Ctrl+s | Conversations on the survival of electronic music

Participants: Valentina Bertolani, Federica Bressan, Daniela Cattivelli, Francesco Giomi, Luisa Santacesaria, Giulia Sarno, Marco Stroppa, Stefano Trevisi, Alvise Vidolin and Laura Zattra

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On 13 December 2021, a virtual round table was held as part of the project *Ctrl+s | Conversazioni sulla sopravvivenza della musica elettronica*[1] conceived and realised by Federica Bressan, and produced by Tempo Reale. The project was among the initiatives that the Centre has dedicated to the promotion of its archival heritage in recent years, under the coordination of Giulia Sarno.[2] The project consisted of five video interviews conducted by Bressan with different composers who have collaborated with Tempo Reale over the years (Marco Stroppa, Stefano Trevisi, Daniela Cattivelli, Gabriele Marangoni and Adriano Guarnieri), focusing on the issue of preserving and transmitting their works that include electronics.[3] A text by Bressan provided background on the project.[4] The round table, moderated by Luisa Santacesaria, took Bressan's perspective into account while developing topics that had emerged during the interviews, and featured remarks by Bressan, Valentina Bertolani, Francesco Giomi, Giulia Sarno, Alvise Vidolin and Laura Zattra. Together with some of the composers involved in the project (Daniela Cattivelli, Marco Stroppa and Stefano Trevisi), these experts dialogued on the matter of safeguarding

and enhancing musical repertoires that include electronic elements. What follows is a revised transcription of the round table speeches, approved by the participants, and organised around the five themes that were addressed.[5]

1. THE TECHNICAL PROBLEM OF TRANSMITTING WORKS THAT INCLUDE ELECTRONIC ELEMENTS

Giulia Sarno

As Guillaume Boutard has pointed out, 'the sustainability of instrumental music relies on the organology of musical instruments, the teaching of instrumental practices, and musical notation'.[6] With the extreme longevity of a paper-based support, notation and instrumental practices have remained rather stable and uniform over time, so that the preservation of the score – a form of mediation not integrated into the work – ensures that the music can be repeatedly performed with a certain degree of reliability. If the status of the score has become more complicated since the mid-twentieth century for works that do not make use of new technologies, then the three principles of sustainability identified by Boutard falter critically in the case of music with electronics: this is shared mostly through audio and software files, which not only represent forms of mediation integrated into the works, but are also considerably unstable. What much electronic music lacks is a cultural form of shared representation that allows it to be performed at a time other than that of the original creation. Two operational perspectives thus inform the debate: 1) the identification of notational systems for electronics, and 2) the 'perennialisation' of audio files and software. But in fact, it seems that the most widespread practice is to recreate works with new, up-to-date systems. With this, I leave the floor to Alvise Vidolin.

Alvise Vidolin

Let me try to schematise very drastically. It is significant that everything works well until, somehow, the nineteenth century. In the twentieth century things begin to creak because music is no longer just rhythm, melody – I'm simplifying a lot – but expands into the world of timbre. Timbre, which in Western Art Music is identified with the instrument, exits the palette that an individual instrument can generate. Therefore, we go from a symbolic-abstract notation – the written note representing both the sensation of pitch that one wants to perceive, and the metric duration of the note – to a notation that I would define as 'operative'. So, in the case of a multiphonic sound, it is necessary to provide the tablature – to

use a term from the past – through which we obtain that particular timbre. With electronic music, we add yet another element: there is no longer the single, codified instrument, but each composition provides a design of the individual instruments needed to perform that piece. So, we have to notate – or at least describe in some way – the instrument and all of its operational aspects, because the electronic instrument will rarely be rhythmic-melodic, and it will need a series of data and information to specify the sound it must produce. If I were to notate a traditional instrument in this way, such as a piano, I would have to provide the blueprint for making the instrument, with all of the strings, the keys and the various ways of playing it, and perhaps indications on how to prepare it, that is how to introduce other elements into the strings, and so on. So, the problem expands exponentially: to write a piece of electronic music well would mean writing an essay, a book, if we want the detail of all the elements with the quality and precision to which we have become accustomed in so-called 'classical' music. But very often we have neither the time to do this nor, sometimes, the expertise. Many composers, in fact, rely on experts in the field to prepare the electronic elements of their works, and they are fine with listening to the result and approving it or not. All of this means that notating in a comprehensive manner requires considerable time and energy, which is often exhausted in only one piece and sometimes in only one performance, because works are not performed again very often after they premiere. We live in a society that always wants to economise on energies: everything is summed up in one element – the patch – which is, however, a black box. We imagine that having the patch is equivalent to having the instrument, and that this instrument is valid forever. But this is not true because first of all, in order to be able to play it, the performer must know well what is inside that black box, and must have enough time to learn how to play that instrument! Moreover, the instrument risks being completely lost with the first update of the operating system, unless there is continuous porting, which is not always done. My advice, in the end, is always to give an almost written, designed, abstract representation of the real medium with which the piece was made.

