

Listening to the grass grow ...

The string quartets of Alberto Posadas

A radio programme by Uli Aumüller

Original sound: rustling leaves (remains below the following text)

Moderation

Uli Aumüller: When we talk about nature, we usually mean nature outdoors. The great outdoors.

A forest, for example. In the foreground, uncut grass - in the background, tall beech and pine trees. As far as the eye can see, nothing but trees - and beyond the horizon.

At the edge of the forest, hazelnut bushes and elderberry bushes - behind them, robinia and birch trees, which make a particularly bright sound in the wind - added to this is the dark whistling of the spruce trees.

On the other side, hornbeams and ash trees - they sound a little heavier, more sedate.

Below, along the river floodplain, the huge black poplars and alders - their roots looking so primeval. Their leaves babble rather than rustle ...

If our ears weren't so sluggish, we wouldn't hear it rustling when the wind blows through the branches and twigs - we would hear an orchestra of many thousands of small percussion instruments, leaf against leaf... some large and round, others thin and long - and all together they are part of a great rustling movement in space and time, a sound-time-space choreography...

As if one could watch time itself unfolding and expanding in space - only to collapse and shrink again - as if one could hear time breathing.

I walked through such a forest - outside, in the great outdoors - with the Spanish composer Alberto Posadas, always along the little stream. We stood there for a while and listened...

Original sound / excerpt 10 (begins with the rustling of leaves)

In the forest, page 74 / Original English - Over-Voice

Alberto Posadas: What we are hearing here has a lot to do with the way I compose. We hear the movement of the leaves reacting to the wind. And at the same time we hear the stream. A polyphony of different elements. Each element is very complex in itself. It is not uniform, but constantly evolving. And when the wind dies down, there is no interruption. The rustling of the leaves stops, but there is still the sound of the stream. That is the idea of continuity and the idea that different levels of information overlap. And that also has to do with this idea of not composing in sections, not dividing time into clear sequences with clearly defined parameters, but composing in a flowing, more organic way.

Music

String quartet Ondulado tiempo sonoro - Excerpt 01

Moderation

Uli Aumüller: When composer Alberto Posadas talks about nature, he is not referring to its beautiful surface. It would never occur to him to imitate a frog concert, the rustling of trees or a storm in music. He is interested in the blueprint or blueprints behind the diverse forms that nature produces. And how these forms are intimately interwoven - into a unity with flowing boundaries:

Original sound: Excerpt 11

Page 75 / Original English - Over-Voice

Alberto Posadas: When we look at this dead tree, we see an astonishing polyphony. An extremely rich polyphony. And not only because of the branches, the way they branch out, and because the diameter of the branches varies at each branch point. But also because of the light, how it is reflected from each branch, from the trunk. It is not just a question of external form, but also a polyphony of light. How many shades of brown do we have? - It is musical in a way. It is a very complex superimposition of trunks, branches, colours and so on, so for perception it is a superimposition of information. A kind of polyphony that really has a lot to do with the polyphony that was developed in the West. I believe that there is a clear connection between the polyphony as it was conceived in Western music and the polyphony that we find here in nature. And it is not only found in this bare, dead tree, but in almost every sound that nature produces. This polyphony is incredibly rich - and also contains a different concept of time. For example, this polyphony is so rich that we cannot perceive the patterns of each section of each trunk or branch, but can only identify the whole as a tree. And if we follow these patterns, this tree could be three times larger, but the pattern would remain the same. That's why I think this type of structure follows a different perception of time. The idea of endless time. When

we listen to or watch nature, we can do so for hours on end without getting tired of listening to the sound of a stream or the sound of the sea. We can listen to it for hours because we perceive it as something that is always the same, but never the same. As we said earlier, because it is always changing. And I want to create something similar with my music. I want to compose something in which we perceive that everything belongs to the same system, to the same unity, to the same structure, but at the same time lose our perception of time, of units of time.

