and college, studied piano and music theory, started composing in 1957 and obtained a science degree in 1965. After activities as pianist, conductor and music theory teacher he moved in 1968 to Cologne, where he studied composition and electronic music until 1973, also studying sonology at Utrecht University from 1971-1972. His use of a computer as a compositional aid dates from 1971. From 1982-1994 he was in charge of computer music at the biannual Darmstadt New Music Summer Courses and from 1984-2005 lecturer on computer music at Cologne Music University. From 1990-1991 he was guest professor of composition at the Folkwang University Essen, from 1990-94 artistic director of the Institute of Sonology at the*

*Royal Conservatory The Hague, where from 1994-2006 he was professor of composition and sonology. Since 1994 he has been a member of the International Academy of Electroacoustic Music in Bourges. From 2005-2006 he was guest professor of composition at the School of Music and Performing Arts ESMAE in Porto. In 2006 he was appointed Corwin professor and head of composition at the Music Department, University of California in Santa Barbara, where he now lives.*

Years ago in Amsterdam I would occasionally notice a distinguished-looking Indian man sitting in cafés poring over scores with his students, or I'd see him at new music concerts scribbling down mathematical formulae on his programme booklet. I formed the impression of Clarence Barlow as a forbidding, grumpy individual. When we finally met properly in 2002 (in the context of interviewing him for my forthcoming book about his friend Claude Vivier) I realised how wrong I'd been. Barlow is a genial, gregarious soul with a delightful sense of humour, a man who loves food, drink and convivial company. For many years he taught at both the Musikhochschule in Cologne and the Institute of Sonology in The Hague, dividing his time between the two places, before quitting Europe to become Corwin Professor of Composition in the sunnier climes of the University of California, Santa Barbara. America's gain is our loss: the Dutch new music scene seems duller without his unique blend of erudition and irreverence. He is still far too little represented on CD. There are great discs of piano solos and piano trios (HatHut), of versions of his early minimalist classic ...*until*... (Los Angeles River Records), and of his music for piano(s) and mechanical piano (Cybele); but some courageous label needs to put out larger works like *Im Januar am Nil* and *Orchideae Ordinariae*, pieces that have a substantial underground reputation in the new music world but which ought to be more widely acknowledged as the masterpieces they are. This interview was conducted one idyllic afternoon three summers ago on a canal boat in Amsterdam. The engine noise from the boat made the resulting recording very difficult to transcribe, so eventually I gave up and sought professional help. (In transcribing it, that is.) – *BG*

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**Listening to a selection of pieces of yours one could be forgiven for not realising that it was all the work of one man. Your friend Kevin Volans said that he felt one of his first tasks as a composer was to overcome style, to get away from the clutches of the "style police". Is that how you feel about it?**

When I was a teenager I may have thought of myself as a composer, but somewhere along the line I lost the "ego" aspect, and therefore there was no need to develop any personal style. Around the age of 24 I was telling people I wasn't a *composer*, but that I *composed*. Not using the verb "to be" but the verb "to do". When my students say "I'd like to develop my own personal style" I smile wanly. I tell them to let the music speak for itself. Write good music – who cares if it all sounds the same, or doesn't?

**How did this feeling come about? Was it to do with an encounter with Cage, or Zen, or any of that ego-shedding sort of thinking?**

I don't know which came first. Maybe my attitude made me feel more akin to Cage, but it could have been the other way around too. I know that in 1970 I was going around extolling the virtues of Cage but nobody wanted to know anything about him at that time in Cologne.

**One of the things I enjoy a lot about your music is the acceptance of a highly diverse range of starting-points, as though it were a normal thing to do, and then working with those ideas. Is that the way you think of composition, that you can work with almost any material, any sonic ideas?**

Every composition has its own requirements. Very rarely do I try to make a piece match a previous one I've written in some way. For example, if you know my two piano trios, [*1981* and *"Spright the Diner" by Nib Wryter*], *Spright the Diner* takes up exactly where *1981* leaves off, but goes in a totally different direction. It was that direction that came to me first, then later the idea that I would tie them up in a certain way. So each piece starts in a different way, goes its own way, finishes in its own way.

**Pieces like the piano trios seem to me a kind of *meta-music*, music about music.**

Yes, that certainly is the case with a lot of my work. I think one of the biggest influences on my life was James Joyce, a fantastic meta-author. Even though he wrote a lot about Ireland, and the Catholic Church and other things, he always did it in a different sort of way – referring, as in the case of *Ulysses*, to some other work. I was inspired by James Joyce long before I started to do this kind of thing, though.

**In the piano trios you use an unusual collection of works, Ravel, Schumann and Clementi. Is there any reason you chose those particular works?**

Well, I was looking at the piano trio repertoire and I asked Deborah Richards of the Clementi Trio for a list of the pieces they played. I found Schoenberg was not suitable, because he was so grey in his atonality that he would have gone under. I was looking for music with a distinctive style, so I settled on the Classic, the Romantic and the Modern (in the sense of Ravel being Modern), and I found that these three composers were distinctive. Schumann is often taken for Brahms, whereas it's actually the other way around – Brahms sounds very much like Schumann on many occasions. Clementi has a distinctive style, almost more so than Beethoven – you can see how Beethoven owed a lot to Clementi. So these were composers of second rank as it were, with Ravel behind Debussy very often, but you can see that they were very integral in their way of composing, and that their styles were so distinct.

**When you return to your own earlier pieces, as in the case of the second piano concerto and the forthcoming string quartet, do you have a similar feeling? Does it feel like somebody else's music, or do you feel still personally attached to it?**

It's a mixed set of feelings there. I used to play that piano concerto to all my friends myself, saying "horns", "violin", while I was playing, and then I came to the gap which was unfinished and say I'd love to finish it one day. In the early 70s I was already working on strategies as to how to do so, but it was only in 97 after a long period of not knowing what to do that it suddenly came to me. The piece starts more or less in the style of 1800 and when I was 17 it turned suddenly into 1900, and so I said, well now it's 2000, that's also why I called the piece *Aux fins des quelques siècles*. I can do what I do now. But it's only at that age that I would have allowed myself to do something like that – take a piece which was unfinished and go ahead willy nilly and just finish it, not worried about the integrity of styles or anything like that. As a matter of fact I enjoy the diversity.