There is a third component that emerged in the interview with Stroppa. Once we have the instrumentation, the system working very well, you have to know how to play it. It is not exactly like learning to play the piano, for which you need 'ten years' in canonical studies. But these, which are worse instruments and most probably more complex than a piano, you have to learn to play them in two hours of rehearsal. In the end, music as we have traditionally known it was much more refined and polished than what is happening today with the performance of electronic music.

Luisa Santacesaria

I wanted to ask Marco Stroppa if he has anything to add to this, since the remarks in his interview were very well articulated, and so I wanted to ask him for a comment on this comment.

Marco Stroppa

Let me first make a historical and political point. The issue of the survival of music is an economic one, and follows current capitalist tendencies, so that what survives of 'classical' music is the big symphonic repertoire, especially the Romantic one. Today, anyone who picks up a score of medieval music, especially one written in original notation, cannot read it or decode it, just like a patch from the 1970s. Our knowledge is limited to Western music from more or less two centuries. Other music is not economically viable enough for the time being, apart from a few niches, for example specialising in the performance of Renaissance music.

My second comment is: for one to be able to speak of survival, the piece must be reperformed. The tendency in European music is to ask composers for new pieces, to turn them into producers of music rather than creators of music, without ever proposing to reperform one of their pieces, especially if it involves a major ensemble. Thus, survival for now is limited to a very small number of pieces compared to those produced with electronics and, in general, it is limited to pieces with a rather small ensemble. The third thing is that one cannot study a musical instrument by reading a book or taking lessons on YouTube: instrument apprenticeship still works by oral tradition. However, there is no such thing as electronic instrument apprenticeship: you learn the technology, meaning the language, but not how to programme a patch effectively, safely, solidly. Much less how to perform it. There are very rare cases, however, which cannot even be called real 'schools', such as the electroacoustic music interpretation courses at GRM, or IRCAM's *Manifeste* festival academy. So, I am not very optimistic about the situation. Writing a text, as Vidolin proposed, is fine if the electronics are simple and can be easily formalised – that is, for instance, if we use a reverb, a delay, a frequency shifter. But when we use black boxes or more complex patches (like those from the Native Instruments family), or also open languages such as Csound, Max, or Pd, it is virtually impossible to formalise them. When you have two weeks to make a piece with 20 minutes of electronics, it is complicated to think about documentation in addition to what you have done. As far as survival is concerned, in my opinion it is a question of interrupting or changing the system, which is, however, tied to cultural policies that depend on financial flows. So I am not sure if we 'financially insignificant contemporary musicians' could manage to change this kind of world.

Luisa Santacesaria

We will return to this topic towards the end of our meeting: the role of concert institutions and research centres in promoting a certain repertoire will be the fifth point of the round table. It is true that this is a topic that is inextricably linked to economic, and probably also political, issues, so it would be interesting to delve into the reasons behind reperformances or the rediscovery of a certain repertoire.

Giulia Sarno

Speaking of documentation, in 2005, Alvise Vidolin and Nicola Bernardini said that an editorial profession with specific skills should be created to support composers in notating electronics.[7] In sixteen years, has nothing happened in this regard?

Alvise Vidolin

It seems to me that things, in fact, almost got worse. In your excellent description of the historical evolution of music, publishers were not mentioned much, but they played a dominant role: the presence of Casa Ricordi, to name one of the most famous publishers here, was fundamental. All publishers supported composers in making good copies, and sometimes also in correcting mistakes or improving arrangements. Publishers today are experiencing an almost existential crisis for all the reasons we know; in any case, it is a matter of economics, as Stroppa rightly said. Today the publisher's function is at most that of handling files, in the sense that the composer supplies a digital file already written in traditional notation and, at best, the publisher distributes it; for the electronic part, publishers have no in-house expertise. In the recent past, I have happened to be literally terrified by renting electronic music for magnetic tape: when the tape would arrive, you wouldn't know whether it had been stored tails-in or tails-out, whether it was mono or stereo, and above all you wouldn't know the dynamics at which it was supposed to be played. I don't want to make an accusation against publishers, but there has been an evolution of society that has not improved their status; on the contrary, they have increasingly shut themselves out, and so they are certainly unable to perform the task in the traditional sense, as in the days of written music.

