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Art and technology: A transdisciplinary exchange, an interview with Robert Henke

Arte e tecnologia: um diálogo transdisciplinar, entrevista com Robert Henke

L'art et la technologie: un échange transdisciplinaire, entretien avec Robert Henke

Abstract

The following text approaches the relation between contemporary art and other disciplines. It is part of a series of interviews that composed a Master's thesis research conducted by Suzzana Magalhães de Oliveira and supervised by the professor and researcher Céline Berthoumieux for the University of Lumière – Lyon II, in France, between 2017 and 2018. The dialogue here below, with the visual artist and musician Robert Henke, brings a reflection about how the exchange between the art and other knowledge domains, as the collaboration with other creators and researchers, may be perceived in the thinking and artist's work. The subjects mentioned in this article allow us to understand better the transdisciplinarity in arts, its difficulties and the lessons it may bring.

Key-words: Transdisciplinarity. Contemporary art. Electronic music. Technology. Artist.

Resumo

O seguinte texto aborda a relação da arte contemporânea com outras disciplinas. Ele faz parte de uma série de entrevistas que compuseram uma pesquisa realizada entre 2017 e 2018 para a dissertação de mestrado de Suzzana Magalhães de Oliveira, sob orientação da professora e pesquisadora Céline Berthoumieux para a Universidade Lumière – Lyon II, na França. O diálogo aqui apresentado, com o músico e artista visual Robert Henke, traz uma reflexão sobre como a troca entre a arte e outras áreas de conhecimento, bem como a colaboração com outros criadores e pesquisadores, pode influenciar no trabalho e no pensamento do artista. Os pontos expostos permitem compreender melhor a transdisciplinaridade na arte, suas dificuldades e aprendizados.

Palavras-chave: Transdisciplinaridade. Arte contemporânea. Música eletrônica. Tecnologia. Artista.

Résumé

Il s'agit dans ce texte d'aborder la relation entre l'art contemporain et d'autres disciplines. Il fait partie d'une série d'entretiens issus d'une recherche réalisée entre 2017 et 2018 dans le cadre du mémoire de Master de Suzzana Magalhães de Oliveira, sous la direction de la professeure et chercheuse Céline Berthoumieux, pour l'Université Lumière Lyon II, en France.
L'entretien avec l'artiste visuel et musicien Robert Henke démontre que l'échange entre l'art et les autres disciplines, ainsi que la collaboration entre créateurs et chercheurs, peuvent impacter le travail et la pensée de l'artiste. Les points abordés lors de cet entretien nous aident à mieux comprendre la transdisciplinarité dans l'art, les obstacles à franchir et les leçons qu'on peut en tirer.

Mots-clés : Transdisciplinarité. Art contemporain. Musique électronique. Technologie. Artiste.

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Preface

Transdisciplinarity has been widely discussed for the past decades. This term has been the heart of several studies and discussions since 1980. Its origin dates back to Jean Piaget's speech for a seminar organised by the *Centre pour la recherche et l'innovation dans l'enseignement* (Paris) in collaboration with the *Ministère de l'Education National*, held at the University of Nice in September 1970, when he mentioned this concept for the first time. For this occasion, Piaget presented the idea that the collaboration between different kowledge areas could lead to a better understanding of the various nuances of a study. For him, transdisciplinarity would not be limited to a reciprocal exchange between disciplines of a system, but would rather be a state in which it no longer sees borders between them (PIAGET, 1972).

Since then, UNESCO dedicated a whole congress to debate disciplinarity in 1983 and a new one in 1985 (D'HAINAUT, 1985), and later we saw emerge the Research Center – CIRET in Paris, created in 1987 (CIRET, 2020), which the focus was on transdisciplinary studies. The center itself had as founder members researchers from different fields, as the physicist Basarab Nicolescu, the philosopher and sociologist Edgar Morin and the theater and film director Peter Brook, all of them sharing a vision that the communication between different knowledge areas is crucial for our society.

As it is sustained by the CIRET, transdisciplinarity is a tricky concept and a complex theme to discuss. Or as mentioned in the center's manifest:

> As in the case of disciplinarity, transdisciplinary research is not antagonistic but complementary to multidisciplinarity and interdisciplinarity research. Transdisciplinarity is nevertheless radically distinct from multidisciplinarity and interdisciplinarity because of its goal, the understanding of the present world, which cannot be accomplished in the framework of disciplinary research. The goal of multidisciplinarity and interdisciplinarity always remains within the framework of disciplinary research. If transdisciplinarity is often confused with interdisciplinarity and multidisciplinarity (and by the same token, we note that interdisciplinarity is often confused with multidisciplinarity) this is explained in large part by the fact that all three overflow disciplinary boundaries. (...) Although we recognize the radically distinct character of transdisciplinarity in relation to disciplinarity, multidisciplinarity, and interdisciplinarity, it would be extremely dangerous to absolutize this distinction, in which case transdisciplinarity would be emptied of all its contents and its efficacy in action reduced to nothing. (NICOLESCU, 1996, p.29).