**Is the *fantasia quasi una sonata* similar in that respect?**

Yes. In that case there wasn't a really finished piece, there was just material, lots of material. The sonata that I started then would have been my second piano sonata, I suppose, and the first one turned into the first string quartet. And the future piano sonata no.2 in G minor turned into *fantasia quasi una sonata*. But much more loosely tied, for example the second section or movement which is a passacaglia based entirely on Stockhausen's *Mantra* (the

right hand playing a kind of retrograde inversion of the row and the left hand the theme itself), which obviously wasn't thought of earlier. The last movement or section in F sharp major triumphant came from music for another piece altogether that I started in 1964, which I also never finished. And in that piece, by the way, there are short quotes from the second piano concerto and the first string quartet. The idea was all this conservative music joining up together, having vanquished the seemingly progressive ideas.

**Nice idea! Did Stockhausen hear that piece?**

Thereby hangs a tale. He asked to see the score when I asked if I could I print his *Mantra* at the back. He looked at the score, cut out the mantra formula, stuck it in the front, and said, so is it better for the understanding of your work. And he demanded that I call it *Variations on a Theme by Stockhausen*. He was generally very positive. About 25 years later a pianist in Cologne put it on CD, Sorina Aust-Ioan, and made the mistake of sending him one. It was the first time he listened to the piece and he had nothing better to do than to contact the GEMA, the German royalties association, and say that this was not a piece by Clarence Barlow, but an unauthorized arrangement of his work. And stopped the GEMA fees.

In that piece, the *fantasia quasi una sonata*, the link between the early and the more modern music is quite abrupt, and comes when you least expect it. In the second piano concerto it's more of a smooth transition. Is that of any particular significance?
Well in the *fantasia quasi una sonata* it's really the old conservative music that's supposed to be confronted by something menacing, surprising, incalculable – and that's *Mantra*. Which turns out to be as tame as the other music. So it's the de-masking of the so-called "progressive" – that's what *fantasia quasi una sonata* is about. Whereas the piano concerto is actually a work by somebody who just took very long to finish it.

**Gently poking fun at or ridiculing the pretensions of the avant-garde is something that's associated not only with you but also with Kevin [Volans] and certain other people of that early 70s Cologne scene, but it seems you were probably one of the first people to do it.**

I think so, yes. It was definitely in the 70s that I began to do that sort of thing. *Fantasia quasi una sonata* is actually a case in point: it's a piece about the avant-garde; and one of the more recent pieces, *Orchideae Ordinariae* is also

about commissioning new works. I've enjoyed doing that a lot. It's not just music about musical style, but also about musical practice.

**Your contention being that everything then seems relative to something else, as if the whole pretensions of the avant-garde to be the newest thing are hard to take seriously any more, in the sense that they've had the rug pulled out from under their feet.**

Right. I have both attitudes: people who think that they have to be original, I just scoff at. I think you just can't attempt to be original, you can't say, new music must be original. Obviously there's a lot that can be done that is new and fresh, and if something original comes to you, you know if it's original, if you're astute enough, and go ahead and do it. But people who write just because *they* need to write, that's never been my thing, I've never had the urge to write. It's always been the ideas, the musical ideas, that wanted out, not *me* needing to scratch my back or to write a piece.

**Any yet, ironically, your work is full of original contributions, like the software you've developed. More and more of your pieces have a whole "Barlow" kind of feel that I now immediately associate with you. They're in your voice, although that may not have been the intention. Was it Cage or Tenney who said that if personality is there, it will come out anyway?**

Yes, I think that's absolutely right. The "Barlow feel" wasn't my intention, but I didn't try to run away from it either. I didn't say, oh, I've got a style, or, how nice, or how horrible! It's just one of those things: you look in the mirror and you happen to have a nose in the middle of your face and that's the way it is.

**How were your earliest pieces of yours received in the Cologne days? They must have sounded very strange.**

Well, they did sound strange to a lot of people, but other people were doing strange things too at that time, like Walter Zimmermann, Kevin Volans, Gerald Barry and John McGuire, and we were all one group. People looked at us as a group. We didn't have a name, fortunately, but I remember somebody writing in the *Neue Zeitschrift für Musik* saying that there was a kind of school centred around Clarence Barlow and I thought, oh God, forming a school is the last thing that I would want. But it so happened that we were a family, we met very often and liked each other's music and that was sufficient for us. As a matter of fact we were very arrogant. We used to walk out *en masse* from concerts of pieces we didn't like. You could do that in the 70s. There were

different groups in Cologne. One was called the Gruppe Acht, the Group of Eight. Then there was the Feedback group, which I was a part of, and the composers I just mentioned formed an overlapping group. Being in a group like that – but not making a manifesto about it – certainly helped.

**The *Neue Einfachheit* or *New Simplicity* label came a little bit later, didn't it?**

Yes, Walter Zimmerman came up with it when he did his *Beginner's Mind* of 1975. Obviously my *Textmusik* would fall into that category too. But that was written in 1971. I've always been a kind of anti-journalist in the sense that when people tell me I'm a postmodern composer I just look away in disgust because I don't believe in this concept of postmodernism, not as applied to my music. The term is altogether very puerile. In those days I didn't need to call my music something just so that somebody would have a place for it. As a matter of fact I didn't even number my *Textmusik* versions according to their order because I didn't want to have myself as the common factor for my music. So I used to say "*Textmusik* version..", and the month and the year I wrote it in. Later I got confused and I didn't know which one was which, so I began to call them 1, 2, 3, 4, 5. But I found the act of numbering them was like the composer saying, I wrote all of them. I wasn't interesting to myself as a composer. The music was interesting.