Marco Stroppa

Publishers increasingly find themselves working with young composers who produce works that include not only electronic audio but also video, and they do not know how to handle the reperformance of these works. There is no one on their staff who is competent to do these things; rather, they need a team to take care of the various aspects of the work, but the team costs too much. Publishers

have very little money, because they are either traditional, almost family-type publishers with limited resources, like Breitkopf, or they have been eaten up by multinationals, like Ricordi, which now belongs to Universal Music Publishing part of the French group Vivendi (a former water supplier turned into a mass media holding company), whose director is businessman Vincent Bolloré, a politically influential and controversial French billionaire. How can you think this giant group is interested in contemporary music, which is an infinitesimally small portion of a sub-group of the music Universal Music Publishing deals with, where 99.9% is popular music? The third thing that concerns the publisher is the medium: who can afford the resources to read obsolete media?

Valentina Bertolani

Building on these insights, perhaps having experts on Medieval and Renaissance archives among us would help. Those were periods of great media instability (transitioning from parchment to paper, which is by no means secondary), of notation, and of great organological creativity, all elements that I recognise in your speeches. In addition, tying in with what Stroppa was saying, we must remember that the institutional archive is an expression of power, and in music we never remember this enough. Only recently have discourses of counter-archiving emerged, community archiving to tell stories of people who did not enter the archive as authors of stories, but were merely subjects, resources to be managed. There is anti-imperialist and decolonial work to be done in order for the archive not to be an expression of power.

2. SELF-ARCHIVING PRACTICES

Luisa Santacesaria

The second theme brings the focus back to composers because it concerns the importance and study of self-archiving practices. This topic emerges especially from the interview with Stefano Trevisi, who showed us his archiving system and the variety of materials he keeps.

Giulia Sarno

Indeed, in the absence of a shared cultural representation, the transmission of music with electronics is entrusted to a multitude of documentary typologies, both prescriptive and descriptive. This opens up an archival conception of transmission, a complex and changing mechanism that also encompasses instruments, performers

and discourses. Thus, the archive of a work – the logical and meaningful set of documents, practices and memories that enable its performance and study – can also stand in for the score, in addition to fulfilling many other functions for a cultural-historical understanding of the work. For this reason, the practice of self-archiving is essential to ensure the longevity of works with electronics. We asked Laura Zattra to address this point on the basis of her research and teaching experience.[8]

Laura Zattra

I have encountered various types of archiving, both by composers and institutions. I have had the opportunity to come into contact with very well-organised situations, but also with archives where I had to get my hands dirty with dust to look for what I needed, sometimes without finding it. I would therefore like to reflect on a few points that emerge from this premise: on the one hand, one's archive is a virtual or material place for themselves, an emanation of the artist that is almost a reflection of them, meaning how they represent themselves, see themselves and present themselves to others; on the other hand, the archive is for others, for all those who come afterwards, a place with sources for musicological research or for those who might use it with the goal of reperforming the works. I will address some aspects of these two scenarios.

The interview with Stefano Trevisi was beautiful in this respect. He explains: 'Not that I claim to be studied, but I for one need to know what I did ten years ago'. He continues: 'It's a good thing that I tend to keep everything, because I would simply tend to forget how I did a certain thing'. I think there is a whole sense of personal need here, that many people have in trying to organise their material. In fact, I think one of the key points when it comes to self-archiving is precisely self-assessment or metacognition, that is, understanding one's own thought processes. So even if artists decide to go ahead with archiving, there are different levels of self-assessment or metacognition. In my opinion, archiving is crucial for several reasons; this is patently clear for many of the artists I have studied over the years, and in general for many archives, as we have seen in the interviews: archiving is also a process of self-organisation, of self-knowledge, of studying and revealing the problems one has encountered and the steps forward one has taken from time to time, indicating new possibilities for innovation and experimentation. It is also a way of finding new paths within one's own creative process, not only in relation to a single work, but also in the course of various compositional projects.

