INTERVIEW WITH ERWIN ROEBROEKS

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Ángel Arranz: Let us make a bit history about the origin of the Wave Field Synthesis system and The Game of Life Foundation. When was the foundation created? How were its beginnings?

Erwin Roebroeks: The Game of Life started as a 1999 project by Arthur Sauer organized by me, in which Arthur made a composition for an 8-channel speaker system, which was placed within a mobile tent. The idea behind it was bringing closer the stage to the public. The tent had an UFO shape, so we could "land" everywhere to do performances. The reason we started the eponymous foundation was to save the investments from bankruptcy of the venue in which the project was in at that time.

AA: This kind of 8-channel movable, igloo-like installation, was it probably inspired by Xenakis philosophy of Diatope *in 1978 at Paris? Could you describe a bit the course of that project and how was it experienced?*

ER: I think it was more based on the spherical auditorium of the German Pavillion of the 1970 Expo in Osaka, in which Stockhausen performed *Spiral* and other works. We toured the whole of The Netherlands. For instance we performed with the tent in the Musis Sacrum (this was a classical venue in Arnhem), as well as in front of the Town House of Rotterdam. The tent was illuminated in a special way; you really had the idea that a UFO had landed there. That attracted all kinds of people and it was a very inviting way to get acquainted with composed electronic music. The other thing we did to invite people to listen to new music was that we had a kind of program with different kinds of DJ's as well as, for instance, Marco Blaauw playing the trumpet. So, it was presented a broad range of all kinds of new-composed electronic music.

AA: I am really curious about that building.

ER: The tent was built by a Dutch company based on Nijmegen that makes all kind of inflatable objects, for instance for the Tour de France. Although there was not an architect involved, it was an interesting construction. Because of the shape, of course, it sounded so fantastically.

AA: In which way did that project contributed later to develop something else? What were the next steps?

ER: At a certain occasion, due to heavy storm, the "UFO" literally flew away, and it became a total loss. Then Arthur came up with the idea of creating a Wave Field Synthesis system. This had to be mobile too, because we did want to have differences between the acoustics for which compositions are created and the spaces in which music is played. Then we went to Fraunhofer Institute in Ilmenau [DE] and we listened to their system, in which you could hear a comparison between Dolby surround system and WFS system. I have to say that the trailer they showed us did not work very well. In this trailer you saw a cabin of a ship, in which there was a vase on the table. Suddenly, the vase fell off the table due to heavy sea. Whereas the sound of the vase was really going through the cinema, however the vase was not. Therefore you suddenly became aware of the fact that you were watching a flat

screen. Described plainly, the sound was real, but the visuals were not. There was not really a cabin there, but a projected cabin. Yet there was really the sound of a rolling vase. Fraunhofer's intention was to sell it to Hollywood, because they thought of making it a sort of new revelation in cinema. But they did not realize the problem that the visuals were not as advanced as the sound.

We went back to Fraunhofer a couple of times together with Wouter [Snoei]. There I experienced the first WFS concert by Hans Tutschku; it was also in this cinema. Wouter improved their software by making it a live application, but they just did not find it that interesting enough. Probably since this concert we experienced a difference between our artistic approach and their technological approach. Furthermore, we were convinced that we could make a better, cheaper system. Besides, our system had to be mobile. And because I have been in the exam committee of the Institute of Sonology for seven years, I knew a lot of people who I thought were able to build the system. We invited Raviv [Ganchrow], Wouter and Jan [Trützschler] to build it, and so they did. It turned out to sound absolutely fantastic. So they did a pretty amazing job.