**How did you first become interested in computers?**

I woke up one morning in 1970 and found a solution for a piece that I wanted to make. It was a piece for cello, trombone, vibraphone and other percussion instruments. This was homework given to me by my teacher Bernd Alois Zimmermann (I only finished it after he died, so he didn't hear the whole of it, but he saw parts of it). And there was this one bit, section 5, in which I envisaged a cello playing the open C several times in quick succession, then occasionally a D flat, then again a C several times, then more D flats, and sometimes a D and so on, and I really didn't know how to compose that – my feeling was it was too arbitrary. And if the phone rang and I answered it I'd have to start all over again. I couldn't write it down, and I couldn't play it on the piano and record it and transcribe it, as you can do these days with MIDI, and it wouldn't have been perfect anyway. So one day, the idea came to me, long before I decided to use computers, that the bottom note was a straight line all the way through the piece. The top note was going to be a half-period of a sine curve, starting at the bottom, going up and levelling off again at the top, and the most frequent note would be in the middle, a parabola, an

exponential curve, starting at the bottom left, and joining the other curves at the top right. Each instrument would have the same pattern: the cello would have it with 500 notes spread over three and a half octaves, the trombone with fewer notes but over two and a half octaves, the vibraphone spread over one and a half octaves. It was the same scheme for all three instruments, working independently. I bought myself a calculator, which weighed a ton (in those days you didn't have pocket calculators), and began to work out the probability, the mathematical formula given by the curves that I mentioned, and found that it would take me at least six months working 6-8 hours a day to get these three minutes of music. So one morning I woke up and suddenly had the idea: computers can do this kind of thing. I started looking around for somebody to program a computer for me, and spoke to one of the students at Cologne University's computer centre who said, sure I'll try and help you. But he never understood my formulae and for some reason he got everything wrong. So I decided to learn programming myself, and that's how I got the piece done within one week.

**It all came about through a musical necessity, rather than a love of tinkering with computers.**

Yes, it was just music that I had in mind and I couldn't see any other way of realising it. Nobody in my vicinity was making computer music. I didn't even think of Xenakis, it was only later that I realised that he'd been doing it in France ten years earlier.

**I suppose this relates to what you were saying earlier about getting rid of the ego feeling about being a composer. You've done a lot of different algorithmic compositions over the years, of various kinds. Can you say what it is that attracts you about algorithmic composition? Is it to do with something in a way beyond your personal intentions? What is it about it that keeps you interested?**

I think composition itself, to compose, putting together. I have ideas for a piece. I think of things that can be put together in a certain way and already *that is* an algorithm, already thinking of putting them together in a certain way. And then I think in which way. For example in the case of [pianist] Deborah Richards' piece *'Or a Cherish'd Bard'*, which I wrote for her 50th birthday, it struck me, sitting idly in a train going from Cologne to Amsterdam, that maybe I could use her name in some way like Schumann and other people always did. I noticed that D, E, B and A were part of the hexadecimal number system, that D, E, B, A and H were musical notes in

German, and that the OR in the middle could form a logical operator "OR", giving "DEB - OR - AH". So I decided to make two scores which would alternate, starting with the "DEB" and ending with the "AH" score. But in the case of the piece for the pianist Kristi Becker *Kuri Suti Bekar* I had the idea of using a pixelated photograph of her face as source material. The idea came to me I think because I was working with some music starting high up, going down and coming up again, which reminded me of an oblong face. Each piece develops its own thing.

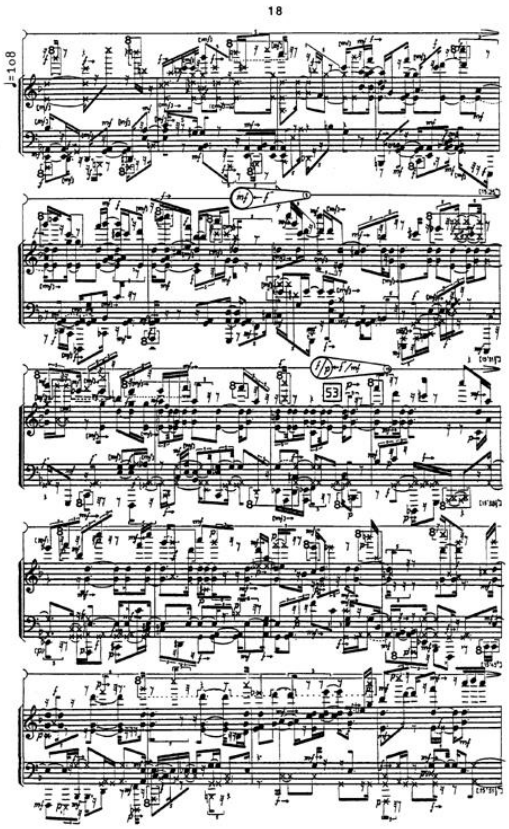
**But once you've devised a system like that for translating from one medium to another, are you very purist about it? Should we "call the stochastic police in", as Jim Tenney's wife Lauren used to threaten to do when he made changes in his algorithmic pieces, or do you accept the results no matter what actually comes out?**

I used to. I remember in the 70s I would definitely have been very strict, but I would have changed the rules if I didn't like the result and gone back to the beginning. *Çogluotobüsisletmesi* is like that, exactly worked out in all its details. Sure, I would have liked to change certain bits, but it would have been too much trouble, and the fact that it was all algorithmic made it like that. But in the mid-80s I began to allow myself to tamper with results and change things by hand. For example, in my seventeen-tone equal-tempered piece *otodeblu* there's a very short quote from the song "Sixteen Tons" and of course that's a reference to seventeen tones, so the *(sings)* "seventeen tones, what do you get, another day older and deeper in debt" is not done by my program Autobusk like the rest of the piece, but put in by hand.

**On the subject of the piano piece *Çogluotobüsisletmesi* (which I still can't pronounce, but now I have a recording of you saying it so I'll practise) – the recording of that, the Wergo LP, was probably what put you on the map, got you known outside of your immediate circle. But the piece is so hard to play that in a way it's ironically a bit like a Ferneyhough piece, something unassailable beyond all but a very few dedicated performers. Was that your intention?**

No, that's the way it came out. I certainly wanted a virtuosic piece, something that would map several centuries of music – you can see the Baroque in it, you can see the Romantic in it – and the way I composed it was to develop the idea of texture, meaning a set of parallel streams of music, each with a different consistency and degree of conformity between the streams. Having done that I worked out a scheme, looked at it and realised it was very difficult,

but I didn't intend it that way at all. But two pianists have definitely played it, Herbert Henck and Daan Vandewalle, and Marc Couroux has been making threatening noises for years.