Notation is the other point that emerges from the interview with Trevisi. Of course, in every project there is the problem of how to fix music that is not entirely translatable into conventional notation. In Trevisi's case, the solution is a system to

go beyond the description of the individual parameters of the various instruments. In fact, Trevisi tries to record, to make the final sound effect of what he inserts into each of his works able to be heard, precisely in order to go beyond this specificity of the individual software used, which may be subject to obsolescence and all the porting problems we have mentioned. In this sense, self-archiving is very important because it confronts the individual artist with the problem of preserving their material, regardless of whether the piece is performed once, twice or ten times. As far as notation is concerned, the literature is now quite rich, although we have already said several times: who knows if we will ever be able to solve this problem. Precisely because our tradition of fixed notation is very short, all things considered, compared to the enormous history of music, we need to reflect on the fact that electroacoustic music is based on sound, and therefore the description of sound is perhaps the most important part, the part to be preserved in this culture, beyond the specific instrumentation.

I spoke of self-archiving as a mirror, as a way for a composer to show a part of themselves in the distinction between 'person' and 'character' (also Pirandellian, if you like), between what is the reality of a person and their emanation to the outside world. Studying an artist's archive is just that: for the scholar, it is a window into their world, to see how they organise themselves. Let me give some examples. Cathy Berberian left the Paul Sacher Stiftung an archive that was already very well organised: she arranged all the folders with her letters, her curriculum vitae, and so on. Camillo Togni at the Giorgio Cini Foundation also left an extremely organised archive, with folders in which, for example, he put in a precise and chronological order both the sketches and the documentation of the sole reperformance, in 1991, of his only electronic piece. We also have opposite cases, such as Teresa Rampazzi, who always projected into the future and had no interest in organising her material; in fact, she refused to do so. We who study her must try to solve this problem, and go and look for sources scattered around the world in the archives of the people who knew her, for example. To enter into Rampazzi's mental world through this window is extremely interesting, because we enter a chaotic archive that is telling us something: this was her vision of art, her vision of the world, that she wanted to be turned towards the future rather than the past.

Luisa Santacesaria

I wanted to ask Stefano Trevisi if he had a comment on what Laura Zattra said. He allowed us all to enter his archive so clearly, so much so that in the future we are thinking about creating a format such as 'What's in my computer?', to show what each composer keeps, how they organise their things…

Stefano Trevisi

I think everyone organises their archive according to need, first of all. The organisation of my archive stems – as Laura Zattra rightly reported – from compositional needs, such as research around performance techniques. I need to experiment for hours with musicians, recording as much as possible, and then organise the recorded sound materials. I have an archive of sound materials labelled with acronyms. My systematisation is designed to be ready for quick use. As Laura Zattra noted, the archive is also, in a way, a mirror of how I approach composition. After my piece has been performed, however, there is also the archive for others, which is important for reperforming the piece itself. On several occasions it has happened (obviously with chamber pieces) that I had to recreate a work with an instrumentalist who had not participated in the compositional process. It was therefore important to provide a score with a large introductory section, where the processes of the electronic part were explained, and with clear notation (I always try to use established signs to avoid multiplying symbols). In addition to this, however, all the audio examples taken from my archive, which I related to the graphic parts, were also a great help. This is with acoustic music. With electronic music the discourse expands exponentially. In the case of electronic music too, the recording was fundamental, but more to give indications of the material to be performed live than of that fixed in a medium. When I published my works with a publisher, they only released the graphic part. Actually, a multidimensional score would be an ideal end point. At the moment, in my case, there isn't one. I mean, if there is a need then I can extract the documents from my archive, but it would be ideal to publish a multimedia score, in which there is a sound archive from which the performer can go and take examples in addition to the written part. I think some composers have already done this work, but I have never done it so systematically and publicly. I don't know if publishers have the means to do this, but it could be a way to improve transmission. My presence is still essential to perform my pieces, so the next step should be for the piece to be performed even in my absence, simply with prescriptions. For the moment, especially for a repertoire of this type, the presence of the composer is still fundamental.

3. EXPERIMENTAL MUSIC: A DIFFERENT CONSERVATION PARADIGM?

Luisa Santacesaria

By the term 'experimental music', we refer to sound works that present one or more of the following characteristics: site-specificity, improvisational practices, self-

constructed sound sources, non-codified performance practices, and/or identity between composer and performer. Due to their specificity, these practices require particular transmission strategies. This topic emerged especially in the interview with Daniela Cattivelli.

