Chapter 1

Motivation

The present chapter formulates a theoretical framework in which concepts described in Chapter 2 are elaborated further in an attempt to establish a discourse that clarifies the motivations behind the submitted creative work. Taking into consideration the philosophical and historical background previously elaborated, I will therefore undertake the difficult task of proposing a new attitude towards music creation that at once takes into consideration the shortcomings ascribed to the notion of *modernism* and simultaneously acknowledges the importance of the original vision of the avant-garde. The musical stance I propose, also recognizes the misguided intentions of the *modernist* anti-mimetic position and the consequences it brought to musical discourse—a criticism now credited to the first generation of artists that became associated with the label of *postmodernism*. At the same time, I believe that so called *postmodern music* has recently started to signify an artistic approach which encourages false notions of plurality and open-mindedness and—by aimlessly questioning the notions of progress and universality in music—promotes the deceiving impression that nothing new can be achieved through musical creativity. I will contend this position first, by introducing Rancière's reformulation of the notion of the avant-garde and by pointing to the relationship that exists between music and other forms of subjectivity. I will therefore explain Rancière's concepts of the *strategic* and *aesthetic* types of avant-garde with the purpose of suggesting that the confusion between these two kinds of avant-gardes is what has led to the ideas behind the development of the notions of *modernism* and *postmodernism* in music. Moreover, I will attempt to apply Rancière's concepts regarding the types of avant-garde to music with the purpose of clarifying misunderstandings regarding the relationship between politics and music. Additionally, by looking at the ethical functions of music and the role it takes in basic human endeavors, I will propose that there is an implicit ethical core in the definition of music. I will further argue that the shared purpose that music and language have—which is to convey emotion and meaning through sound—makes music a vital human act that

is deep-rooted in our evolutionary past. This points to the understanding that music conveys knowledge, thoughts and feelings that are not exclusive to music, but relate to other forms of human action and experience. Moreover, the ethical functions attributed to music also compromise the attempts at expanding the definition of *what music is* that is characteristic of the *aesthetic regime of art*. As a consequence of the relationship that exists between new types of music and new forms of human experience, innovation in music is often seen skeptically by most people if it ceases to perform its ethical functions. Nevertheless, I will propose that there is an ethical function *in-itself* in music that lies within the *aesthetic regime*, that is: to inspire new sensible forms that relate to other aspects of human activity. I will therefore argue that an important role of the musical avant-garde today is to reestablish an agreement of trust with a wider range of contemporary society by demonstrating through music that the purpose of new musical forms, concepts and definitions is to inspire new ideas, opinions, desires and emotions and not to undermine the ethical function music already performs. Finally, I will argue that because of the relationship that exists between what Rancière calls the *aesthetic* and *strategic* types of avant-garde, a huge potential exists in rethinking the *strategic* forms of collectivity in music to radically change the fundamental aspects in the way we create and perceive music. I believe it is through a major reworking of these musical strategies (taking in consideration the ethical functions associated with the concept of music) that the agreement of trust between the musical avant-garde and the wider society may be reestablished. As a consequence, this also would give rise to a broader acknowledgement and understanding of the importance of the *aesthetic regime* in music.

1.1 Redefining the Musical Subject?

I will start explaining the basic motivations surrounding the submitted musical output by considering a position I believe to be prevalent today between people concerned with music. This dominant position is characterized by a skeptical and often cynical attitude towards new forms of thought in music. However, this attitude is dominant not without a reason: it has to do with the notion that today music is—as Alain Badiou has stated—'negatively defined'. Badiou clearly expresses this view in his essay entitled 'Scholium: A Musical Variant of the Metaphysics of the Subject'.

> Today, the music-world is negatively defined. The classical subject and its romantic avatars are entirely saturated, and it is not the plurality of 'musics'—folklore, classicism, pop, exoticism, jazz and baroque reaction in the same festive bag—which will be able to resuscitate them. But the serial subject is equally unpromising, and has been for at least

> twenty years. Today's musician, delivered over to the solitude of the interval—where the old coherent world of tonality together with the hard dodecaphonic world that produced its truth are scattered into unorganized bodies and vain ceremonies—can only heroically repeat, in his very works: 'I go on, in order to think and push to their paradoxical radiance the reasons that I would have for not going on'.[1]

Here, Badiou precisely delineates the situation in which so called 'art music' or 'contemporary music' is created and received today, where the only two main options seem to embrace either the joyful and permissive attitude towards mixing genres and styles now commonly ascribed to *postmodern music* or the desolate notion of *modernist* aesthetics that for over thirty years, has heroically stood in 'life support'.

The skepticism regarding innovation in relationship to music creation today is related not only to the perceived notion of failure associated with modernist aesthetics in music, but to the argument put forward by the so called *postmodern* position, which questions the idea that it is possible to achieve something new through music. However, I believe the problem with this position is that it reduces music only to a mediation of already existing musical styles and forms and to a multiplicity of musical 'games' that aimlessly mixes and remixes past notions of music and musical thought. This concept of music also fails to tackle notions of emancipation, logic, universality and risk within music[2] and ceases to respond to the original premise of the *modernist* vision of the musical avant-garde, which establishes a connection between new forms of music and new types of subjectivity. I also believe it is very important to find an alternative to the main two options that seem to be dominating 'contemporary music' today as both of them seem unable at the present time to inspire a profound change in the way we create, perform, perceive and think about music.

I think Rancière's analysis gives us strong theoretical tools to imagine an alternative which would involve reinvigorating the *modernist* idea of the avant-garde in music without falling back to the misunderstandings that led to the 'crisis of modernity'. Nevertheless, Rancière's notion of the *avant-garde* is considerably different from the conventional one, and in order to understand his definition and relate it to music, it is important to separate it from its former association to a particular movement in music history. Even though the idea of the avant-garde in music emerged as it became associated to a group of 'modernist' composers, the concept remains useful to us now only as a way of understanding the importance of the *aesthetic regime* in the relationship between music and other

[1] Badiou (2009), p. 89.

[2] I have taken this argument (and modified it so that it applies to music) from Badiou's article 'Philosophy and Desire'. See Badiou (2006), pp.30-35.

types of subjectivity and forms of thought. Additionally, Rancière's reformulation of the notion of the avant-garde is also at the center of his attempt to establish a link between aesthetics and politics.