**I understand that piece somehow came out of your travels back to India.**

Back *from* India, as a matter of fact. As I travelled through Afghanistan, Iran and Turkey, and I was listening to their microtonal music, I thought it would be wonderful to write a piece for piano, a virtuosic piece, with those microtones in it. Not by any means an exotic piece, but one that would use microtones, because I found them fascinating. It was to be *the* piano piece, the culmination of lots of Lisztian piano music in a sense, and I think I achieved that.

**Tell us a little bit more about your whole interest in Indian music. It wasn't part of your upbringing as I understand.**

Right. There was an American Fulbright professor, the pianist Kenneth Wentworth, who was visiting principal of the Calcutta School of Music. He heard me play [Beethoven's] *Waldstein* sonata, thought I was brilliant and wanted me to go to Julliard, but then he discovered I was a composer, and installed me as teacher of music theory in the Calcutta School of Music. His successor, composer John Cooper, asked me about Indian music. And I said, I'm sorry, I know nothing. He was amazed. I said, well, we've been defending our English minority culture here and our teachers aren't interested in that kind of thing. So he got tickets for us to see Ravi Shankar live and it was a raag in the major key and I was able to hear very clearly certain motifs always coming in on the first beat. I thought, hey, I can actually get through to this music. Whereas before that, if you imagine us listening to classical music on the radio, like a Schubert quartet, and then suddenly a Bengali announcement would follow and Indian music and we rushed to switch it off because we thought it was terrible – now I began to like it. At the Calcutta School of Music,

which was already about 50 years old then, Cooper started the Indian music department, which had never existed before, and he appointed Imrat Khan head of it. Imrat Khan taught sitar, and I was entitled as a teacher to get free lessons. I had a problem with sitting on the ground, I couldn't, I needed a high cushion, but I bought a sitar, much to my parents' chagrin (because they didn't want to see me walking down the street with a sitar in broad daylight – at first I used to ride the ten-minute walk to the Calcutta School of Music by taxi so nobody would see it). And then when Imrat Khan was invited to Kabul he decided to take me along, to translate his English into English other people could understand. I was also hired, ostensibly, to carry his instruments, and to play the tambura. So I had to buy Indian clothes, which I'd never owned. My parents thought it was okay as I was going abroad, but when I came back and insisted on wearing them they didn't like it. I went to many Indian music concerts in Kabul, and took a little notebook with me to write down the names and themes of the raags, and got to know about 50 of them quite well. That's when I began to realise that Indian music was a very highly developed culture.

**How old were you at the time?**

I was 21 when the Kabul trip happened, 22 when I left for Europe and there was a hiatus and no contact with Indian music until some years later in 1972 when Imrat Khan played in Berlin and I went to his concert. That inspired me to write my *...until...* series.

**So in fact I misunderstood in the sense that I'd somehow picked up the notion it was trips that you and Walter Zimmermann and Kevin made back to your respective home countries from Cologne that marked the beginning of an involvement with Indian music, whereas in fact you were already steeped in it.**

It was Walter's idea to go back to one's home country. I said, well I'm totally foreign in India, I know so little about it, but if I were to go there I'd probably do recordings of classical music. And of course inspired by Cage and Kagel, I did make recordings in India in 1971, long before Walter was talking about these things.

**Recordings of what, Indian music?**

No, of sounds from the street. I'd just done a course with Kagel on *hörspiel*, and then inspired by that I bought myself a cassette recorder and took it to India (and to Sweden, Italy and elsewhere) and made recordings. I wanted to make

a piece out of all that stuff one day but for one thing, I was banned: I had to go to India in 1973 because my residence permit in Germany had expired and they didn't want to keep me on, so I took everything with me. While I was there somebody broke into my house in Calcutta and stole all the cassettes, so all those recordings are gone. But the recording quality was very bad, I'm glad I didn't use them. So in 1978, I asked West German Radio to send me to India with a good recording device. I was given a Stellavox and two AKG microphones and did masses of recordings over a period of three months in 60 different locations in Calcutta. One of them was recommended to me by Satyajit Ray, the famous film director. He said go to that temple on that street, you'll find very interesting people singing there at ten o'clock at night. So I did, and my composition *CCU* is based on all these recordings.

But that's got nothing to do with Walter Zimmerman. When Walter was trying to raise money for us all to go somewhere, it was the late 70s. I joined the bandwagon, but I was the odd one out, not going back to a home country as it were, but simply seizing the opportunity for a free trip. (Then I ruined one of Walter's chances. There was a lady who wanted to go with him all the way to Afghanistan to make recordings of gypsy music, starting in Bavaria. And I said in her presence, Walter, the closer you get to Afghanistan, the more difficult it's going to get for you to distinguish between gypsy music and the local folk music, and it'll become the same at some point. What's more how are you going to communicate with the people, if you don't speak the language? And this lady nodded her head vigorously and backed out. Walter didn't talk to me for several weeks after that!)

I was expecting to do something really serious scientifically, and I assume Walter just wanted a free ride out of it. We went to Paris to hand in our plan to the UNESCO and of course they didn't accept it. And I was never interested so much in recording one particular thing – I was fascinated by the wealth of culture in Calcutta, which was why I recorded music from different religions: Hinduism, Islam, Buddhism, Christianity, Jainism, and so on. I recorded in the Jewish synagogue, I recorded Beethoven's first piano concerto played by a local doctor who was a pianist as well. Indian music also took its place among all the other stuff that was there.

Let me say one thing. I take strong exception to Cage's touristy approach to Dublin in his *Roaratorio*. He doesn't show any love at all for the material, he just so much as says this is material which I'm going to put together in a certain way and make my piece. You can really say that Cage was using, or rather misusing, Irish culture for that purpose. I think it's loveless, it's just

material put together. And a funny thing is, if I may tell you this as well, as it was told to me by a reliable source, that when Cage was invited to make this piece by Klaus Schöning, head of Cologne Radio's Studio for Acoustic Art, Cage said to Schöning, Klaus, I don't know what to do. By that time Klaus had been convinced by me about the virtues of going to a city and making recordings and had commissioned me to make my piece *CCU*. But I was scheduled in after Cage. So he said to Cage, you love *Finnegan's Wake*, why don't you go to Dublin and record various places? As far as I know then it was my idea that Cage used through Schöning. But I should also say that Cage liked *CCU*, as he repeatedly told me himself.