Giulia Sarno

Cattivelli's work is an example of how electronic practices that do not envisage 'literal' forms of reperformance, meaning that they are not designed to be staged by performers, are becoming increasingly popular. Authors propose a performance, which is often based on impromptu creation, after which it is transmitted by means of evidence of the performance's existence (recordings of various kinds). However, textual forms, memories and objects also crystallise around experimental music, that, if properly preserved, will enable a richer and more multifaceted transmission. This raises specific problems of preservation, which Valentina Bertolani has addressed on several occasions.

Valentina Bertolani

I would like to start with Cattivelli's words, and the universe she described. Daniela Cattivelli identifies as a sound artist, also recalling her activity as a saxophonist. She describes herself as the result of a non-linear path, a sum of components greater than the individual parts. She says: 'I identify a lot with what I do; I am a composer, but also a performer', emphasising the experiential sphere; this dual role is common to many sound artists. This also brings us to the times of our thoughts. In this sentence I find a strong present. In fact, towards the end of the interview Cattivelli says: 'I live very much in the present'. She then identifies the web as a great archive, even if this causes her some sadness. Her website is a space to potentially devote more time in the future, to collect more varied documentation. In this regard, I would like to mention Kyle Devine's book *Decomposed*,[9] which discusses the physicality of virtuality and how many resources this intangible object that is the Internet requires for its sustenance. The part in which Cattivelli shows us this decentralised archive of hers, which consists first and foremost of a chest of drawers containing a wide variety of media, is also beautiful, an element that can be found in other archives, such as those of Maryanne Amacher and Pauline Oliveros. Cattivelli's archive includes a series of binders scattered around the house and some notebooks, which she also describes from a visual and tactile point of view, evoking the materiality and multi-sensoriality of memory. Cattivelli then tells us about *Garrulus Glandarius*, a performance with a set of bird calls and a chain of effects that are activated through software.[10] This leads me to ask: how fixed are the set of calls, the use of software, the chain of effects? This is very important information from an archival point of

view that is rarely included in the descriptions of pieces. In this work, Daniela, you explore instrumental techniques used by hunters. I would like to know: how did you learn these instrumental techniques? Can reflecting on this help future performers learn these instrumental techniques for future reperformances? She also said: 'I use instruments by modifying their technique, and using these syllabic sequences that the hunters are quite jealous of'. This makes me think: what relationship do we have with the knowledge we acquire? Do we possess it, or are we its custodians? I recently broached this subject with Canadian composer Gayle Young, discussing whether it is important or not to attribute authorship to the person who gave you that knowledge; and once you have acquired knowledge, whether you can use it as you see fit or whether you are somehow responsible for it, a custodian of it; whether there are situations that admit possession and situations that require custody, and how to distinguish between the two. So we come to the end of the interview, where there is this beautiful sentence: 'My work can be a starting point, but I am not interested in it being exactly reproduced. In my training it is very useful to have access to material, but I have always seen it as something that could be developed to serve my path: I would like someone to develop the exploration of birdsong in a different way from mine'. There are two centres that do just that. The first is the Archival Research Centre (*Geishiken*) at the University of the Arts in Kyoto, a centre with several collections aimed at future artists and community artists, where there is a double level of preservation: not only are the records preserved, but hopefully artists will interact with them to create new works. The second is the Centre for Curating the Archive at the University of Cape Town. The interesting thing here is the relationship between curating and archiving, which we don't normally put together, perceiving archiving as neutral, whatever that means, whereas curating involves interpretation. But this makes us think. As a musicologist, I have sometimes gone into archives looking for answers to questions, so I have interacted with individual documents: the further I go, the more I realise that it is important to interact with the archive in its entirety and in its complexity of creation and formation. But, as Cattivelli says, sometimes we lack the time.

Daniela Cattivelli

Valentina Bertolani has focused on many topics. Regarding documentation, in my practice the organisation of material serves me, above all, to reflect on and understand where I am going, not only regarding a specific work, but in general: which paths I am taking? In respect to leaving directions for performers, I identify so much with my work that, for me, composing presupposes from the beginning that I will also be a performer. I believe that whoever moves in the sphere in which I move, documents the various steps of their work, but in the documentation they speak to themselves,