1.2 Re-thinking the Avant-garde

Rancière has persuasively argued that if there is a connection to be established between the aesthetic and the political, it is suggested by the original *modernist* vision of the avant-garde. The basis for this association is not the connection between artistic innovation and politically motivated change, but the suggestion of a link between two different kinds of 'avant-gardes'. The first kind being characterized by an abstract and militant notion of a movement that symbolizes a force that chooses a historical direction and ideological position—the embodiment of a type of subjectivity (political or artistic) to a specific form (a party or an artistic movement). The second kind of avant-garde is rooted in Schiller's model of *aesthetics* as a projection of the future. The meaning of the avant-garde in the *aesthetic regime of art* is therefore not that of artistic innovation as seen by a particular movement that links artistic subjectivity to a determinate form, but the idea of "the invention of sensible forms and material structures for a life to come".[3] This is where the aesthetic avant-garde may inform, inspire and encourage the political avant-garde and bring about transformations in the anticipation of the future. Moreover, Rancière makes a very interesting theoretical observation when he draws a parallel between these two kinds of avant-garde and two forms of political philosophy:

> The history of the relations between political parties and aesthetic movements is first of all the history of confusion, sometimes complacently maintained, at other times violently denounced, between these two ideas of the avant-garde, which are in fact two different ideas of political subjectivity: the archi-political idea of a party, that is to say the idea of a form of political intelligence that sums up the essential conditions for change, and the meta-political idea of global political subjectivity, the idea of the potentiality inherent in the innovative sensible modes of experience that anticipate a community to come.[4]

The ideas that have led to the notions of *modernity* and *postmodernity* in the arts—as well as to the 'crisis of art' as ascribed by many—have therefore developed as a consequence of the confusion between these two forms of political philosophy. Rancière points that this confusion is expected but rejects Lyotard's explanation that the emancipation of art leads to totalitarianism. The confusion has been rather caused by a division which exists between the *strategic* and *aesthetic* conceptions of

[3] Rancière (2004), p. 29.
[4] Ibid., p. 30.

the avant-garde as manifested in art. This division of the avant-garde is also to be found within the political sphere, which not only clarifies the presence of aesthetics in politics, but also the inherent politicity within the artistic disciplines.[5]

Here, I would like to attempt to explain how these to kinds of 'avant-gardes' can be found in music with the purpose of conceptualizing not only the differences between the two, but also to point at how one might relate to the other. I think that the relationship between the two avant-gardes might also help to understand the importance *strategic* aspects of music-making may have on the *aesthetic* result. Moreover, the distinction between the two types of avant-garde can also be useful clearing certain confusions that might arise when thinking about the relationship between music and politics.

1.3 The *Strategic* and *Aesthetic* Types of Avant-garde in Music

The *strategic* type of avant-garde as manifested in music is one that can be associated to a particular group of people (composers, performers, critics and other people who make, think and/or listen to music), musical institution or movement that consolidates a type of subjectivity. It is important to remember that a common ideological position is what triggers the conception of this type of group.[6] On the other hand, the *aesthetic* type of avant-garde as manifested in music is that which—through new ways of thinking and making music as expressed by the creation of new musical forms and structures—has the capacity to inspire and encourage new forms of thought about the life to come. Furthermore, it is crucial that the *strategic* type of avant-garde is not confused with the *aesthetic* type in as much as it will lead to further misunderstandings within the music-world.

It is important to note that one can find these two types of avant-gardes both in the musical and political spheres (as well as in the other artistic disciplines). Additionally, as they manifest themselves in music, the *aesthetic* and *strategic* types of avant-garde are intrinsically related; but only in as much as music is concerned. This relationship becomes evident in the causality that exists between musical groups, institutions and movements; and the creation and reception of music. The *strategic* avant-garde as manifested in music is therefore useful to the political sphere only as much

[5] See Rancière (2009), *Aesthetics and Its Discontents*, 'Aesthetics as Politics', pp. 19-44, for a further discussion about the relationship between the 'aesthetics of politics' and the 'politics or aesthetics'.

[6] Slovoj Žižek has repeatedly emphasized how ideology is not an abstract notion or theory one simply ascribes to, but a type of subjectivity that is reflected in the way we act, on how we behave and carry ourselves on a day-to-day basis. Therefore, a musical 'movement' doesn't necessarily have to be one in which there is a 'conscious' or openly declared agenda that follows a particular position of objectified consensus. See Žižek (2006), *The Žižek Reader*, 'The Spectacle of Ideology', for Žižek's own examination of the concept of *ideology*.

as it contributes to the *aesthetic* avant-garde—specifically as it provides a platform for the creation of 'new sensible forms and structures'. Hence, the way in which the two types of avant-gardes dwell within music can not be directly compared to the way in which they reside in politics. Here lies another vital point one can induce from Rancière's enquiry: the *strategic* type of avant-garde manifests itself *differently* in music as it does in politics. From this, one can conclude for example that the activism of a musician or group of musicians as they become directly involved in politics does not reflect a relationship between music and politics, but only the involvement of a group of people—which happen to have the same occupation—in a political movement. The true relationship between music and politics is rather reflected in the *aesthetic* type of avant-garde. This argument makes evident why it is misleading to attempt to identify a movement with concerns that are specific to music with a particular political affiliation or party. The position put forward by some critics of *modernism* in music—which concludes that the emancipatory project which seeks the autonomy of music leads to totalitarianism—is therefore flawed.

Moreover, I will claim that it is very important to consider the intrinsic relationship between the two types of avant-gardes, exclusively as they manifest themselves within music. The basis of this way of thinking stems from the assertion that the *strategic* type of avant-garde has a considerable effect on the *aesthetic* type in numerous significant ways. The impact that musical movements, institutions, ensembles and other organized groups of musicians and people dealing with music, have on the actual musical results, is often underrated. Too often, people involved in creating (particularly composers in my experience) and experiencing music avoid or forget how these strategic forms of collectivity condition and influence the aesthetic result. I will even go as far as to suggest that, in music, the type of subjectivity that is synthesized in the *strategic* avant-garde is reflected or 'embodied' in the *aesthetic* avant-garde. That is to say, the ideology of the people involved in the creation, presentation and dissemination of music is expressed in the musical modes of action, production, perception and thought. Furthermore, the notion that the composer is the only person whose ideology is reflected in the music and that the *musical work*[7] is the only carrier of meaning—an idea that up to this moment is still widespread in western culture—is also misleading. To avoid misunderstandings, I will introduce the notion of a *musical result* (as opposed to the more limited concept of *musical work*) as that which describes the complex set of percepts given by all aspects of a musical experience. These include for example: all sorts of aural and visual elements in music performance; the space and time in which music is performed; the way in which music is presented to the audience (including their role and participation in the musical experience); different modes of action in performance

[7] See Goehr (2007), for a thorough discussion on the philosophy of musical works.

(performance practice) and composition (act of composing); the relationships established between composer, performer and audience; the context (cultural, sociological, political) in which music is presented; the way music is created, consumed and distributed; *etc.* A particular kind of *musical result* consequently discloses a type of collective subjectivity which encompasses the ideology of the people involved in the music.[8] Additionally, within the *musical result* lies a system of elaborate symbols that synthesizes the relationships between the people involved in the collective act of music-making.

1.3.1 *Musicking*

According to Christopher Small, the set of complex relationships that are formed between people involved in music is that which gives meaning to music. His interest lies particularly on the collective action surrounding music and defines this activity as *musicking*.