This difficulty to define transdisciplinarity is also transposed to the field of visual arts, being discussed by creators, critics and researchers, such as the curator Hans Ulrich Obrist. At his work "Brief History of Curating" as well as in its "Interviews" – a series of books released between 2003 and 2010 with conversations he had with active professionals of the most varied domains – he sustains his view about the need of a dialogue between the art and other disciplines. This positioning is clearly defended during an interview he made with the artist Chen Zhen:

> I would also like to talk about interdisciplinary issues. The art world has become an isolated environment, just as in the world of architecture, and the world of medicine. It is interesting to observe that medicine is the biggest victim of this isolation. A doctor makes a diagnosis of an individual symptom

> and doesn't care about the rest. A doctor doesn't talk about synergy and art has also forgotten about it. This is where I see the crucial problem. (OBRIST, 2000, p.1).

To investigate further this subject, the thesis "The artists and the transdisciplinarity: From chemists to broadcasters" has been developed between 2017 and 2018. This work was presented as a conclusion of a Master's Degree for the University of Lumière – Lyon II, under the orientation of Céline Berthoumieux, a researcher and Director of the art center ZINC, in Marseille, a dispositive of production and artistic programmation, specialised in digital arts.

The research establishes a dialogue between the complexity theory, by Edgar Morin, and the concept of transdisciplinarity in Arts, by Hans UlricH Obrist, with an investigation about contemporary creations through Art and Technology. It approaches the following topics: The origin of the disciplinary system and the historical dissociation of different disciplines; the man from Renaissance and their wide understanding of the world; the Industrial Revolution and its influence to a disciplinary society; the different concepts of disciplinarity – interdisciplinarity, multidisciplinarity, pluridisciplinarity and transdisciplinarity, from Piaget to UNESCO and CIRET; the modern art and the complex thinking of Duchamp; the complexity, by Edgar Morin, and the need of a transdisciplinary educational system; and finally, contemporary art and the way back to a systemic vision of the world. This final part was only possible thanks to the kind cooperation of different artists who work with art and technology. Among them, Robert Henke, which the interview is presented below.

The artist transits among music, sculpture and mechanical structures, experimenting the relationship between distinct areas. Henke's work has been featured in several museums around the world, such as the Centre George Pompidou in Paris, the Museo Nacional Centro de Arte Reina Sofía in Madrid and the Museum of Modern Art in New York City – MoMA. Recently, Henke collaborated with the composer Marko Nikodijevic, creating a musical piece as an assembly of a tridimensional artwork made of sounds and LED lights. The performance has been held at the Cité de la Musique, with the participation of the Paris Philharmonic Orchestra.

Robert Henke held teaching positions at the Berlin University of the Arts, the Center of Computer Research in Music and Acoustics (CCRMA) at Stanford University, the Institut de Recherche et Coordination Acoustique/ Musique (IRCAM) in Paris and the Studio National des Arts Contemporains – Le Fresnoy, in Lille, France (HENKE, 2018).[1]

SM: Who are you and what do you do?

RH: I am a Berlin-based German artist and composer, working with light and sound. I am also a software developer, partially as part of my artistic profession and partially for a commercial enterprise I co-founded.

[1] All these informations and the artist's academic and professional curriculum are available on his website: www.roberthenke.com

I moved to Berlin right after the fall of the Berlin wall, and became part of the emerging electronic (club) music scene, and its surrounding culture of re-appropriation of abundant urban spaces, and audiovisual installation art. For several years I have been focusing on installation and performance works using lasers, and LED pixels.

My time is divided into musical work at the studio, performing electronic music on stage, developing, preparing and setting up audiovisual installation works, and working at/ for Ableton[2], the company that has produced the software *Live* and has a huge impact on how electronic music is composed and presented at the moment.

SM: You were part of a scene composed by different types of art emerging at the same time, a historical moment marked by the need for freedom. Do you think that the scenario of the 90s (economic, technological and political, as it happened in the 50s/ 60s) pushed naturally the young creators to think in a new way, and that is why we started to see artists with multiple interests again?