rather than making the effort to find the words that can enable another person to translate their compositional thought into a sonic fact. We keep talking to ourselves rather than making that effort. The compositional moment and the performance moment are two different phases in my practice as well, but in the performance dimension the work continues to grow. In the compositional phase we define the instruments, the processes, the device, the starting sounds or the instruments that will go on to generate that work. But then, when the work leaves my room and is shared with others, there are open margins that respond to what happens in the moment. Bertolani was then interested in *Garrulus Glandarius*. Reflecting these days on its reenactment, a double issue emerges, because in addition to the problem of technological updating, there is also the fact that this knowledge is linked to an environment. The sharing of these syllabic sequences, the use of these tools, is also subject to change. To learn, to know that world, I had to attend hunting and fishing fairs, eat salami and cheese and drink wine with hunters, because you have to come into contact with them in that way. There, that knowledge and those objects, the calls, are disappearing. The new hunters (hopefully fewer and fewer, because we don't like hunting) no longer know how to reproduce different bird songs, because that means spending time learning. The old hunters call them 'shooters', because they just go into the woods and shoot; they are not repositories of the knowledge that hunters, on the other hand, began to acquire at an early age, which is the language.

Valentina Bertolani

This sense of guardianship over knowledge that is under threat makes me think of the UNESCO structures for the preservation of intangible heritage: obviously, these are structures for community knowledge, whereas very often the knowledge of experimental music is individual, perhaps developed in communities, but informing the practice of an individual creator. So it would be interesting to understand, for example, what differences there are between the preservation of these hunters' instrumental techniques and the preservation of instrumental techniques for your piece, and how these two forms of preservation relate to each other and how interchangeable they are.

4. SHARED WORK: PRESERVING PRACTICES AND MEMORIES

Luisa Santacesaria

Talking about intangible heritage leads us to the fourth topic. We would like to emphasise the importance of performers and collaborators who have worked closely with composers in the realisation of works.

Giulia Sarno

Indeed, experimental musics show how the preservation of a repertoire is inextricably linked to the transmission of its practices and the knowledge underlying it. The archive extends to the bodies and memories of the people involved in a shared musical expression. The development of electronic music has contributed to the 'explosion' of authorial practices and the concept of the composer during the twentieth century: the works produced in the centres thus *also* represent the creative heritage of specialists who contribute to the field of musical technologies. In one of the interviews, Bressan says: 'Electronic music is made of people, but we cannot preserve people'. This is true, and yet our training as scholars has taught us that personal memories can be collected and passed on. Thus, the importance of oral history and ethnography in research around electronic music emerges. On these topics, Laura Zattra has given so much in recent years.

Laura Zattra

The archivist cannot forget ethnographic and anthropological aspects in their work. We are not just talking about archiving, nor are we just talking about making history and analysing. We are trying to study a living environment that is constantly changing, both for all the reasons that we have talked about (such as obsolescence), and because artists fortunately continue to evolve, and their archives are constantly changing. We should not forget that all these people are constantly producing and continue to deal with the problem of tracing their production and talking about it. We are dealing with open archives. That is why it is important to hear the direct testimony of these people. We scholars have a duty to continue to talk to these people, to continue to confront the material aspect of the archive with the point of view of those who construct it. Oral history has its own methods, in this sense, but we know how important it is to preserve testimonies: written sources (like oral sources) have their limitations. They do not tell us everything.

5. TRANSMITTING THE 'CULTURE' OF ELECTRONIC MUSIC

Luisa Santacesaria

The last topic ties in with what was discussed at the beginning with Stroppa and Vidolin: we talk about the role of concert institutions, publishers and research centres in promoting and safeguarding the electronic repertoire.

Giulia Sarno

In her presentation, Bressan spoke of music as culture, saying that 'culture is made by people'. These people often operate within institutions. If the preservation of Western Art Music repertoires has historically been the prerogative of music archives and libraries, then developments in electronics have led to the emergence of new institutions, namely production centres, which come to stand as repositories of essential knowledge for the preservation of electronic works. In general, the primary role of centres and institutions that promote new music (concert organisations, publishing houses, academic research circuits) is to circulate works and practices, to produce critical discourse, to keep a certain culture alive. A centre can also be a place for experimenting with ways of transmitting, triggering effective processes, as we are trying to do at Tempo Reale. I now leave the floor to the director Francesco Giomi.