> The act of *musicking* establishes in the place where it is happening a set of relationships, and it is in those relationships that the meaning of the act lies. They are to be found not only between those organized sounds which are conventionally thought of as being the stuff of musical meaning but also between the people who are taking part . . . relashionships between person and person, between individual and society, between humanity and the natural world.[9]

By giving priority to the verb *to music*, as opposed to the noun *music*, he also questions the notion of the *musical work* and gives emphasis to the human action of *musicking*. Small argues that music is not an object and that *musical works* only give material for the musicians to perform, in contrast to the notion (developed as a consequence of western concert music) of performance only as a presentation of a *musical work*. He also defines the verb *to music* to include any type of action that contributes to a musical performance, which includes performing, listening, practicing, composing and dancing. He goes as far as to include actions such as selling and collecting tickets and cleaning the concert hall after a performance within his notion of *musicking*. Therefore, *musicking* encompasses all social relationships and actions that are related to music-making. Furthermore, he argues that *musicking*, together with speaking, are characteristics that are at the very core of what makes us human.

[8] I am not implying however that the ideology of *all* the people is represented *equally* in the *musical result*. The question of how much an individual is represented widely depends on the role they take within the *musical result* and the audience's interpretation of it.

[9] Small (1998), p. 13.

> I am certain, first, that to take part in a music act is of central importance to our very humanness, as important as taking part in the act of speech, which it so resembles (but from which it also differs in important ways), and second, that everyone, every normally endowed human being, is born with the gift of music no less than with the gift of speech.[10]

Recent scientific studies in a variety of specialities including neuroscience, psychology, archaeology, anthropology and cognitive musicology have also pointed towards the same hypothesis. The idea put forward by Steven Pinker that music is 'auditory cheesecake'—that it is only a byproduct of evolution and has no biological value for humans[11]—has been challenged recently within the scientific community. These studies have shown how music plays an important role, amongst other things, in human communication, social bonding, cooperation, sexual selection, conveying emotions, phycological well-being, development of coordination and motor skills, expression of empathy, communication between infants and parents and exercising intelligence.[12] In addition, various theories have emerged regarding the relationship between music and language; some of them even suggesting that 'proto-language'[13] (the predecessor of language) was a pre-linguistic, non-verbal form of communication that was a 'musical' form of action and thought.[14] It appears that language and music have a similar evolutionary starting-point and the common purpose of communicating emotion and meaning through sound. From this research one can infer that Small is correct in suggesting that *musicking*, like speaking, is at the core of being human and performs important social, cultural and biological functions.

1.4 The Definition of Music and the *Ethical Regime*

The important functions music performs in the development of individuals and the way in which they establish and nurture relationships within a community is what defines music as a vital human act. Perhaps this is the reason why in the musical domain—going back to Rancière's notion of 'the regimes of art'[15]—music is still defined as such within the *ethical regime*. In other words, if one goes back to the question of why within music there is no change of identification with the break between the *ethical* and *poetic* regimes; I will suggest that it is because there is a strong ethical core implicit in the very meaning of *what music is*. That is to say, as opposed to the definition of the other arts,

[10] Ibid., p. 8.
[11] See Pinker (1998), pp. 528-538.
[12] See Mithen (2006), for an overview of these studies.
[13] Mithen prefers the term 'Hmmmm' over 'proto-language as ...
[14] Ibid., pp. 147-150.
[15] See pp. 4-8.

the definition of music has been tied to the ethical functions that it performs for individuals and their communities. It is worth mentioning that only dance, like music, can also be defined as such within the *ethical regime*, which points towards the deep-rooted relationship between both disciplines. On the contrary, other artistic disciplines including 'fine' art, poetry and theater are identified as such only with the break between the *ethical* and *poetic* regimes.

The ability that human beings have to communicate and perceive emotion and meaning through music is also tied to music's identification and to the ethical functions it performs. It is by no coincidence that already in Ancient Greece, Aristotle observed that music has an immense power to change people's state of character and that different types of music affect audiences in different ways. According to Aristotle, music represents various types of emotions and actions that closely resemble those that the listener undergoes in reality as a result of the performance.[16] It is as a consequence of this link between music and human experience, emotion and action that communities have attempted to regulate and evaluate music according to the ethical functions it performs. One could consequently argue that music that lies within the *ethical regime* is evaluated for its ability to affect people in a way that is considered appropriate by the community, given a particular situation. This argument also points towards one of the reasons why labeling music as different 'styles' or 'genres' seems to be a dominant practice within communities: by knowing what kind of music to expect from a specific 'style', it is possible to anticipate the type of experience the audience will go through. This is also one of the reasons why innovation in music has been discouraged and even censured by communities for centuries. The modification of musical styles within the perspective of the *ethical regime* implies an unexpected change in ones experience and a potential threat to the community's consensus of what is considered to be the appropriate way in which people are to be affected by music. Furthermore, innovation in music has been perceived as a political threat in the past since new forms of music produce new experiences that might stimulate behavior outside the political order.

Plato, in his *Republic* already warns about the danger that innovation in music might pose to the order of the State:

> Put briefly, then, those charged with care of the city must hold fast to this, so that the city may not be corrupted unawares; but beyond all else, they must guard against innovation in gymnastic and music contrary to the established order, and to the best of their ability be on guard lest when someone says that people care more "for the newest song on the singer's lips", the poet may be understand to mean not new songs but a new style of singing, and to comment it. One must not praise such a thing, nor so interpret the poet,

[16] See Aristotle (1995), 'The Aims and Methods of Education in Music', pp. 309-310.

> but guard against changing to a new form of music, as endangering the whole. For styles of music are nowhere disturbed without disturbing the most important laws and customs of political order—as Damos says and I believe.[17]

Therefore, the Platonic view regarding innovation in music is that it is threatening to the social agreements and political organization of the State. Even though the idea that innovation in music might endanger the political and social contracts of the community today might seem hard to imagine, it still gives us a clue towards an attitude that up to this day is still widespread, that is: that innovation in music regarding its own rules, hierarchies, subject matter and genres is still received with reservation, suspicion and even fear amongst the wider community (if compared to the visual arts for example). In my opinion, this is due in the most part for to two main reasons. First, considering the implication that music performs certain ethical functions, innovation can be seen with skepticism as it could lead to confusion, uncertainty and even irritation, if music ceases to perform the functions expected by the community successfully or does so less efficiently. Secondly, given the immersive and participatory (either by listening or performing) aspects implied by the definition of music that establishes a link between music and human action and experience, innovation in music can be associated with new and unpredictable experiences and behavior. Therefore, it is not surprising that some people would be distrustful in allowing themselves experience something they are not familiar with or are uncertain about.[18]

1.5 An Ethical Function within the *Aesthetic Regime*?

Going back to Rancière's notion of the regimes of art, if one considers the ethical core implicit in the definition of music simultaneously with music that falls within the *aesthetic regime*, one might run into a deadlock: if music is to be evaluated *only* by the functions it already performs within the community (and innovation in music is seen as a disruption of these functions), music that lies within the *aesthetic regime* appears as having no apparent noble purpose. To resolve this problem one needs to point towards the relationship that exists between music and other forms of human endeavor. If music is evaluated and appreciated for its capacity to inspire new ideas, opinions, beliefs and desires, then one can argue that there is an ethical position implicit in music that falls within the *aesthetic regime*. In other words, their is an ethical function in-itself in breaking with previous models of

[17] Plato (2006), 'Music and the Constitution', p. 117.