**Backtracking chronologically a little, when you came to Germany in the first place it was to study with Bernd Alois Zimmermann. How did you come across his music?**

Well, it wasn't that I knew his music at all. He happened to be the main composition professor in the Cologne Musikhochschule. In 1968 I knew a composer called Hans-Joachim Koellreuter who had been the Goethe Institute director in Delhi. He was a great encouragement to me. He was the one who told me about computers. There is a new science you should look into called Informatics, he said. You should look into that, and do electronic music – and Cologne is the place to do that. So I actually went to Cologne to do electronic music. But because I couldn't be accepted into the studio the very first day I arrived, I only studied regular composition at first. Zimmermann was a perfect choice, absolutely wonderful. I didn't know his music then, but I got to know it later in the course of studying with him. Another thing I realised years later, when I was doing these derived pieces, was that Zimmermann had been doing that too. He had lots of quotes in his pieces. *Le Roi Ubu* is full of them. And in my piece for baritone and piano, *Three Owen Songs*, which was written in 1968 before I started studying with Zimmermann, I had already quoted a number of things ironically, like a piece from Debussy's *Children's Corner* and "Lara's Theme" from *Dr. Zhivago*. Zimmermann liked the fact that I was doing that and also that I used isorhythm in that piece, directly taken from Machaut. But it was only years later that I discovered this link between our ways of working; I wasn't really aware of it then.

**There's quite a number of these *musica derivata* type pieces, but I feel there's a difference between the meta-music / music about music pieces, and those that use other material. Is there also a distinction in your mind, along those lines?**

Sometimes I use other musics to pay homage to or even to ridicule them, sometimes just to point out certain processes in music, in musical practice. There are hardly any two pieces which have the same motivation in using other musics. I frequently do a whole lecture on my derived pieces and I would say that almost all the examples there have different reasons for being.

**Well, take a piece like the Beethoven in the *variazioni e un pianoforte meccanico*. Sometimes it seems like it's an affectionate homage, but other times you're not so sure if it's affectionate or a little bit tongue in cheek, or whatever. I suppose that's because the piece you're taking as your starting point is one of those great icons, the last movement of Beethoven's last sonata – it almost feels like it's a religious object in a way, thou shalt not touch this sort of thing, because it's so sublime in itself. What was the attraction in that Beethoven material for you? Was there a bit of a sacred cow mentality in there?**

I'd put it much simpler than that. I just loved that particular movement immensely. I loved the bit where the E leads to the A minor part in the theme. I knew long before I ever knew that I'd write a computer music piece based on the Op.111 theme that one day I'd write variations on that theme, and that that particular moment where the E turns into an A minor chord would be a tremendous tremolo on E exploding into A minor. I knew that, and that happens in the piece. That was in my mind long before I wrote the program Autobusk, before I even thought of using a computer to compose the piece. It was really a very old fashioned idea: write a set of variations on that theme. I used the theme just like Brahms used Haydn's, full of reverence and love. There's no irony there at all. At the end, you know, when I come back to the piano and hammer in the theme while the piano's withering away on the G tremolo, tears came to my eyes the first time I did it. I wasn't very sure when I did it whether it was one of my best pieces or not because it was so accessible and, I thought, easy to listen to. Is that weak? But the more I got to know the piece in the years that followed, the more I think it's actually one of my strongest pieces, with *Im Januar am Nil*, *Çogluotobüsisletmesi* and *Orchideae Ordinariae* of course.

**The other Idea that you return to from time to time is a piece based on language, both spoken and written. Where did that interest come from?**

I think it came from having learned German. I spent years in India learning Hindi in school and hating it, not the language, but having to learn it. I hated

the grammar, I hated having to memorise vocabulary, and I did very badly in the final exam in Hindi. Hindi remains my sixth language, even today, which is a pity. But when I learned German after coming to Germany, I discovered how fantastic it was to learn a new language and ever since then my interest in language has been increasing. I'm interested in orthography, phonetics, semantics, grammatical rules and all kind of things related to language. I also do a lecture on my work which I call Musica Linguistica, which contains lots of examples, the most recent one being from a piece called *Progéthal Percussian for Advanced Beginners*, a piece I wrote for the Slagwerkgroep Den Haag (who didn't play it very well, because they didn't practise it enough): I made an artificial language called Progéthal Percussian based entirely on a set of linguistic rules and vocabulary for percussion. It has no audible similarity to human speech, it's entirely percussive music, but based on linguistic rules. I translated Hamlet's soliloquy into the language, plus a couple of UN resolutions on Iraq and Palestine and they are played on percussion instruments. You could take a translating machine and translate them back into English and German.

**Is the inspiration that comes from thinking about language and language pieces more formal, more structural than sonic? Can it be both?**

I think it is very sonic in the case of the orchestra saying "Why me no money?" in *Orchideae Ordinariae*. It's definitely a very sonic experience in that way. I very rarely approach something because of interesting structure alone. Usually it's in the eating of the pudding that my interest lies. To coin a phrase.

**Is that an area you feel there's a lot more work to be done in?**

I know there's plenty more that I can do. In the meantime, actually, I've consolidated the algorithms I use to create what I call *synthrumentation*, in other words, synthesis of speech or indeed any timbral sounds – but usually speech phonemes – through instruments: hence synthrumentation. That technique is now in a program that runs in Linux. Students of mine are happy to use it: you put in an audio file and out comes a MIDI score, which, when played on a synthesizer, lets you hear the original words.

**What's the program called?**

I call it Synthrumentate. I ought to add an exclamation mark at the end, to make it look like the imperative that it is. Synthrumentate! Or maybe the

Synthrumentator... I sometimes have problems with naming my programs. With my pieces I have no problem at all.

**The other piece I want to ask you about is *Im Januar am Nil* (1982). I think that's a fantastic piece, and one that doesn't sound terribly much like any of your other pieces.**

That's the only piece of mine that the spectralists in Paris loved.