> *AA: So, it is conformed a small group of engineers, researchers and composers centered in the production of something new. That is not really very farer away than similar philosophies in the past, that is the GRM in Paris or Electronic Music Studio of WDR – Köln. First there were certain technological necessities (which the radio houses demanded for themselves to broadcast), second came research (in other words, to invent technology in order to study what to do with it) and finally it generates musical aims led by people. In the specific case of GoLF, were more important to find the technology to develop music, or on the contrary to find the music to certain kind of technology?*

ER: I do not believe that technology came first. Of course the radio studios existed, but more important was the compositional urge of the composers after the WWII. It was a challenge to make music with instruments, which were not designed to make music with. If you want to make a comparison with what happened in Köln, we first should take a "little pause". To me the great thing about Köln was the diversity in aesthetical approaches –there was Stockhausen, Ligeti, Koenig, Cage, Kagel, people with such different approaches on music, they all knew that it was important to have this diversity in aesthetics. We also strive for an aesthetic diversity; from Kees Tazelaar to Funckarma, from Ji Youn Kang to Monolake, to name just a few artists. We are not an aesthetic church; we are here for people who make music and for people who want to listen to music. Yet we strive to have a very high quality. And that is something similar to the early Köln days, I guess. For us, everything starts with music and WFS is a tool only.

> *AA: For instance, Andrés Lewin-Richter, from the Estudio of Phonos Foundation of Barcelona, was researching around the Studio di Fonologia in Milan. I asked to him if they are such differences between these studios, why occur. And he says that were very possible, because the used devices. It is very clear that, for instance in the Studio di Fonologia, there was a fascination for the filtered sounds and so on, and in the Köln studio there was a fascination because of the sinusoidal idea of pulse, sound [tone], and so and so forth. And he told me this is so because the tools they had. There are not any preferences. This is only that the studio was configured in such a way. It had to be explored like this. In the case of the WFS it is a more abstract idea of working on sounds, because you are not working the sounds self, but other aspects: there is the space, the room; there is the imagination about how to allocate sounds. It seems like this is a more abstract realm in which you could work music, however at the same time it has its own characteristic approach. Do you see it like this? Do you find it something in common about different composers, different aesthetics? Is it possible to remark something common in that idea of this specific environment?*

ER: Yes. Well, let me start by saying that I believe that no technology is neutral. The way WFS works

enables a sound reproduction which is not as coloring as other conventional loudspeaker systems. Besides, you have to create everything yourself. So, it all comes down to the composer. I could not make anything with it.

> *AA: But there should be an idea of 'this is so different to everything else'. I think that happens whenever I go to WFS concerts. Probably because technology is not neutral, probably because the loudspeaker really is not a raison d'être… really, it is an instrument. I think that Raaijmakers says something in such a way; Stokowski presented one of the first concerts in History with loudspeakers within a museum in 1952. Around that idea I think that something happens with the WFS. As soon as you transport all the music you have composed in stereo, probably in 4-channel or 8-channel to the WFS, it becomes something else.*

ER: I think WFS works best when sounds are moving. If we talk about what Raaijmakers says, the challenge is not to fill up physical space, but to compose musical space. And I think in a way there is a kind of preset musical challenge with the system, because sonic space is much bigger than physical space. Therefore, there is no physical space in the traditional way. The sonic space is always bigger than the physical space, unless you are in a very big hall. That is a very important point. It all comes down to your compositional imagination, to your artistic way of working. So, this technology is not doing anything. Yet, it cannot be emphasized enough, it is not neutral.

> *AA: In spite of the fact that the Wave Field Synthesis system of the Game of Life Foundation probably was not the first system in the world, it was one of the first of its species. What kind of aspects, investigations around precedent systems did motivate the creation of the Wave Field Synthesis by the Game of Life Foundation? Which is, in your opinion, the importance, if any, of your WFS system?*

ER: I think what is great about this system is not only the spatiality of it, but the fact that it enables amazing clear sounds. And it is mobile. Therefore, we can really take the specific sound worlds of the composers with us. In L'ull Cec in Barcelona you could really hear those specific differences. That was really amazing, you really heard what they made. Because if a system does what it has to do, that is radiating sound, then also, if your sounds are not well enough, you will hear it directly.