RH: I can only speak for myself and those around me, in Berlin, in my 'scene'. For us, the most important factors were the availability of empty, un-defined spaces, combined with very low costs of living, and also an environment which was not nearly as loud, colourful and overwhelming as it is now.

The emptiness of the city (East Berlin) made it possible to develop very minimalist concepts that still worked: A few television screens on the ceiling of a club as light show, two turntables with a record with some endless grooves as sound installation, red candles on a doorstep as an indicator that something is happening inside the building.

In my opinion, the biggest challenge for art these days is how to find your own voice in this constant bombardment of all senses on all channels. Berlin in the 1990s was empty, and there were no mobile phones. There was room to listen to your inner voice, whilst sitting on the roof of an empty building, overlooking the city. This has interesting parallels to the city of Detroit at the same era, another birthplace of techno music.

Also, the fact that one political system had just collapsed and the new one was not entirely accepted by everyone indeed led to a situation that combined a lot of uncertainties with a lot of hopes and idealistic ideas.

The combination of all those facts allowed things to happen in many new ways. To me, club culture in Berlin at that time is as much a social experiment as it is the birthplace of new art. The social parts were the fact that a lot of things were very deliberate non-commercial, as a counter concept to western capitalism, which was also present in pop culture. There was a reason for the non-separation of DJ and audience and for a 'give as much as you want' like an open door policy.

[2] Ableton *Live* is a software music sequencer and digital audio workstation, used in different operating systems. Source: www.roberthenke.com. Visited: 20 August 2018.

SM: Let me just understand better how did you build your professional trajectory: you started with Computer Science, then you studied Sound Engineering... and besides working with software development, you are also a composer and a visual artist nowadays. Could you tell me a little bit more about this transit between these different areas and their connections?

RH: I am interested in spaces, in structure, in slow evolutions over time, in algorithmic and stochastic processes, in repetition, in colors, and in simple and elegant solutions. I can recognize and appreciate such properties both in engineering and science and in the arts. It took me a while to find my own balance here and gain an understanding of the nature of my artistic contributions to the world within that framework.

From an artistic perspective, the challenge is to know when to stop coding. The art I create relies on self written software, but the final result is not the software, but what it creates. Given this, the judgment of the work is based on the result, and most people who experience my art cannot – and do not need to – understand the underlying engineering aspect. The risk is to spend too much time trying to perfect something that has only a marginal impact on the result.

It takes a lot of discipline and the sort of thinking which is applied to large software projects: Thinking in milestones and deadlines and if certain goals are not achieved, reduce the expectations, and focus on the big picture. The last thing I would like to do is spend all my energy in writing an advanced tool, and then only use it in an amateurish way, since I did not find the time to actually explore its possibilities.

SM: Does working with art and technology demand from the artist to deeply know different areas? Or it is not about knowing everything, but more about having this macro vision of the elements that can compose an artwork?

RH: Artists have different strategies to deal with that. A typical model is to outsource as much as possible, and only act as 'art director' and let user folks do the programming and the hardware design. I am too much of an engineer to allow this for myself. But sometimes I also rely on collaboration and external wisdom. In fact, I just learned how to make more use of such resources and accept that there are benefits from not doing it all alone. However, I strongly believe it is helpful to have a lot of insights into the technical process, simply because it allows us to make more accurate predictions about the possible results. And of course there is this whole world of accidental artistic discoveries whilst working on technical stuff. Writing some code, making a mistake, but that mistake leads to interesting unwanted results... those types of things that happen during the process.

SM: It makes me think about the physicist Niels Bohr's lecture in Copenhagen when he said:

> During the history of science, when new discoveries showed the limits of ideas of which we have never contested the value before, our vision expand-

> ed and we became able to relink phenomenons that seemed to be, so far, contradictories. (BOHR, 1932, p.3).

And it shows how complex is the process of creation and the importance of having a macro vision, or even having other opinions while making an artwork – sometimes a foreigner "look" can help artists to understand a process where they are totally immersed in.

About that, especially for you, the processes of making a collaborative project vs. creating your own artwork seem to be deeply different, and you have a large experience in both. How does the creative process work when you are in projects like Deep Web[3] or From within[4]? Do you share your impressions, discuss and think about the concepts when creating a project together? Is there a difference in the process of creating a commercial one, like you did with Gerhard Behles, while developing Ableton?

RH: Collaboration is a long and complex topic. I don't think we can cover it all in a few sentences. All successful collaboration is based on a good mix of things, thoughts, methods all involved parties have in common and the unique experiences and ideas each individual brings in. In retrospective, I should have been collaborating more often in my artistic projects.