[18] On a related note: according to recent research in cognitive science, most people stop acquiring new musical tastes by the time they are around twenty years old. This might be as a result that as people grow older, they seem less open to new experiences. See Levitin (2006), 'My Favorite Things', pp. 231-233.

music making and in questioning the very notion of *what music is*. This function is precisely that of imagining and experiencing through music, new forms of action, production, perception and thought.

Nevertheless, the establishment of the *aesthetic regime* in music, which redefines the 'musician' as a practitioner of whatever falls into the category of 'music', has still not been spread out through the wider community. The reason, I believe, is that the agreement of trust between the wider community and the musical avant-garde has been weakened as a consequence of the practice of some musicians that can be associated with the notion of *modernism* (mainly, those seeking music's 'purity' in composition through a militant anti-mimetic attitude and those who only advocate 'authenticity' and 'sterility' in performance practice). These practices have also generated an attitude commonly held by many musicians today, which avoids addressing the most basic ethical functions that the community associates to music while pursuing only their individual musical priorities. If the *aesthetic regime* in music is to be acknowledged and appreciated widely, an agreement of trust needs to reestablished between the musical avant-garde and the community. Considering the ethical core implicit in music's definition, it is likely that the community will be unwilling to be open to new musical experiences if they fear that the ethical functions music already performs within the community will be disrupted or negatively altered. Therefore, this agreement needs to demonstrate that the purpose of creating new music is not to betray its ethical functions, but to inspire and experience new forms of subjectivity—*and this in-itself has an underlying ethical function*[19]. Additionally, if this agreement with the wider community is to be reached, it needs to be embedded within the *musical result* and cannot only be expressed theoretically through verbal and written forms of public dissemination.

1.6 Strategic Views on Aesthetic Forms

If a positive redefinition of music is to take place, and an agreement of trust to be reestablished between the musical avant-garde and the wider community, it is crucial to examine the fundamental aspects of how music is created, performed, presented and disseminated today. This includes a significant revision and modification of the *strategic* forms of collectivity in music. In other words, in order to reinvigorate (within the musical sphere) the *aesthetic* type of avant-garde, the *strategic* type of avant-garde also needs to be rethought and reworked. Furthermore, if the agreement of trust between the musical avant-garde and the community is to be regained, I believe it is important to consider the ethical core implicit in the definition of music in parallel with a strong desire towards innovation and change in all aspects of music-making. In other words, while acknowledging the audience and

[19] Adorno also says this . . . .

their perception of what the fundamental ethical functions of music are—by making them experience something that they would associate with their idea of music-making within the *musical result*—at the same time challenging these very notions and putting into question the fundamental aspects of music-making. If one subscribes to this position, one should also consider the role musical groups, institutions, ensembles, industry and movements might have in the *musical result* one is involved with, in order to determine whether these groups might help in the establishment of new *aesthetic* forms. Moreover, it is vital to consider the audience as well as the context, time and space where the music is to be presented as this too has a direct causality with the *aesthetic* result and its visibility, and plays a significant part in the disclosure of a particular type of experience.

Additionally, I believe that the creative process in music should also involve devising and composing these *strategic* aspects of music-making into the *musical result* by creatively reworking the modes of performance, composition, presentation and dissemination of music and rethinking the relationships between composer, performer and audience. Innovation within the *strategic* avant-garde can be achieved through many different approaches and might involve a diverse set of practices.

Some examples of how these strategies may be used as a creative tool are here described: Leave this to the next chapter! (In the following chapter, I will propose and discuss some strategies . . . .

If these strategies are used creatively, they can be instrumental in radically changing the ways in which we make and experience music. Moreover, they have a direct impact on the *musical result* and might contribute—if carefully examined and put into practice—to the emergence of new aesthetic forms. I believe 'art music' or 'contemporary music' can be positively redefined through the sensible use of these strategies and without falling back to the anti-mimetic stand commonly ascribed to *modernism* or the permissive attitude which doesn't seek to achieve anything new that is associated to *postmodernism*. At the same time if these strategies are used reasonably, they can also help strengthening the agreement of trust between the musical avant-garde and the wider community.

Chapter 2

Musical Strategies

This chapter...

2.1 Technology and Strategy

New technologies may have a vital role in the creative use of the *strategic* aspects of music-making and consequently in the creation of new *aesthetic* forms. However, technology is not often used with the purpose of redefining *what music is*, its own rules and subject matter. Today, technology is more often used to create—going back to Rancière's terminology—music that lies within the *ethical* and *poetic* regimes. Put briefly, new technologies are often produced as tools that facilitate the creation of music that fits with previous models of *what music is supposed to be* and preconceived notions of the functions it performs. It would be pointless, however, to ignore the efforts that have been previously attempted to use and create technology with the purpose of breaking with already-existing-models of music-making and therefore contributing with the establishment of the *aesthetic regime* in music. The technological developments of the twentieth and twenty-first centuries have also inspired and motivated the musical avant-grade to get involved and work with these new technologies. Nevertheless, the same misunderstandings and misconceptions that are ascribed to the notions of *modernism* and *postmodernism* have been embraced in thinking about and implementing technology in music.[1] For this reason, I will attempt to put forward some ideas of how to think about, create and use technology in music, considering the aesthetic preoccupations I have previously elaborated.

[1] A survey of how these notions have influenced the thought behind the use of technology in music is beyond the scope of this commentary. However, I think this topic deserves an extended study of its own.

2.1.1 Technological vs. Musical Innovation

Before discussing my views on how technology might have an important function in rethinking musical strategies, I would like to examine some problems that might arise regarding the use of recent technology in music. As a musician, one of my concerns regarding the relationship between technology and music is that on many occasions scientific innovation and technological curiosity are given priority over musical creativity and aesthetics. Luciano Berio has eloquently expressed the same position:

> If in the past—even the distant past—music was often the testing bench and the stimulus for scientific research, and thus music tended to draw scientific knowledge to it, in more recent years you get the impression that it's now science that draws music to it and takes possession of it. Indeed, you often get the impression that a scientific creativity applicable to music has substituted itself for musical creativity, and that musical thought has regressed to the level of the (invariably squalid) opinions that an electronic engineer from Bell Telephone or a Stanford "software man" may have about music.[2]

The attitude of giving more importance to technological (as opposed to musical) innovation while creating music has also increased with the complexity and development of the tools themselves. Scientists and technologists often create music with the sole purpose of demonstrating new developments in music technology. Additionally, musicians that are interested in using technology to a higher level of sophistication very often need to immerse themselves in intricate technological subjects. These circumstances can be misleading for the musician if his priorities shift from a position in which technology is researched and developed for its creative potential in music, to a position in which technological innovation becomes the driving force behind musical creativity. The shift of attention might even happen without the musician's awareness as a consequence of the effort one needs to go through in understanding the complexity of the technological tools and research developed in this field. This can be deceiving and even 'dangerous' if music becomes just a showcase of new technological advancements.