> *AA: Coming back again to this travel to Fraunhofer Institute in 2004; the question is simple: what kind of intellectual baggage you brought back from there?*

ER: What was interesting from there was the perceptual experience of the combination of a movie screen and WFS and the combination of a movie screen and Dolby surround, to become aware of how our brain is tricked in cinema. And of course the fact that the loudspeakers are not longer the sound sources, because sound is coming from behind or from the front of a loudspeaker. While experiencing the first concerts together with people very visually oriented, I realized that at the moment people stared at the loudspeakers in order to follow how sounds moved, then they were kind of lost. This is because they were thinking that the loudspeakers are the sound sources and therefore their attention was going towards the loudspeakers. So, they did not experience the spatiality of the music in the way it really is. It is an interesting point.

> *AA: Some persons carried out the project of designing the WFS. Wouter Snoei was in charge of making the software that controls the system, Raviv Ganchrow constructed the speakers and Jan Trützschler von Falkenstein programmed the synchronization between the computers. How was the designing process? How do you communicate with each other in order to really put in common*

something so demanding?

ER: Arthur was a kind of technical coordinator. I was the treasurer at that time, so I mainly paid bills. We needed huge amounts of gear and we had to make lots of decisions on acquiring equipment: what kind of loudspeaker, amplifier, audio interface, and so on and so forth. That went very well because of the expertise of all the engineers. Of course Raviv made this great design, which allows us to adapt the loudspeaker arrays to the spaces. The system fitted really well at our last concert in MACBA; it was in its natural habitat. So, the process went very well. Besides, we were allowed to use that chamber of Delft University of Technology in order to adjust the response of the system, carry on measurements and acoustical proofs. So, all of a sudden, there it was. They were very capable people and, of course, we had the kind supervision by Diemer de Vries. It was great that he was involved too. He measured our system and, at a certain moment, Diemer officially declared it to be WFS.

AA: What was the first piece?

ER: We commissioned three composers to make the first three compositions: Barbara Ellison, Yannis Kyriakides, and Wouter Snoei. Barbara's piece was called *A Net to Catch Contingency*, Yannis' piece was called *Music in a Foreign Language*, and Wouter's piece was called *Correlation*.

AA: One of the interesting characteristics is that it was not necessary a big budget to build this system, is not it? Because, compared to the Fraunhofer system, the truth is that, in that project you reduced considerably the budget by constructing something more affordable.

ER: Yes, of course. Theirs was more than 250.000 euros and ours was 100.000 euros. We had to do everything ourselves. And it had to be mobile; their system was fixed.

AA: Let us talk about the social point of view of the system. Its portability has allowed Game of Life Foundation to show the system around the world in different countries, places and venues. Regarding the audience, its reduced capacity, around 60 people, adds an extra character to the Game of Life Foundation concerts, bringing it aesthetically closer to the 16th century concept of musica reservata*. Far from being an inconvenient, since it is not about exclusiveness at all, it constitutes indeed an added, exotic value. So, for people who explore the system acoustically for first time, it could represent a sort of aesthetical experience. What do you thing about this?*

ER: Well, this is a very interesting question. To me, one of the interesting things of spatial music is that a given sound x is something different on spot A than it is on spot B, so you could say that spatial music is a kind of relative music. But as *musica reservata*, I find it an interesting comparison, yet I do not agree with it. *Musica reservata* had a kind of exclusiveness around. It was about learned people of that epoch, people who played music by means of chromaticism and all kinds of relatively difficult stuff to understand at that time. Yet it was not Orlando di Lasso's chromaticism the most effective in expressing the affects. It was Claudio Monteverdi who made music with very simple means, like tremolo or pizzicato, expressing affects by starting from the text. So, from this specific view on *musica reservata*, Claudio Monteverdi realized higher aims by using simple, instead of complex musical means.

WFS seems high-tech, however is very simple. You need to learn to listen to the music, though. It is about openness and it is about listening again. And what is interesting to me: it is a kind of decentralization of social circumstances. If you look at the history of concert practice, nothing changed for centuries, even popular music: there is a stage, there is a kind of priest on it, then there is the worshipping, and then if the priest is ready, they applaud. In our setting, just the fact that people are sitting in a diverse way around, it produces a kind of decentralization and makes smaller the

distance between the performer and the listener.