**I don't know if spectral is quite the word, but it's certainly in that kind of territory. What does the title refer to? Is there a hidden thing I'm not getting?**

Well, the beginning is entirely human speech, synthrumentated. That's where I started that technique, in 1981.There are many sentences I wrote in German which have no noise spectra, based entirely on vowels and nasals and laterals, for example, L, M, N, and the "NG" sound and all the vowels. I looked in the German dictionary and found 200 suitable words like "aluminium" for example, and made a number of sentences out of these, and one of them is "im Januar am Nil, Mumien anmalen." Which means "painting mummies in January at the Nile." There are a whole lot of sentences like that. The sentence at the very beginning is "Urahnen meiner Oma im Innern einer Emailleurne einleimen", which means "gluing my grandma's ancient ancestors to the inside of an enamel urn." And there's "Manna mal ohne Mammon erlangen" or "how to get manna for a change without mammon" and "Armeen im Nu einlullen", meaning "putting armies to sleep at once." These short sentences are all found at the beginning and as you can hear they're all derived from speech. And you can hear certain words. For example, the phrase in Armenian meaning "In Armenia" is almost recognisable.

**What was the actual process then? Did you use a computer to analyse the formants and things?**

Yes, I did a spectral analysis of all these sentences, spoken by me, and converted it into what today would be called a MIDI file (this was before the advent of MIDI) and orchestrated the "MIDI" score using just intonation, natural harmonics, on scordatura-tuned strings.

**But that's just the first section of the piece, isn't it?**

Well, that goes through for three minutes and after that the piano enters, and from then on whatever is heard is in a loop which starts with a length of

twenty-four quavers, and then 48 and then 72 and so on. The number of notes in each turn, or generation, as I call it, of the spiralling loop is the square of the number *n*. So first you have one note, then you have four and then nine and so on, and in the 24th generation at the end there are 576 quavers, filled with 576 notes, where it gets saturated. In the ninth generation the piano enters and at that point the whole score is looped in the strings, but getting slower because of each arm of the spiral getting longer. Other things are happening too of course; after the piano entry it's the piano melody which gets denser and denser because there are more and more notes, but the double bass is playing the melody as it was in the ninth generation, slower and slower, with the piano doing a kind of heterophonic variation on it, getting more and more distant from the double bass as time goes on.

**Have you returned to the speech analysis technique in other pieces?**

I did it in my piece *Orchidae Ordinariae* where you have "why me, no money, my way" and there are other pieces too, like the fanfare for The Hague with the Dutch national anthem, where the entire text is in the score, played by instruments. The most recent is *septima de facto* of 2006, an arrangement of the music and a synthrumentation of the text of a Prince song.

**In the various pieces of yours that use microtones, let's call them, you seem to have a preference for just intervals.**

Yes. Although of course *Çogluotobüsisletmesi* is a quarter tone piece. And *otodeblu* a seventeen-tone equal piece. So there are two examples where they're not just. But I examine pitches as if they were just. I rationalise the just scheme, and use that in order to understand the harmony of what I'm doing.

**In a way that's in some ways very similar to Tenney's concept of thinking of the higher-division equal temperaments as being essentially versions of just intonation pitch sets, but just in his case for sheer practicality, the equal division is sometimes an easier way to operate.**

I can see that in any system I use, if it contains any harmonic relevance, I'm going to have to know what the just tuning of that system is to be. If I play a Mozart sonata on an equal tempered piano, I know that I'm listening to the perfect fifth as a perfect fifth, and the third as a pure third, even though they're not. So I'm bending them in my inner ear, or my brain, to what they should be as just intervals. Or what they could be, shall we say, because some of them are ambiguous.

**There are quite a lot of counter-arguments to that basic understanding of tonal function. The ones I've come across repeatedly tend to be very much based on the idea that tonal music works as a sort of group theory, that on some subconscious level we're sensitive to group theoretic constructs, in this case tonal music, which I've never really quite understood or bought into. It seems to me such a convoluted way of understanding.**

You mean the.. what's it called again? The Tone Chroma. One of the first things I did in my theoretical work was to give up octave equivalence. I look at intervals as independent things. People tell me, oh it's because in the overtone series, and I can't help but smile, as if an author said, oh this comes from the alphabet, because the overtone series is just a listing of whole numbers, and you listen to numbers and think that's the overtone series. It's an off-shoot of numbers, and they go to the overtone series as the source, which is only relevant if you're working spectrally. When I work harmonically, not timbrally, I'm using ratios of numbers, and looking at all the intervals as they are, or as they could be.

**That makes sense.**

I believe it does. One of the things I'm really looking forward to doing in Santa Barbara, is – and I've been talking about it for fifteen years now – putting the prime number seven into my system of harmony, extending the Rameau scheme, which is 2-, 3-, and 5-based, to 7. Partch ostensibly did that, but he just tuned his instruments and then started playing on them, and it came out sounding like mistuned Bartók in some cases. I personally believe you've got to have a grammar. If I'm going to write a Bach chorale I have to know my harmony and make rules based on how intervals function. So someday I'm going to try and write chorales using the seven as well, go back to school as it were. And if they work, then I'll start to make more complex pieces. It may be wishful thinking, but that's what I'd like to do.

**In a way that's pushing a harmonic system that one crucial step further in a way that we've never done, whereas in the Partch system you also have the eleventh partial.**

And the thirteenth. And they all sound out of tune.

**But actually making a comprehensible grammar out of it is another matter.**

You could do microtonal music for timbral reasons. There is an aspect of timbre in pitch, like deviations of notes from their just positions to give them a vibrancy. If you have, say, the neutral third, there's a certain thrill to it, being neither major nor minor but somewhere in the middle and therefore being both. That's a timbral effect, not timbre in the sense of the spectrum, but timbre in the sense of regular pitch perception, coloured. And if you're doing it there you can do all kinds of things, you can use the eleventh partial as an interesting timbre. It's got a beautiful sound. Or the seventh. A lovely place, a lovely colour. I think the spectralists did it like that – never grammatically, but always timbrally.

**Do you feel related to those guys, like Grisey, Murail or Radulescu?**

Well, possibly. What interests me about them is that they're people who bask in lovely sounds. I certainly feel very linked to that. The revised version of *Im Januar am Nil* was played by L'Itinéraire and they loved it and I could see why. Gérard Grisey was a good friend but his pieces were formally weak, in my opinion. Beautiful ideas, beautiful sounds, but after about ten minutes his spectral pieces somehow get lost. There are many people who disagree with me on that – a lot is made of his music these days, he's been made into a saint – so I'll leave it at that.