The experience gained by musicians during the second half of the twentieth century who worked closely with technology can also be very valuable to us today as a warning of the possible problems that working with technology might lead to. Looking back at Berio's account of his experience on this issue, one can grasp how the notion that new technological developments lead to important musical progress is erroneous. On his account, Berio describes how the advancements which permitted the

[2] Berio (1985), p. 121.

creation of new sounds with electronic means did not in-itself produce any meaningful musical results.

> Thus many of the more sensitive musicians quickly realized that it was as easy as it was superfluous to produce new sounds that were not the product of musical thought, just as it's easy nowadays to develop and 'improve" the technologies of electronics music when there are devoid of any real and profound *raison d'être*.[3]

He goes on to describe how music that was motivated by technological developments instead of musical thought resulted in a spectacle that did not address the complex set of relationships and conventions that take place in music.

> It was recognized, for example, that the spectacle of a public gathered together to listen to loudspeakers was not a particularly cheerful one, and that, yet again, the experience of public musical listening was made up of many different conventions, and was rooted in many different aspects of social and cultural life: it was not made up merely of a piece, a musical object to listen to, even if it proposed "new sounds". By its very nature, a piece of music by itself cannot easily transform listening conventions and socio-musical relations in general.[4]

The lesson to learn from Berio's statement is clear: musical and technological innovation are inherently different from each other and if one's interest lies in creating music, one needs to guide technological interests and development with priorities that will be relevant to the desired *musical result*. That is not to say of course, that scientific research or technological development regarding music is not valuable. On the contrary, my position is that technology can have a vital role in musical innovation if it is developed with a critical approach and considering the complex social, cultural and philosophical aspects inherent in music's definition. Moreover, if technology is developed imaginatively with the purpose of creating new musical strategies for the future, it might help reshaping the way in which we make and experience music.

2.2 Reshaping Musical Strategies Through Technology

Even though technology may play a key role in rethinking many aspects that form part of a *musical result*, here I will focus specifically on new strategies concerning the relationships between composer, performer and audience. Therefore, I am not going to go into detail into subjects that are not reated to

[3] Ibid., p. 122.
[4] Ibid., pp. 122,123.

this specific area of interest as this would be out of the scope of this commentary. Nevertheless, I belive that there is huge potential and work to be done in these areas, which include concerns such as how technology may radically change the way in which musical institutions operate; the visual elements related to the performative aspects of music; how music is recorded, distributed, advertised and consumed. However, what I will concentrate on here is how technology brings a unique opportunity to envision new compositional and performative strategies based on reshaping relationships that have been established traditionally through compositional and performance-practice conventions. I will start by examining the possibilities technology could bring in revising the way in which musical knowledge is transfered by imagining a new type of score that would combine oral and visual traditions within a multimedia experience. Then, I will...

2.2.1 The Score in the Digital Age

By now, much has been written about the limitations and advantages of the traditional score as a form of communication between composer and performer in western music.[5] Through research in ethnomusicology and other music practices that incorporate improvisation, an increasing attention has been given to other forms of knowledge transfer in performance-practice that do not utilize a written score. These might include oral traditions that include such practices as transferring music from one generation to another through a master-apprendice relationship or the increasing convention of studying recordings as a method of learning a particular song, style, genre or performance-practice. It has also been argued that the score is a medium that is highly individual and 'isolates' the performer not only from the audience but also when playing within a group of musicians.[6] On the other hand, the idea of using notation has been defended as well for its capacity of capturing complex musical ideas and thoroughly worked structures, establishing a particular relationship between composer and performer, providing points of reference and facilitating synchronicity.[7] My position regarding this matter is that the score is still a valuable tool for communicating with musicians trained within western tradition and it is worth expanding the notion of the score to include new strategies that can

[5] See, for instance Goehr (2007), Emmerson (2000), Small (1998), Wishart (1996) and Hamilton (2008).

[6] See Emmerson (2000), p. 121.

[7] See, for example Ferneyhough (1995), for an in depth discussion not only about the difficulties implicit in the practice of notation (the impossibility of depicting sound as visual representation), but its potential as a vehicle to express ideological concerns and to achieve auto-instrospection, as well as the role it might have as a common denominator in different fields of musical interests. According to Ferneyhough, the score contributes to the *act of composing* as an exercise in self-analysis through the process of notation, and to the *act of performance* by establishing the (social and contextual) conditions of its realization.

be developed through technology that might enhance or facilitate communication between composer and performer. In this respect, I completely agree with Simon Emmerson, who argues that technology can serve as a tool in generating new forms of notation that can encapsulate different forms of transferring musical knowledge.

> But we have one new invention which may hinder and help our endeavor: the computer. Its power was rapidly applied to wester music in all the forms we have discussed. Composition, analysis, transcription, sound production, processing, storage and distribution are all now in one way or another within its domain. . . . An unaddressed need remains: the development of more flexible notation systems; these may also be stimulated by the development of a new generation of music interfaces. . . . We should dream of a technology which bypasses some of theses constraints: a combination of ear and eye—a new 'superscore'. . . .[8]

Emmerson's idea of a 'superscore' combines oral and visual forms of communication within a multimedia object combining traditional notation, extended notation, recordings of example material from the live performer, electroacoustic materials, software for performance, patches for live electronic treatment, examples of live electronic treatment, an example recorded performance, written and spoken commentary, video performance material, video example material and graphical material.[9]

Taking Emmerson's idea further, one could easily imagine the 'superscore' as a package that combines performance materials with documentation (including video tutorials, audio examples (sampled mock-up performances or real performances), recordings, interviews, *etc.*) residing on the internet. Additionally, with the increasing accessibility of laptops, one could easily imagine replacing a score that is printed on paper, with one that is displayed on a computer monitor. This would bring the opportunity of exploring the potential to communicate musical meaning through a computer display, which would add movement to the expressive palette of a conventional score. By using animated graphics, scores, pictures, as well as other types visual cues and timed written directions, the composer could enhance the way in which he communicates musical ideas and knowledge through the computer display. In addition, the performer could receive other types of audio information through headphones complimenting the visual input with an 'aural score'. This could comprise from spoken directions and sounding cues (click tracks, reference pitches, etc) to recordings of acoustic or electroacoustic music that the performer would have to react to or improvise with. Moreover, with the development of real-time processing technologies and generative algorithms, the notion of a *fixed* score

[8] Emmerson (2000), pp. 121-122.

[9] Ibid., pp. 128-129.

could also be contested by a score that is *dynamic*, thereby creating a composition that may change its content (pitches, rhythms, etc) each time it is performed. Real-time scoring could be explored further by combining elements of real-time animation and graphics display with new advancements in machine listening technologies, thereby generating a score that responds to the sonic and acoustic context of a specific performance and space. The possibility of creating a network including several computers could also provide instant communication between performers and the option for the composer or conductor to send directions that would be specific to a particular performance. With the increasing popularity of wireless networks and new types of interfaces and gadgets, portable devises like the iPad or iPhone could be used to implement the 'superscore', making it easier to carry and even place in a music stand .