Music: Ondulado tiempo Sonoro Excerpt 02

Moderation

Uli Aumüller: Alberto Posadas' five-movement string quartet cycle 'Liturgia fractal' was written between 2003 and 2008 for the French Diotima Quartet. Each movement of the cycle follows a different mathematical model that can be used to describe phenomena in nature, its laws - its blueprints, so to speak. We know that music always has something to do with mathematics, but also with emotion, magic and mysticism. To understand how Alberto Posadas works in particular, I visit him in his studio at the Wissenschaftskolleg zu Berlin, where he was a guest for a year in 2016 and 2017. We sit at an 8-metre-wide desk, at the front of which is a score with lots of colourful squiggles and arrows pointing to each other, which somehow also looks like a complex chemical formula.

Original sound: Excerpt 02

Alberto Posadas in the studio p. 7 / Original English - Over-Voice

Alberto Posadas: My working method is - it's not always the case, but very often - that I first select the musical material I want to work with, and then I think about what kind of transmutations I want to achieve with this material. And from this relationship between the material and the transmutations of the material, I derive, let's say, an idea of how much time I need to allow these transmutations to develop. Once I start to define the various relationships between the materials more precisely, I then need the mathematical models. I choose a model after this first step. And sometimes the model itself gives me ideas that I hadn't thought of at the beginning. It works both ways. But there is another step after the material transmutations, and that is that I have to compose the model itself. Because if you take a non-musical model, it often leads to conflicts between the musical material and the model I have chosen. This is because the musical material is itself a kind of model, an acoustic model that tries to assert its own identity.

Music: Ondulado tiempo sonoro Excerpt 03

Moderation

Uli Aumüller: The first movement of Alberto Posadas' string quartet cycle is entitled *Ondulado tiempo sonoro* - roughly translated as “undulating sound time” - the wave-like nature of time in sound. The idea is that as sounds spread through space, our perception of time changes in a wave-like manner, compressing and expanding. Or not only our perception of time, but time itself, the time of the perceiver. However, this first movement was not inspired by quantum physics or gravitational theory, as one might assume, but by something much simpler - Brownian motion. As early as 1830, Scottish botanist Robert Brown attempted to formulate the movement of dust particles in space. Each particle moves like a billiard ball, seemingly at random, at unpredictable speeds and in unpredictable directions. Nevertheless, the particles are always distributed approximately evenly in space - this is called normal distribution. This simultaneity of pure chance on a small scale - at the micro level - and stochastic regularity on a large scale - at the macro level - fascinates composer Alberto Posadas.

Music: *Ondulado tiempo sonoro* Excerpt 04

Moderation

Uli Aumüller: Alberto Posadas opens his computer - and we see a graph with four curves. These curves sometimes have a kink, either upwards or downwards - which means that in this hypothetical calculation of Brownian motion, one dust particle has collided with another dust particle and changed its direction and speed. Posadas attempts to translate these changes into musical behaviour.

Original sound: Excerpt 04

Page 09 / Original English - Over-Voice

Alberto Posadas: When we look at the curves, each curve represents a voice in the piece - a voice is not always an instrument, it is a string quartet, and that does not mean that the first voice is always with the first violin, or the second and so on, they can swap voices through the instrumentation. But what we get from these curves is this kind of normal distribution. And their progression also comes from the fractal inversions. When the colours change, it is because the direction changes in the movement of the curve. This means that when a voice changes direction, there is a change in the musical material.

Music: *Ondulado tiempo Sonoro* Excerpt 04

Moderation (in this case: No moderation!)

Uli Aumüller: The fourth quartet in Alberto Posadas' *Liguria Fractal* cycle is entitled 'Arborescencias' - loosely translated as 'How trees grow'. Strictly speaking, the composer said that it is not a quartet at all, but a work for solo violin with three additional voices branching off for string trio. It follows the Lindenmayer system - in 1968, Hungarian biologist Aristid Lindenmayer discovered the formula named after him, which can be used to describe the growth and branching of algae, but also of more complex plants. It is a recursive substitution system - that sounds complicated, but it isn't. In its simplest form, very complex structures can be created in a short time using simple rules. For example, you take an initial value A and say that it should be replaced by the values AB. B should be replaced by A. If we start with the value A in the first step, we get AB. In the second run, this result is subjected to the same rules: A is replaced by AB - and B by A. We get ABA. In the third run, the result is: AB A AB - in the fourth: AB A AB AB A ... and so on. However, Alberto Posadas was not yet satisfied with this structure:

Original sound: Excerpt 09

Page 14 / Original English - Over-Voice

Alberto Posadas: From a musical point of view, AB AA BA BA AA is not varied enough. It is sufficient to reproduce the growth of some plants. In that context, it is very useful and efficient. But when we apply the repetition of the same letters to musical material, it becomes rather boring. So I began to compose the model as I had said at the beginning. I invented a system in which we have two different generators, two sets of rules instead of just one. And in each generator there are many more variables - in this case, A is replaced by HC, B by FC, and so on. And we have a second generator with different rules. And there is a meta-rule that determines when I use which generator. (...) The meta-rule that determined which generator I would use was that if I received material that was not included in the original criteria, I would switch to the other generator. In the case of Cadenza, for example, where all materials can appear, I switched to the other generator whenever a material appeared for the third time, if I remember correctly. (...) But just as with *Ondolado tiempo sonoro*, these replacement rules are not only used to determine the macrostructure of when one type of material follows another, but there are also the same types of generators to produce what I call the triggering notes, the control notes. In this case, two generators establish rules that are linked to the spectrum of sounds. For example, in the first generator, the letter A means that I should use the third overtone of the fundamental frequency of the note F. And B means ... and so on. And the result is a meta-rule that tells me when to use the first or second generator.

Music: Aborescencias (complete)

Moderation

Uli Aumüller: In January 2017, the Wissenschaftskolleg zu Berlin hosted a kind of house concert at which the entire string quartet cycle *Liturgia Fractal* by Alberto Posadas, lasting just under an hour, was performed by the Diotima Quartet, who had travelled there especially for the occasion. During the rehearsal phase, I invited the quartet and the composer to a discussion, all five of them in one circle - which increasingly focused on the question: What do musicians need to know about the composer's intentions in order to perform his work appropriately? At the beginning, Alberto Posadas outlines his concerns in general terms - the brief interjection comes from Frank Chevalier, the second violinist of the Diotima Quartet:

Original sound: Excerpt 01 (Part 01)

Diotima conversation p. 40 / Original English - Over-Voice

Alberto Posadas: For me, it's really important to create an organic structure that makes music something alive. And that was one of the reasons why I became interested in models from nature, because models from nature have exactly that ...

Frank Chevalier: That reminds me very much of Bela Bartok ...

Alberto Posadas: ... I never thought of that. You're right. But even now that I no longer work with models taken from nature, I still have this feeling of organic structures, i.e. structures that are not a sequence of blocks, a series of sections, but where everything is shifted into each other. And everything grows in different processes and in the different instruments, so that as a whole - and I think that's my goal - you get the impression that something is unfolding in a living way. It's not like in a house, where you have the bathroom here, the shed here, the kitchen here... no! There is always something in between that is neither the kitchen nor the bathroom nor anything in between... it is something that we normally find in many structures in nature. When we encounter these somewhat more complex structures in nature, they are always connected in the background with the concept of unity. When we look at a tree, for example, we don't perceive every branch, but immediately have a sense of unity. But in reality, it is structures with fluid transitions that make this impression possible.

Moderator

Uli Aumüller: So if that is the goal, I ask, to create organic structures that make music something alive, then wouldn't the musicians, at the moment when they perhaps make a mistake, not play quite right, feel that the liveliness of these

structures is diminishing? Frank Chevalier answers first, followed by cellist Pierre Morlet:

Original sound: Excerpt 01 (Part 02)

Diotima Conversation p. 40 / Original English - Over-Voice

Frank Chevalier: As instrumentalists, we rarely think about structures. When we play, we have so many tasks - we have to control our instruments, the accuracy of what each of us does individually and as a group, we have to be sure of so many parameters ... only when we know the structures and we begin to imagine this unity and all that, then that is a second step or even a third step, which gives us distance and perspective. But we don't start with these abstract things, but rather with very simple ones...

Pierre Morlet: And when you know this structure and are perhaps lucky enough to work with the composer... And you understand how it works - and then when you play this music and know its structure, hear it and see it, but there is nothing else! - only that! - then you can forget the music! There has to be something behind the structure - beyond the structure - exactly what we were talking about, the flowing transitions between things, the leaves and the twigs and branches. That's very important, and that's what makes his music so unique.