Successful collaboration provides at least two essential aspects: They help against losing focus on unimportant details, because there is always a chance to step back from the detail work of the other person (or people) involved and look at the bigger picture; and they help with finding the 'resonant spots' where there is strong mutual agreement on how to proceed. The most important aspect of collaboration is to bring together complementary skills.

I don't feel a significant difference here in between working on a piece of art or on commercial software.

SM: I understand this is a large subject, but I would like to ask you to precise just one point here: How do collaborative works influence your own artwork? For example, after this type of experience, does it happen that you apply new techniques from another field into your personal creations?

RH: Not necessarily from a different field, but rather different techniques within my own field. My recent collaboration with classical trained contemporary composer Marko Nikodijevic told me a lot about techniques for structuring music and I cannot wait to apply some of them to my own future works. Also the necessary discourse about the nature of a work on a very abstract level is helpful and inspiring. When

[3] *Deep Web* is a collaborative installation, by Christopher Bauder and Robert Henke. According to the artist's website, "the installation used 12 high precision lasers and a matrix of 175 moving balloons to create a dramatic three dimensional sculpture of lines and dots floating in space above the audience". Also, the artwork has been developed for the *Fête des Lumières* in Lyon 2015, but once the event was cancelled after the IS attacks in Paris in November 2015, it was shown at CTM Festival Berlin in February 2016 instead. (HENKE, 2018)

[4] *From Within* is an artwork created in collaboration with the composer Marko Nikodijevic. According to the artist's website, "the installation combined influences from contemporary works for ensemble with the rich, raw and precise powers of current computer music, the pioneering usage of wave-field-synthesis and the integration of a sculpture of LEDs behind and above the ensemble creating a unique immersive audiovisual space". (HENKE, 2018)

we talk about art, we consider underlying concepts of time, of development, variation... and the role of perception, expectations, formal rules and so on. Those topics are quite universal, and thus can easily be applied to all kinds of concrete situations. Where I found the most significant overlap between my own work and my collaborators' was in topics concerning space/ spatiality, topics of form/ shape and/ or development over time, and topics of timbre/ color/ texture. All three can be found in visual arts, in music and in anything in between.

And whilst writing this, it becomes clear to me that the overlap is the norm, not the exception. It would be much harder to find things in one field that cannot be applied to another one...

SM: What about the audience? The artist Chen Zhen once said, during an interview to Hans Ulrich Obrist, that:

> The audience helped me discover the meaning of the work. It only confirmed the idea that transdisciplinarity has become a work of art. To make the installation immerse itself into the space, to make the object an instrument, you need the audience's participation. Doesn't a performance with the audience's participation reveal a new potential to us? (ZHEN, 2000, p.1).

Does the interaction with the audience change your way of seeing your own work? In which way? Do the feedbacks you get make you rethink your research often?

RH: Very much so! Audience feedback is an essential part of creation. The challenge for the artist is to learn how to read it. Not every opinion should immediately lead to a complete rethinking of the creation. When performing or when working on kinetic/ time variant installations, I carefully observe the audience and try to come to conclusions. Does their behaviour match with what I did anticipate?

There is an interesting psychological phenomena: As soon as an external observer is present, I find it much easier to get more distance from my own work. Sometimes I invite friends to listen/ watch, and all it needs for me to get new insights is their mere presence. What I do very often with my installations is adjusting the pace of the large gestures to what resonates best with the audience at a given space. Since my works are mostly algorithmic and created in real-time, often it is enough to change the view variables in the code to tune the work in such a way. When performing, one does this automatically, even a conductor of a fixed score does this intuitively, 'riding' the piece to fit the momentary atmosphere in the concert hall.

SM: Even if someone who experiences your art is not used to the gear of these complex creations, do they receive your artworks easily? Making them seem simple and comprehensible is one of your main interests?

RH: No, my interest is to create something that provides an experience, defines a mental space that transcends from the technology. I am interested in details in textures and timbres, in the fine-tuning of things till I reach the optimum within giv-

en constraints. I simply believe that such intensive occupation leads to good results, even without the average audience having a clue about the technical obstacles. It makes a difference if an installation presents itself as a 20 minute loop or as an ongoing morphing algorithmic and 'living' entity. I aim to create works which are convincing for the causal recipient and yet deep and complex enough to invite deeper engagement.

SM: You just defined your interest in having a transdisciplinary approach...