In addition to enhancing communication with musicians trained within the wester tradition, the 'superscore' could also foster new collaborative possibilities between performers of different cultures. By sending information that is specifically devised and customized for a particular type of performer, the 'superscore' could provide the opportunity for musicians from different backgrounds and traditions to share the stage simultaneously in a computer-mediated performance. A group of performers from mixed backgrounds could therefore play together within a predetermined structure by receiving different types of visual and aural stimuli. The collaborative opportunities this could bring are vast as technology could facilitate and even solve problems that until now have made it difficult (if not impossible) for musicians from different backgrounds to play together.

Crossing Cultural Borders?

Given the opportunities technology brings for a diverse group of musicians to share the stage despite previous incompatible performance conventions, important questions arise concerning the types of relationship established during collaboration. These relationships might become particularly sensitive if one is collaborating with musicians from different cultures. In his article *Crossing Cultural Boundaries through Technology*, Simon Emmerson already expresses some concerns as a composer when dealing with cross-cultural collaborations and 'ensembles with ethnic instruments'. He argues that the western composer often appropriates music from different cultures through 'strongly filtered sources' and cultural misunderstandings, frequently resulting in 'cultural murder'.

> There are plenty of examples of composers killing stone dead the spontaneity and vitality which they themselves admire in non-western music through insensitive appropriation of surface technique (usually, once again, through an inadequate notation system and

> inadequate formalized 'rules'). Too simple an understanding of acculturation may hinder the very process we aim to foster.[10]

Emmerson suggests the western composer should undergo a process that surpasses the initial first impression of the other culture's music—which is solely based on our previous expectations and experience—to develop a process where 'new measures of significance' are created. According to Emmerson, this stage is crucial: if the western composer declares intentions to define the meaning of the musical result (based on misconceptions and misunderstandings of the other culture), he might reinforce "the purely western basis for the evaluation of such projects thus defeating much of their object".[11] He therefore promotes a positive attitude towards 'successful acculturation' through education, practical experience, mutual understanding and respect.[12]

Even though Emmerson's position appears to be sincere and well-intentioned, a danger exists if it lends itself to an attitude analogous to the notion of *multiculturalism*, which Slavoj Žižek has rightfully criticized. According to Žižek, *multiculturalism* is a tendency that has spread in western nations through globalization that treats local (other) cultures with 'respect' and displays an interest in studying, understanding and preserving their traditions. Nevertheless, this arrangement is established through a hegemonic relationship—imposed by western nations and from a western perspective—by maintaing a condescending distance between the dominant and repressed cultures.

> Multiculturalism involves patronizing Eurocentrist distance and/or respect for local cultures without roots in one's own particular culture. In other words, multiculturalism is a disavowed, inverted, self-referential form of racism, a 'racism with a distance'—it 'respects' the Other's identity, conceiving of the Other as a self-enclosed 'authentic' community towards which he, the multiculturalist, maintains a distance rendered possible by his privileged universal position. Multiculturalism is a racism which empties its own position of all positive content (the multiculturalist is not a direct racist, he doesn't oppose to the Other the *particular* values of his won culture), but nonetheless retains this position as the privileged *empty point of universality* from which one is able to appreciate (and depreciate) properly other particular cultures—the multiculturalist respect for the Other's specificity is the very form of asserting one's own superiority.[13]

[10] Ibid., p. 126-127.
[11] Ibid., p. 126.
[12] Ibid., pp. 115-134.
[13] Žižek (2006), *The Universal Exception*, 'Multiculturalism, or, the cultural logic of multinational capitalism', p.170-172.

Emmerson's approach towards intercultural projects might become misleading if it is assumed that through a process of education and experience with music/musicians from 'other' cultures, these projects will loose their western basis and become productive or successful cultural exchanges. Moreover, this process of study and practical exchange might in itself become the basis of establishing a relationship of power and an attitude that reflects—as Žižek would say—the way 'the colonizer treats colonized people'.[14] I will therefore suggest that a more 'honest' form of exchange is to approach intercultural projects with skepticism and self-awareness; without distancing oneself from the musicians from 'other cultures' by treating them with special respect or with a fake notion of open-mindedness. I would propose dealing with these musicians as one would deal with other musicians within our own culture (we are not usually particularly concerned with treating people within our own culture with special 'respect' or distance), by collaborating with them (without assuming a patronizing distance) towards ones desired musical result. One should also assume that there will be a struggle involved in the process of intercultural collaboration as there are always different types of violence and relationships of power that emerge during cultural exchanges.

The way in which we deal with music and musicians from different cultures underlines a bigger problem, that is, how should we as creative musicians should approach the act of appropriation. Nevertheless, before engaging in such discussion,[15] I would first like to consider how technology—and more specifically real-time computer processing—may offer new applications that challenge the conventional notion of a musical performance and the relationships established traditionally in music-making.

2.2.2 Live Electronic Music Performance

The introduction of the computer to live performance offers the possibility to establish new relationships regarding the way in which we perceive a musical performance. The causality inherent in traditional music produced with mechanical means,[16] which follows 'well-understood Newtonian mechanics of action and reaction, motion, energy, friction and damping,'[17] does not need to apply to live electronic music performance. In electronic music, the causal relationships found in our acoustic surroundings are usually not clearly revealed, given that sound may be produced with little evidence of mechanical production (with the exception of the vibrating cone of the loudspeaker). Nevertheless, considering that most of our sonic experience lies within our acoustic environment, we usually

[14] Ibid., p. 170.

[15] See pp. 44-52, for a discussion about appropriation in music and its relationship to ideology.

[16] This includes traditional means of producing vocal, instrumental and mechanical music.

[17] Emmerson (2009), p. xiv.

seek to form causal relationships (even within the electronic medium). Therefore, many efforts have been made to reestablish causal relationships that are characteristic of traditional music through mechanical means in electronic music performance. This as been attempted through the continuing development of interfaces that attempt to reestablish an instrumental approach to electronic music (for example synthesizers, Midi samplers, electric guitars, *etc*). Nevertheless, electronic music performance also offers new opportunities to form other types of relationships as perceived by the listener. This specific feature of the electronic medium may challenge conventional notions of what a musical performance is as it may form new types of relationships that go beyond the traditional instrumental approach. Therefore, when dealing with electronic music performance, the composer may decide what types of relationships he/she wants to establish (for instance, how different sonic and visual aspects of a performance may relate with each other or how the human body and movement may be associated to sound).

Simon Emmerson, in his book *Living electronic music*, describes different approaches the musician may take towards electronic music performance based on how the audience may perceive the actions of the human performer in relationship to the sounding result. First, he describes what he calls the 'Local/Field Distinction', in an attempt to conceptualize differently relationships that seem to have a perceived causality between a human performer's action and the sounding result, and those that don't.