Francesco Giomi

Let us start from the fact that 'electronic music' is not a univocal concept: it encompasses many different forms of expression. One would have to make as many arguments as there are innumerable forms that represent this idea today. Moreover, in recent decades the 'piece of music' has evolved a great deal, and so rather than the preservation of the piece we need to talk about the preservation of artistic-cultural projects, which sets in motion a team of people and a shared creativity, as in the case of Adriano Guarnieri or Gabriele Marangoni. This makes archiving even more difficult, and makes more people responsible for the preservation process. On the other hand, this also makes things easier, because this creative sharing often takes place within institutions, such as production centres, that can be entrusted with responsibility. The centre can be a collector of information and also a preserver: for example, as Vidolin suggested at the beginning, a centre can work on the possibility of encoding the score in languages and formats – what these might be is up for discussion – that are independent of specific technologies. We have tried to do this for Luciano Berio's works with live electronics (but others have done it too, such as Vidolin with Nono's works), which today can be performed without any reference to the specific technology from 20–30 years ago, and re-actualised by contemporary means. I agree that conservation is only partially a technical problem; above all it is a cultural problem. Therefore, centres can indeed be depositaries, but in the sense of active conservation; entities can promote performances of the works by creating new contexts, but they can also encourage their study. This is another important aspect: a study that today must grasp the most current

directions emerging in musicological disciplines. I call this 'ethnosonology'; for example, an approach that takes into account various facets with respect to the performance of electronic music, along with new ideas emerging in electronic music studies, such as atmospherology.[11] The centres must then do the enormous work of dissemination and promotion: the music must be played. I am a militant musician, and I firmly believe that the music of the past must be juxtaposed with the most current and living music. The centres must do all of this by bringing people together, with a continuous exchange of ideas to make this repertoire grow, and not only the current, lively, sparkling repertoire of new performances, but also less recent repertoire, which can find a new life, and which can inhabit new performances.

Luisa Santacesaria

One very important word emerged: responsibility. Everyone who is part of the system of dissemination and performance of electronic music, from performers to composers, to those who work on the teams that set up these works, must feel a sense of responsibility as a bearer of knowledge. For various reasons, this does not always happen, but the idea of also building an archive around the works, for their preservation, can be a way of making those who bring them to light responsible.

Alvise Vidolin

It must be admitted, however, that the work of archiving is demanding for a centre: centres do not always have the personnel to perform this task, nor do they necessarily have archiving among their institutional goals. I am particularly aware of the situation at the Centre for Computational Sonology in Padua, where having staff to carry out just this function is, in fact, difficult. The economic problem is central to the pursuit of professional and functional preservation policies, as is the scheduling and reperformance of productions, as Giomi rightly said. But unfortunately, even these reperformances depend heavily on the concert societies that must organise them, and not so much on the centre. There is always a thirst for novelty rather than for meditation on an unknown repertoire that should be kept alive. I do not want to say that the problem is only economic, but the funding aspect is often crucial for this type of activity.

CONCLUSIONS: A NON-ISSUE?

Federica Bressan

In closing, I take the floor to ask a question which, I realise, could open up hours of further discussion; however, I have been waiting for this round table to ask it. I think back to the ideas I proposed in the article presenting the *Ctrl+s* project; for example, not everyone shares the idea that the preservation of electronic music is a non-issue, or that it is not solved and will never be solved. When we talk about preserving electronic music, I always ask myself: what are we *really* talking about? The importance of documentation, of people, the philosophical problem... it's not everyone's position. I think we should be our culture today, embody it fully and courageously, without indulging in the castrating 'preservation syndrome', and to continue to question ourselves, to discuss like good philosophers, documenting the process that is itself becoming, that is itself culture, that is *us*.[12] But today we kept talking about preserving the patches, the score, getting documentation from the composer... which by the way, is not incompatible with the perspective that I just proposed. So, I wanted to ask you if you share this view, that we should no longer pose the problem of preserving electronic music. Do we agree that this question is poorly formulated? Can we all agree that we are beyond that? I am curious.

Giulia Sarno

In my opinion, these are not incompatible positions, as you said. You propose a 'paradoxical' manifesto, in the sense that you introduced a project called 'survival of electronic music' by saying 'this is a non-issue'. The intelligence of your approach lies in this paradox. Through this paradox we hold things together, that is, we don't get stuck on the technical problem because the problem is cultural. To summarise, I would like to say that if the possibility of reperforming and preserving Beethoven's quartets was in danger, we would not be talking about it because there would be a huge mobilisation to solve the problem. So, it is a question of the symbolic, economic and cultural capital of a certain repertoire. You have pointed out the overall dimension that must be prioritised, because if we only look at the 'perennialisation' of software, we won't get out of it. However, this does not mean that the effort to perennialise software is useless: that too must be done. Things must be kept together.