RH: I have difficulty with the definition of transdisciplinarity – see also the talk at Wikipedia (TALK, 2018) –, thus, I guess I don't see myself as such. I am just a normal case of an artist of the 21st century, who is using the tools available. I don't feel that my focus is extremely wide or diverse, I just apply the same set of interests and preferences to related disciplines, using the same or similar technical tools.

SM: I know it is quite a tricky subject, once the definition of transdisciplinarity itself is not clear. It is interesting to see that the talk you mentioned is conduced by people who study the connection between distinct disciplines and there is no consensus among them. The more I study about it, the more I see divergences between different researchers and institutes. For me, the way you describe how you work could be explained by the idea that transdisciplinarity seems frequently to be unreachable. It is a theoretical concept that in practice gives us the impression that something is always missing and we don't have a focus wide enough to be able to link different domains.

Concerning this subject, I am curious about something: Why and how did you decide to work with arts and technology? When did you change from seeing yourself as an engineer and scientist to see yourself as an artist? Did this transition ever happen?

RH: No, it is a constant re-negotiation with myself.

The key to a new understanding of myself was the understanding of engineering as art. Reading books about inventions and inventors helped me a lot. The main difference is not the working method or the result, the difference is the evaluation from the outside world. And new technology driven forms of art clearly changed the picture here. The public learned to understand that there is artistic expression that is strongly related to technology and I fit in right there.

Berklee College of Music just accepted the combination of laptop and controller as "musical instrument". That is a huge step.

SM: It sounds revolutionary to me when you say you understand engineering as art. It makes me think about the UNESCO specialist Louis d'Hainaut saying that since the XXth century, Science and Education needed to keep a movement from the preceding century to connect different disciplines, in order to study a new subject in its totality (d'HAINAUT, 1985). We see this movement also happening in arts, but the educational system is still resistant to new visions and tools – the example of Berklee

surely opens an important precedent for future generations.

Do you think that coming from a different background made you face things differently from someone who came from classical art schools or universities?

RH: Yes, but that's not necessarily only a blessing. It helps finding a unique path, but it also means one has to reinvent the wheel very often, due to the lack of knowledge about what others have done before. I find this especially true when it comes to the art of actually selling and offering my work. Part of what you learn in art school is how to position yourself within the market, how to talk about your work, how to pitch it. Being successful as an artist is 50% a social skill completely decoupled from the works itself.

On the other side, a certain naivety is very helpful when attempting to create something new. It is not encouraging if you know whatever you try to achieve has been done a million times before in art history. The more you know, the more you need a strong belief in you or your approach being special.

SM: That is a good point: Some Art schools indeed prepare artists to the market. Which makes me think about another question: This opening of the classical institutions to new languages and types of art is also a reflex of commercial interests? Is this a two-way street?

RH: I am lacking insight here. But I think this was always the case, one cannot separate the commercial aspects from the artistic ones. How much this is a two-way street needs to be re-negotiated again and again, from both sides. When art is a job, it has to be paid. By whom, and out of what motivation and what for exactly is the variables that change.

SM: When you said, earlier, that "a certain naivety is very helpful when attempting to create something new", I have the impression that artists must be engaged in different areas to develop an innovative work. And according to the History of Art, the artists in several moments were able to "preview" the changes that were about to take place in Science and Society. More so, they were often involved in them.

Once you work pretty often with new discoveries and experiments, do you feel responsible for the impact you may cause when you're creating new things, that goes beyond the Art world?

RH: I don't think my impact is of that magnitude. However, in the specific case of Ableton *Live*, there are of course discussions about what kind of things we facilitated and what effect we had/ have on the development of electronic music, and more recently and perhaps more important on a long run, on music education.

SM: Is this about *Learning Music*, the platform you created that allows one to learn music for free? Because it seems that as in arts, technology may transform the educational system into something more democratic and accessible as well, which

is the case of this project, in particular. Could you talk a bit more about the effects Ableton is causing in this field and the motivations that led you to work also with education?

RH: It is about *Learning Music* but also more general about the accessibility of tools. Musical education serves many purposes, but unfortunately is highly undervalued in many school systems. Since *Live* became some sort of widely accepted platform, it is possible for music teachers to develop classes around it, and in comparison to any classical instrument, the software and necessary hardware is either already part of the children's life or not prohibitively expensive. The point with musical education is that you can reach a lot of children who are typically hard to integrate. Teaching a ghetto kid math or physics is probably tricky. Show them how to make beats, and throw in some concepts of sound synthesis and musical structure, and you have the chance to get them interested in things they would never touch otherwise.

Here we are back to the topic of transferring from one discipline to another. Ableton is obviously not a charity organization, but we do have a strong desire to contribute here, from a humanistic perspective.

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