For instance, we have even experienced that, just by placing the chairs in a coincidental way, it enables the fact that people do not applaud automatically when the piece finishes. When you put the chairs in this way [*drawing imaginarily in the air a square*] and the performer there, then they start to applaud. In the former setting, you often feel that as soon as the piece is over, some people would like to ask a question or say something. There is a social interaction. To me that is an important challenge of this kind of spatial music. The music is decentralized because if you are here, you hear a different performance than if you are here [*marking some imaginary spots on the table*], and it has implications for the way we are listening to music.

> *AA: I find a stronger parallelism, inasmuch as probably in the sixteenth century music was* reservata *due to the social environment, but furthermore, because the composers began to research about what should be music and what should be the new utilization of instruments, the idea of coloratura, or putting an extra emphasis in expression of words, texts and so on and so forth. In the WFS, we have not all this, but somehow the researching spirit is quite analogous.*

ER: In my point of view what happened in 16th century in Italy what was important is that you see movements in the inner space of music. So, in Florence you see movements from a kind of horizontal thinking into vertical thinking, which resulted in opera itself. And in Venice you see the transition from horizontal thinking into 3D thinking.

> *AA: Because of the* cori spezzati*…*

ER: Seventy years before Adrian Willaert, Western composers were already making antiphonal works. I think the reason why the spatial music of San Marco got so important, was the introduction of the third voice, or the third choir, which breaks the antiphonal symmetry. When you have two voices on opposing balconies in a symmetric space, the only thing you can do is echoing. The introduction of the third voice enables timbral play. We think that Giovanni Gabrielli placed the third choir at the entrance on a different level, so that enables great sophistication in timbre and the coloring. This is so because you could alternate between this choir at the entrance and the choirs on the balconies. A philosophical implication of the introduction of a third voice is clearly decentralizing the musical performance.

> *AA: So, that is the concept: decentralization.*

ER: Of course, this is my construction of music history. If you look at the research, there is much debate on the importance of *cori spezzati*. Its importance is questioned. Some people argue that the physical space of San Marco invites composers to do echo effects; they do hardly believe in a compositional urge. But if we look at this building the way we know it today, this reconstruction finished at 1071, and Willaert made the *Salmi spezzati* in 1550. Those domes were there all the time. There is another argument I would like to make. We have Guiseppe Zarlino, who writes *Le istitutioni harmoniche* in 1558, which is a very important musical treaty. Zarlino was the most important and most conservative music theorist of his time. In new editions of this book he gave new definitions of *cori spezzati* (or "*choro spezzato*"). Given the fact that he was so conservative, yet adapted his definition to the musical practice of Venice. To me this fact implies that it was a very important concept. We always think that this choral practice merely ended because the concert life arose in Venice, because music started travelling and therefore could no longer be made for specific spaces. But if you look at *In Ecclesiis*, Giovanni Gabrieli's *magnus opus,* then we see that he treats his different instrumental groups and different vocal groups in a new idiomatic way. And therefore the music becomes no longer dependent on the acoustics of San Marco. If you look at it this way, *cori spezzati* led to an

emancipation of music.

> *AA: Let us incorporate this decentralization concept to the WFS realm. Improvements on the software, the capacity of the system, as well as a friendlier open source interface, the WFSCollider, all this surely have contributed to make the system more accessible to composers and sound artists. What are the expectations of accessibility of the system in a close future?*

ER: Well, the system is not finished. Although the challenge is not in technology: the challenge is in music. It has to be in music and in the way we listen to it. To me, the technological challenge is last in the row: first music, then listening and then technology.

> *AA: So, that answers the previous question of 'from technology to music' or 'from music to technology'. We have closed the circle. Is nowadays Game of Life Foundation thinking in further technical/musical developments of the system? If so, in which way is it? Would you say that 3D sound, implying the vertical axis too, could be a reachable horizon?*

ER: There already are compositions made in which the third dimension is suggested. I am more interested in artistic challenge than in technological ability. What I am doing right now is visiting different WFS systems in the world and studying the possibilities of touring with just the music, so that we do not have transportations costs. So, I would welcome the 3D technology, although I am more interested in music.