**Is there a connection between your interest in intonation and your love of Indian music?**

I'm sure there is. I got interested in microtones when in Afghanistan in 1967 and I was getting interested in Indian music then. But Afghan music is totally different. Indian music contains no microtones, and if it does then they're not explained by the theory, it's just like Pavarotti singing a certain note higher than you'd expect.

**Good you make the distinction between microtones as such, and simply good intonation.**

My first microtonal piece in a general instead of harmonic sense wasn't *Çogluotobüsisletmesi*, but an electronic piece called *Sinophony I*, which divides the space between 36 Hz and 14,400 Hz into 79 equal steps. There are no octaves in it, and it's microtonal in the sense of pitch space. I did it simply because I was interested in the result. That was the physicist in me. But in the case of *...until...* no.7 for guitar you can certainly see that with the drone and all, it definitely has something to do with Indian music.

**You've published several theoretical papers over the years. Is that something you want to continue doing?**

I expect so, because I have an inquisitive nature and I'm interested in certain subjects and want to get to the bottom of them, uncover and make known the beauty of a structure, a system – that's what gets me to write. The Academy of the Bourges Institute for Electroacoustic Music requests an article every year and I manage most years. My *Musiquantics* book has been in the making for 23 years now, so that's something that definitely has to be finished *[Barlow in fact finished it in December 2008 – BG]*, and I want to do two books on Indian music. One will be a translation, actually, so it's not my book, but it will be edited and at least commented on by me, but a book by an Indian musicologist called Vishnu Narayan Bhatkhande written the 1920s and 1930s. It was written in Marathi and translated into Hindi, but as far as I know it's not been translated into any European language. So I want to do that. The other book is an analysis of Indian music on a different level, on a Schenkerian, Markovian, harmonic level. So there are some books to come.

**Do you find that composing and theorising are contradictory impulses?**

Not at all. As a matter of fact my – I wouldn't say theory, but my structure or my system – of harmony and metre is something that I have to write about at length one day. It's already been described in my book *Bus Journey to Parametron*, but I've gone beyond that. It's in my *Musiquantics* book and *The Ratio Book* too to a certain extent, but not in detail. There's such a lot that I have to write about, like my tuning system, interval harmonicity: I've made multi-dimensional scalings of harmonicity and now I want to move in the direction of spherical multi-dimensional scaling, to see whether I could take for example all the white note church modes, and put them on a globe so that you actually see them as interconnected multi-dimensional scalings. You may not know what that is – multi-dimensional scaling – but I can explain it very easily. If I had a list of distances between cities, say, in Europe, major cities, just the distances, but every one to every other one, I could use a multidimensional scaling program to generate a map of Europe in which the cities would all be in their correct place. It might be rotated by a certain angle, or laterally reversed, but it would be correct. I've used that system to handle my harmonicity values. I can take, for example, any tone with any other tone of a scale, and work out the harmonicity of that interval. I then have a matrix, just as I would have with city distances, and I can make a map out of it. This map shows C, the upper C and the G very close on paper, F sharp very far

away from the C, but close to the C sharp... I started to do that in 2001 and it found its way into the *Musiquantics* book, but I've got to carry that on further. And write about my septimal harmony idea too.

**Hasn't your thinking about harmonicity so far simply involved prime numbers no higher than five?**

No, I can use them as high as I want in Autobusk. But I'll just say I understand classical harmony going up to five, and I've tried to make my piece *septima de facto* encompass the seven as well. But it turned out to be very difficult because I was always getting strong 5-based or 3-based intervals coming in and pushing the 7-based ones out. So I resorted to a ploy. I tweaked the tolerance of what I could have so that the 5-based intervals were just a little too far out in pitch distance, and then they were disregarded and the septimal intervals got in. So I was able to tune the seventeen-tone equal tempered scale using 2, 3, 5 and 7 that way, using Autobusk. I don't want to stop at five, but I know that if I were to write a piece, say, by hand, based on the primes up to a certain number, unless I was doing a timbral type of piece, I wouldn't go up to seven without investigating it. I did it in *septima de facto* – there was a twelve tone performance in Reykjavik and I'm going to make a seventeen-tone equal realisation of it, which is what it was originally supposed to be, and a two piano version using twenty-four tone tuning. Just like Mozart's system has a 2,3,5 basis, like Rameau or Bach, but they used a tempered instrument to play things.

**But to what extent do the theoretical systems suggest creative possibilities to you? Does a piece ever arise out of one of these theoretical eureka moments?**

I can't think of one in particular – things go in loops. I have a piece in mind and I need to develop a theory, or system, or working method for it, so I delve into theory for that. I can't remember offhand ever having discovered something theoretical that I then decided to use in a piece because it was interesting.

**But what about your ISIS system?**

That's a kind of fairyland physics thing, not a theoretical system. It poses, or postulates, that between every sample and the next, which are 1/44,100th of a second apart, there is a sine curve, which leaves the one sample, touches maximum, minimum, and then reaches the other sample. And this for every

pair of samples. So I can convert, since I will know the frequency of that sine curve, any sound wave into a melody which has notes running at 44,100 Hz and 44,100 notes a second. But I can slow and transpose it down, and that's what I do in ISIS. I've already done a couple of pieces with it. One is *Für Gimik* and the other is *Eleven Steps in Staying a Kingly Dream*, and I'm planning one called *Las Palomas* using ISIS in a big way *[Untitled / oil on metal, wood* and *Ceci n'est pas une œuvre d'art* followed in 2007 and 2008, respectively - *BG]*. It's not so much about discovering a technique and thinking, oh let's make a piece out of this. ISIS is so general that practically any recording can purport to be a transposition of an ISIS melody. And I can transpose it back.