Valentina Bertolani

Regarding Bressan's question, the music archive as it exists now, which electronic music and other musics have to deal with, is not something that exists in nature: we

have created it as we have created all other things. It is a narrative that stems from a clear philosophical system and therefore creates precise epistemologies that have been solidified in the archive as the physical expression of those epistemologies. New epistemologies are currently being explored, and therefore the archive must change. In this sense, I agree: the problem will never be solved if we confront it with something that is not useful to us. There remains, however, the ethical question of responsibility, of finding the best solution to today's problems with today's epistemologies. I want to take the cue that Vidolin gave us, that there is a lack of a funder, and also echo what Stroppa said about the political problem. The funder clearly exists: it is the State, through public funding, but the State structure of funding does not respond to the epistemologies that we want to create today. Even just the fact that in order to access funds for hiring archivists to catalogue a collection, it must already be part of the Italian national archival system, places a very strong limitation on any other types of co-structuring and co-construction of archives, as with communities where objects are not moved, but are mapped in the places where they are located. Then there are other considerations: when we talk about archives, we are talking about death, which is an emotionally difficult subject to address, which is why it is sometimes left unsaid. With death there is mourning, and mourning involves waiting times and emotional 'buffering' times, to give people time to detach themselves. These complex aspects are not accommodated by the Italian cultural heritage system. Other systems, such as the EU's Creative Europe, may offer solutions, albeit partial, but they are little used in Italy.

Francesco Giomi

From my point of view, epistemology cannot keep up with a cultural, and above all artistic, innovation that is always finding new methods and new forms of expression, new technologies, new thinking: it is always far ahead. So it is almost impossible to keep up with it, both in terms of documentation and study. That's why perhaps Bressan really is right when she says that today we can challenge the very idea of archiving electronic music. Yes, it is a question that we have to ask ourselves: what is the meaning of it? We at Tempo Reale try to do our job with the means we have available, we try to document everything that we do, and archive things as best we can. It is true that centres do not have archiving in their core business: but institutions do what they think is important for their cultural heritage. Therefore, it is a matter of putting the ideas of archiving on the agenda in a meaningful way, of documenting, of reactivating. We also do this for a political reason: the fact that we take public money makes us feel a duty not to let everything we do disappear.

Notes

1   See www.musicaelettronica.it/tag/ctrls/ [all links accessed on 2 December 2022].

2   See Giulia Sarno, 'L'archivio di Tempo Reale: come salvaguardare e divulgare la cultura della musica elettronica?', *Musica Docta*, 13, 2023 (accepted for publication).

3   See the interviews on Tempo Reale's YouTube channel: www.youtube.com/playlist?list=PLOL28epWcV3d_AEjgeCzJPJkee_T359j7.

4   See www.musicaelettronica.it/ctrls-conversazioni-sulla-sopravvivenza-della-musica-elettronica/.

5   For the full video of the round table, see www.youtube.com/watch?v=izidek0548E&t=7s.

6   Guillaume Boutard, *Preserving the intelligibility of digital archives of contemporary music with live electronics: a theoretical and practical framework*, Ph.D. thesis in Information Studies, supervisor Catherine Guastavino, School of Information Studies Centre for Interdisciplinary Research in Music Media and Technology, McGill University, Montreal, Canada, 2013, p. III.

7   Nicola Bernardini and Alvise Vidolin, 'Sustainable live electro-acoustic music', in: *Proceedings of the 2005 Sound and Music Computing Conference – XV Colloquium on Musical Informatics* (Salerno, 24–26 November 2005), 2005.

8   Zattra recently gave a workshop at the Universität der Künste in Berlin on self-archiving (she talks about it here: www.youtube.com/watch?v=GmctD0dRsFE&t, from 1:42:20).

9   Kyle Devine, *Decomposed: the political ecology of music*, Chicago: The MIT Press, 2022.

10 More information about this work can be found here: www.danielacattivelli.it/en/garrulus-glandarius/.

11 For a discussion of atmospherology with respect to music studies, see *Resounding spaces: approaching musical atmospheres*, ed. by Federica Scassillo, Milano: Mimesis, 2020.

12 Bressan expressed this view in her presentation of the *Ctrl+s* project (www.musicaelettronica.it/ctrls-conversazioni-sulla-sopravvivenza-della-musica-elettronica/).