Moderator

Uli Aumüller: But it is precisely this 'beyond musical structures', i.e. their organic liveliness, I would argue, that is the model, the story they have to tell with their musical performance - comparable to the lyrics of a song interpreted by a singer - where you can immediately hear: does the singer understand what he is singing, or does he not understand it? Frank Chevalier ...

Original sound: Excerpt 01 (Part 03)

Diotima Conversation p. 40 / Original English - Over-Voice

Frank Chevalier: No, we work in a truly non-significant way. What is called pure music - without any reference to language - the only expression we have is the music and its material itself. Nothing else - I mean, there is no philosophy around it. Just the music itself. Exactly what Eduard Hanslick described in his famous treatise. Which also contains this beautiful example ... 'I have lost my Eurydice ...' (sings the melody from Gluck's opera) ... one might think that this is optimistic, but in fact the text reads: 'I have lost my Eurydice and she is dead'. There is no connection between the two, the text and the music. And in our case, it is pure music. One could probably find some way to describe this in words, but in my opinion, that would miss the point.

Moderator

Uli Aumüller: But, I insist, when you put these two words together - pure music and organic structures - (because that is what Alberto wants to do, as I understand him, that the music behaves like an organic structure, grows like a tree grows. You put a seed in the ground, and then something grows) - then that is, so to speak, the story that the Diotima Quartet tells in concert with this music. Yun-Pen Zhao, the quartet's first violinist, responds:

Original sound: Excerpt 01 (Part 04)

Diotima conversation p. 40 / Original English - Over-Voice

Yun-Pen Zhao: I don't think Alberto means organic structures in the sense that he puts a seed in the ground and something else develops from it, in the sense that Alberto is a pioneer and will have successors in centuries to come who will develop other things with what Alberto did a hundred years ago. I don't think he's thinking about something like that, but rather that he's trying - that's the meaning of organic structure - to make the whole piece, the composition, feel like an organic world in miniature. So there isn't a line from point A to point B to point C - no, everything is mixed together, everything exists in the same image at the same time, and everything grows in between. There are no clear definitions, but it's not a mess either. When you listen to his music, there are a few images, things that stand out, at once clear and not so clear. But there is no exposition and exposition A and exposition B and conclusion and all that stuff.

Frank Chevalier: What I just wanted to say is that the only thing that matters is what you hear. We don't care what people imagine afterwards.

Moderator

Uli Aumüller: Finally, Alberto Posadas speaks up again - he says he just wants to clear up a misunderstanding, but in doing so he introduces a new concept, that of transfiguration, which plays an important role in Christian mysticism. Jesus transfigured from man to God, matter to spirit ... or, as Eduard Hanslick writes in his treatise 'On the Beautiful in Music', in which he endows his famous 'sounding moving forms' with a series of characteristics: Composing is a work of the spirit in spiritually capable material. (...) As the creation of a thinking and feeling spirit, a musical composition therefore has a high degree of capacity to be spiritual and emotional itself. So much for Eduard Hanslick in my 1891 edition. And now Alberto Posadas in 2017:

Original sound: Excerpt 01 (Part 05)

Diotima Conversation p. 40 / Original English - Over-Voice

Alberto Posadas: There is a misunderstanding in our conversation here. Because I am sure that the Diotima Quartet perceives the structure, this organic structure. Because if they didn't, a performance like the way they play would be impossible. But the model that first led me to this structure was only important to me. They don't know in detail how I transformed the model, how this process of transfiguration from model to music takes place. It's really important to me, but what about the musicians? They have other needs. And they have other problems to solve.

Moderation:

Uli Aumüller: Galileo is said to have once remarked that mathematics is the language in which nature is written. Alberto Posadas attempts to imitate this writing behind the diversity of natural phenomena with his music. In order for his compositions to behave like living organic structures, a presence is required that goes beyond this writing. Whether this presence is there or not is something each listener must decide for themselves. Finally, here is an excerpt from 'Bifurcaciones' - Branches - the fifth part of Alberto Posadas' string quartet cycle Liturgia Fractal.

Music: Bifurcaciones / Excerpt to the end, including applause - fade out during applause

Final moderation