**Given the sort of mind you have, you must have a lot more ideas than you can actually realise as pieces.**

Oh, absolutely. These last few years I've been faced with the situation of not having enough time to compose, but somebody may ask me for a piece at some point and I get down to it if there's a deadline approaching. But my mind's been working on it in the meantime, and I already know more or less what I want to do. I can give you an example of a piece that's been on the cards for years and not written at all: it's a piece for choir, and I actually wrote the text in the 1980s. It's in Middle English, a limerick of one foot too many every line, and it's about the conductor and it's called *His fyn maner of werking*. I know exactly how the piece is going to start, on an open fifth on F, and a lot of details along the way, but I haven't written the piece yet. So very often it's not so much that ideas gradually form and I think, oh this could be a piece – I think it happens the other way around. A piece needs to be written, either because somebody has asked me to, or because like with *Las Palomas*, I feel like doing it also because the possibilities of ISIS inspired it or triggered ideas. That particular piece is based on the sound of pigeons and on the theme "La Paloma", both of them forming the core. I know for example the climax of the piece, where you hear about 500,000 pigeons cooing in sync and suddenly a tango comes into play. Ideas form in various places, and when I want to finally write the piece then it's a matter of connecting them.

**I wanted to ask you about your love of the mechanical piano, for which you've written several pieces. Are you, like Nancarrow, attracted to it because it can offer extra-human possibilities?**

I think it all started with *Çogluotobüsisletmesi*, because it was so difficult to play and I wanted to hear it as it was written, so I made my own electronic

realisation using a program I wrote myself in 1978. It took me three months, and finally I had a tape of the piece that prompted Herbert Henck to offer to play the piece. Later I was asked by producer Detlef Gojowy of Cologne Radio where I could make a better recording and I said, IRCAM, so he paid for me to go there. His fee paid my hotel for a few days, but it took so long – finally three weeks – that David Wessel put me up in his home while I finished the piece there using Music 5 software by Max Mathews. The year after, Wergo wanted to make an LP and the idea came up of having Herbert Henck on the one side and a computer realisation on the other. I said, I'd like to go back to IRCAM and use the 4X, and I was allowed to do that. It was very natural to move on to using the player piano. So partly because of that, and partly because of ideas that I had for the piece *variazioni*, when Paul Berg phoned me in 1985 and asked me if I'd write a piece for his festival, I knew that my Beethoven Op.111 piece was due, and that it would be for player piano. Computer-driven player pianos became apparent to me in the early 80s and I began to use them from 1985. It was a harrowing experience because I had at great expense to have somebody make an interface from a regular custom-made computer for me because they didn't have affordable personal computers in those days, and those unaffordable ones didn't have built-in MIDI.

**What was the piano you used in 1985?**

For the first performance of *variazioni* in 1986 we used a Bechstein, which was the property of the Conservatory of The Hague, with a Marantz Pianocorder system built into it by an expert, David Klavins from Bonn, and that piano's had that system ever since. It was in my studio all the sixteen years I taught in The Hague. But when the Yamaha came I thought, oh this might be a good solution because it's generally available and I won't have to lug this Bechstein round. For a while I was actually transporting an upright player piano that Klavins had loaned me since 1985, and that was a bit of a pain. I was happy with the Yamaha until it broke down miserably when playing the fast bits of my *variazioni*. I thought I would never again use a Yamaha, but it improved later. I also tried the Bösendorfer. Once I tried an Autoklav, a system made by Rainer Borsutzki from Hamburg, built into a Seiler Grand – we had that on loan in Darmstadt during the Summer Courses 1990. I also used Trimpin Vorsetzers; and the PianoDisc made in Sacramento, which we now have in Santa Barbara.

**You've done the rounds of all the mechanical pianos then!**

Yes, and I also paid for two researchers to come and test all the various pianos that were used in my Roboard (as in Robot Keyboard) Pfestival in The Hague in December 1991. I had seven different player pianos there, all linked with various MIDI cables to a central Atari. I was able to play pieces, some of them on more than one piano at the same time, like Steve Reich's *Piano Phase*, which I programmed and played on six pianos at the same time in different rooms. I've been using player pianos partly because of my need to hear unplayable music – when I wrote *Estudio Siete* as a soundtrack to a film by Oscar Fischinger, I knew it would be for a player piano, so I knew I was not going to make it playable. But in fact it has been played by a flute trio and I think it could be played on two pianos.

**What do you think about Nancarrow's music?**

I discovered it through Walter Zimmermann, in about 1975. Later people went on about it being the greatest music of the 20th century – I begged to differ at that time and still do. I thought it was light music with complex ratios. But he was a wonderful guy. I visited him in Mexico City in 1995. He was old and very ill, but took the trouble to come downstairs and listen to my *Estudio Siete* music to that Fischinger film. I gave him a copy of the video and his son took me to the studio behind the house and gave me a piano roll as a present. He asked which one I wanted, and I said I'd love number seven!

**That piece is based on a Nancarrow study, isn't it?**

*Estudio Siete*? It's based on number six. I had input four of his pieces – six, seven, nineteen and twenty-one – by hand, note by note, into my custom-made computer and performed those pieces on player pianos or on synthesizers in various places. As far as I know, I put on the first live computer-driven Nancarrow performances in Europe. I even made a multi-channel version for two grand pianos at two ends of the hall, so you can have panning – I called it Pancarrow. The sounds move through the room because I'm cross-fading the velocities.

**That's a nice idea. I'm inclined to agree with you about Nancarrow. I make the strange link in my mind between him and Webern, both fabulously interesting composers, but somewhat both to my mind too highly regarded…**

I think I'd rank Webern higher. I link Nancarrow with Liszt's lighter music. Very virtuosic pieces.

**You mustn't tell Kevin [Volans] that because he adores Liszt. He's a big Liszt fan.**

So am I – Liszt is fantastic. The B minor sonata for instance – fantastic – but I'm thinking of those pieces which he did to amuse the ladies. Those *Hungarian Rhapsodies*. I used to love *Hungarian Rhapsody no. 2* – I played a simplified version of it when I was in my teens.

**Were you at any point considering becoming a pianist, since obviously you play to a very decent degree?**

I played the *Waldstein* in 1965 as my final exam piece in Calcutta, and professor Wentworth thought I was good enough to go to Julliard, but I got lazy and practised less and less. When I studied piano with Alois Kontarsky in Cologne in 1968, I never practised at all and he got impatient with me and told me to go away and not come back until I had practised. In a friendly manner. He said, if you're working on something for a concert and practising then come back to me and I'll give you help.

**Did you go back?**

No. But I premiered two of my *Textmusik* pieces in 1971 and 1973. The last time I played anything a bit intricate was in the 80s. I played some of my *Ludus Ragalis* preludes in a Cologne concert. And I had indeed practised them.