> *Local* controls and functions seek to extend (but not to break) the perceived relation of human performer action to sounding result. *Field* functions creat a context, a landscape or an environment within which *local* activity may be found. It is important to emphasize that the *field* as defined above *can contain other agencies*, in other words, it is not merely a 'reverberant field' in the crude sense but an area n which the entire panoply of both pre-composed and real-time electro-acoustic music may be found. . . . This definition aims to separate out the truly live element as clearly the 'local agency' in order to reform more coherently the relationship with this open stage area, which may surround the audience and extend outside.[18]

This distinction is useful to the musician as it encourages reflection on how the presentation of electronic music performance—particularly aural/visual relationships concerning causality and human presence—might influence the listeners perception of the overall *musical result*. Additionally, given the particularities of the medium, the electronic musician is encouraged to rethink important aspects

[18] Emmerson (2009), p. 92.

about performance (for instance, how it might look like, what function might the musicians perform onstage, what types of human/machine interaction might be established, *etc.*) This distinction can also be helpful if it is considered creatively as a parameter within a composition: the distinction between *local* and *field* could be emphasized or blurred according to the desired musical moment, the extremes could be alternated or even morphed between each other, an extreme might be embraced as the other is sublimated, *etc.* In addition, Emmerson also makes a difference between *real* and *imaginary* relationships that may be *local* or *field*. According to Emmerson, *real* relationships are also 'real-time' and have direct relation with the *real* cause as perceived by the audience (a sonic result that can be followed by the listener). This may include processing the 'live' sound, abstracting a gesture through an interface or sensor, or through other types of analysis (audio or video). *Imaginary* relationships, on the other hand, are 'prepared in advance (soundfiles, control sequences, etc.) in such a way as to *imply* a causal link of sound to performer action in the *imagination* of the listener'.[19] Emmerson also emphasizes that the difference between *real* and *imaginary* relationships might be different for the listener as they are for the composer (or as they are in reality). Even though I find Emmerson's terminology slightly confusing,[20] I think it points towards an issue that I think is important to anyone dealing with electronic music performance, that is, what should concern us is what *appears* to be real or not to the listener, and not whether technological processes are taking place 'in reality' (real-time) or have been prepared before hand. Consequently, the question of whether to use 'real-time' processing or not should stem from aesthetic concerns in relationship to the listener's perception of the performance and not from 'technical authenticity', or to cling to a set of technological concepts.

The opportunities that electronic music gives in forming new relationships between the performer's action and the sounding result, gives the composer the option of thinking creatively about how a performance might be presented. The cognitive dissonance that might arise between aural and visual elements of the performance could be used as a performative element, creating meaning out of the apparent sensorial disjunction. This approach could even be exaggerated, for instance, by suggesting causal relationships that may be only observed and have no corresponding sounding

[19] Ibid, p. 93.

[20] His distinction I don't find very useful as it seems to make a link between *real* relationships with 'real-time' processing and *imaginary* relationships with 'fixed' or prepared material. I think this is misleading, as 'real-time' processes usually contain large amount of prepared or 'fixed' elements (for instance, computer programs, patches, data bases, etc., that have been prepared in advance) that also create what Emmerson calls *imaginary* relationships and an *illusion* of causality. That is to say, his terminology might lead to misunderstandings as it equates types of relationships the listener makes to whether an electroacoustic part is influenced by a performer or is autonomous.

result, or by creating a visually static performance while having a sounding result that would suggest frenetic activity. This slightly more idiosyncratic approaches towards the presentation of electronic music may also encourage people to reflect on the subject of how the performer relates to a technological object, which at the same time may prompt a deeper question, mainly, how we as human beings relate through technology.

Interactivity or Interpassivity?

The conventional viewpoint regarding the relationship between human beings and technological objects is that we relate with them through interaction. However, Slavoj Žižek has proposed the alternative notion of *interpassivity* (to describe the opposite of *interactivity*) regarding the duality between active and passive relationships that might be formed between a person and a technological object.

> Interpassivity, like interactivity, thus subverts the standard opposition between activity and passivity: if in interactivity (or the 'cunning of Reason'), I am passive while being active through another, in interpassivity, I am active while being passive through another. More precisely, the term 'interactivity' is currently used in two senses: (1) *interacting with* the medium—that is, not being just a passive consumer; (2) *acting through* another agent, so that my job is done, while I sit back and remain passive, just observing the game. While the opposite of the first mode of interactivity is also a kind of interpassivity, the mutual passivity of two subjects, like two lovers passively observing each other and merely enjoying each others presence, the proper notion of interpassivity aims at the reversal of the second meaning of interactivity: the distinguishing feature of interpassivity is that, in it, the subject is incessantly—frenetically even—active, while displacing on to another the fundamental passivity of his or her being.[21]

Therefore, Žižek implies that we not only form *interactive*, but also *interpassive* relationships with technological objects. That is to say, while the ordinary stance regarding the way we relate to technology is by using its objects for our own purpose, what Žižek suggests is that today technological objects might actually demand something from us instead. Therefore, the 'user'[22] not only *uses* technology, but is also *used* through technology. Moreover, Žižek elaborates his argument further by using Lacanian psychoanalysis. He claims that *interpassivity* implies that while we are obsessively

[21] Žižek (2006), *The Žižek Reader*, 'The Fantasy in Cyberspace', p. 105.

[22] Here, I am referring to the term 'user' as applied commonly in the development of computer technologies.

active by the object's demands, we also rely on the object to be passive for us. This transfer implies a game that goes on in our minds, in which we imagine the object as the Other, whose desire we subvert through our activity in order to put off our recognition that enjoyment cannot be achieved in full. It is for this reason—according to Žižek—that the notion of *interpassivity* is vital in understanding the artistic possibilities of digital technology.[23]

Žižek's definitions may also be applied to the way in which a performer might relate to technology in a live electronic musical performance. The performer therefore might form *interactive* relationships with a technological object if he/she seems to remain passive while technology appears to be active. For instance, when a performer plays a note or presses a button that sets an active chain of sound, or the 'typical' laptop performer's role of sitting behind the computer appearing to be passive while triggering musical events that suggest activity. The performer might also form *interpassive* relationships with technology, when a technological object appears to remain passive while making the performer appear franticly active. This concept hasn't been explored thoroughly by composers using technology but can be found for example in cases where the performer receives directions from a technological object (through a computer display or through headphones) directing the performer towards frenetic activity. I think a potential exists to further develop musical applications that establish *interpassive* relationships between performer and technological objects through computer-mediated performances or more experimental methods, such as involuntary bodily movement[24] or by radically altering the sound of a performer playing an electronic instrument (which produces no considerable audible sound that is not generated electronically) such that the initial physical effort of the performer is reduced or striped to silence by the computer processing (giving the impression of human activity being subverted through technology).

Additionally, the musician might also establish *interactive* as well as *interpassive* relationships with the audience through technology. *Interpassive* relationships might be established by following a model whereby the performer displays intense activity through technology—for example, by using electronic instruments, interfaces, sensors or other forms of tracking human movement—following the concert hall format, where the audience remains seated as passive spectators of the action onstage. On the other hand, *interactive* relationships may be formed if the audience becomes active through technology, while the performer seems to remain passive. This is the case for example of the laptop performer or DJ—which play music that encourages the audience to become active by dancing frenetically—while staying behind their computer offering no clue that they are in actuality producing

[23] See Ibid., pp. 104-110.

[24] See Stelarc

the sound. However, it could be argued that this apparent activity displayed by the audience through bodily motion at the same time might shift the audience's attention away from certain musical content, resulting in a type of passivity. In other words, by becoming active through movement, the audience might stop focusing on certain aspects of the music as their attention shifts towards physical activity, resulting in a reversal of Žižek's first definition of *interactivity*. A reversal could also be applied regarding the engagement of the audience within the concert hall model: while the audience seemingly takes the role of passive spectator and the musicians displays activity through their virtuosity; in actuality, the audience might be the one engaging with the music, rendering emotional and intellectual activity through the performance, while the performers 'stops listening' as they concentrates on bodily movement.

New Relationships with the Audience

The particularities of live electronic performance also encourage new ways of thinking about the relationships that may be established between musicians and audience during a performance. Due to the increasing development of technologies that have an impact on the performer/audience relationship, today we have at our disposal a considerable amount of tools that enable us to reconsider and rethink this exchange.[25] The traditional forms by which the audience experiences music, may therefore be expanded by establishing new conditions for exchange mediated by technological tools. Thus, with the creative use of new technologies we are able to change the traditional way in which the audience participates in a musical performance. What's more, through technology composers can devise a piece of music partially based on these conditions of exchange, which could evolve and change during the performance.

Seeking to form new types of relationships between musicians and audience through technology could also lead to developing new interactive possibilities in a musical performance. The audience could take an active role making decisions as far as how they want to experience the performance.

[25] These tools include, for example, developments in sound amplification and diffusion (for instance, different types of microphones and microphone techniques, as well as varieties of loudspeakers, loudspeaker setups, sound projection systems and headphones), audio processing (real-time digital signal processing tools and other types of sound manipulation), human interaction devises (Midi instruments, interfaces, sensors, *etc*) and real-time computation of musical control-structures (autonomous or interactive computer programs that trigger and control musical events) as well as technologies that have a visual impact on the performance (for instance, live video streaming and processing, automated lighting, smoke machines, *etc.*) and technological tools that might facilitate communication between people involved in a performance (for example, computer networks, portable and wireless devices, gadgets such as iPods, iPhones and iPads).

These decisions could go as far as what type of content a composition may have and how it might unravel. Interactive elements usually associated with installation work, could be incorporated within a musical performance: the audience could explore the performing space triggering and modifying musical events by interacting in different ways with each other, the space and performers. In other words, the performance could become immersive and the audience could directly influence its outcome. Another musical strategy that could be developed through technology is something close to what Nicolas Bourriaud has called *Relational Art*, which refers to "a set of artistic practices which take as their theoretical and practical point of departure the whole of human relations and their social context, rather than an independent and private space."[26] In other words, a musical performance could be contemplated for its potential as a collective space in which members of the audience could engage with each other in different ways. Technology could mediate this platform of exchange by facilitating tools by which individuals within the audience could communicate with each other and establish new kinds of transactions.

However, these strategies by themselves do not guarantee a type of activity from the audience that suggests reflection and encourages critical thinking and creativity. As it was suggested earlier, the illusion of activity and passivity might be deceiving. The appearance of this opposition might in reality be its reversal. What is conventionally associated with passivity, actually could suggest a different form activity and *vise versa*. These are some of the questions Rancière addresses in his book *The Emancipated Spectator*, where he challenges preconceived notions that associate listening and observation to passivity, and identifies the audience as inactive. Rancière therefore proposes a vision for a spectator that, while seating and listening, is active—fabricating his/her own interpretation and understanding of the performance, associating it with his/her own ideas about the world and the future. This kind of spectator is emancipated in as much as he/she is not manipulated by the performance, but maintains a critical distance and independence from what he experiences as an observer.

> Emancipation begins when we challenge the opposition between viewing and acting; when we understand that the self-evident facts that structure the relations between saying, seeing doing themselves belong to the structure of domination and subjection. It begins when we understand that viewing is also an action that confirms or transforms this distribution of positions. The spectator also acts, like the pupil or scholar. She observes, selects, compares, interprets. She links what she sees to a host of other things that she has seen on other stages, in other kinds of place. She composes her own poem with the

[26] Bourriaud (2002), p. 113.

> elements of the poem before her. She participates in the performance by refashioning it in her own way—by drawing back, for example, from the vital energy that it is supposed to transmit in order to make it a pure image and associate this image with a story which she has read or dreamt, experienced or invented. They are thus both distant spectators and active interpreters of the spectacle offered to them.[27]

Rancière's positive image of an emancipated spectator resists the decadent viewpoint of the spectator held by Guy Debord, which is described as . . . [28]

2.2.3 Technology and New Practices in Composition

Code (as score?— may serve as Brian F's suggestion of one of the 'advantages' of the score: reflection, self-critisism...), no score, internet documentation (git)—collaborative opportunities, etc... interactive systems and what they might mean to the composer... generative music...

Iteration?

Interactive Systems:

Real-time computer technology in the last two decades has radically increased in processing speed, consequently allowing the execution of complex algorithms within the immediacy of a musical performance. The speed at which these calculations are processed brings a whole new set of possibilities for musical applications concerned with computer-human interaction. Robert Rowe has enthusiastically described the possibilities interactive systems bring to music composition and performance.

> Composers have used algorithms in the creation of music for centuries. The speed with which such algorithms can now be executed by digital computers, however, eases their use during the performance itself. Once they are part of a performance, they can change their behavior as a function of the musical context going on around them. For me, this versatility represents the essence of interaction and an intriguing expansion of the craft of composition. An equally important motivation for me, however, is the fact that interactive systems require the participation of humans making music to work.[29]

The possibility of using, processing and analyzing audio signals from a live performance in real-time and using this information as building blocks for a new *musical result* has become today a common practice amongst musicians dealing with technology. Additionally, human-computer interaction has

[27] Rancière (2009), *The Emancipated Spectator*, p. 13.
[28] See Debord (1994)
[29] Rowe (2001), p. 4.

become more sophisticated in recent years with the development of new interfaces and technologies with the specific purpose of tracking human gesture. The repercussions these innovations may bring to the way in which musicians interact and communicate with each other and to the composer-performer relationship, I believe are significant. Maybe mention some of those implications?

New Ensemble Dynamics

New modes of performance through computer-mediated group 'interaction' in which traditional relationships and performance-practice conventions within an ensemble may change. Thus, through the way in which we use technology within a musical performance, we can also make powerful associations to the way in which we as people relate with each other through technology. How do we relate with each other through technology?