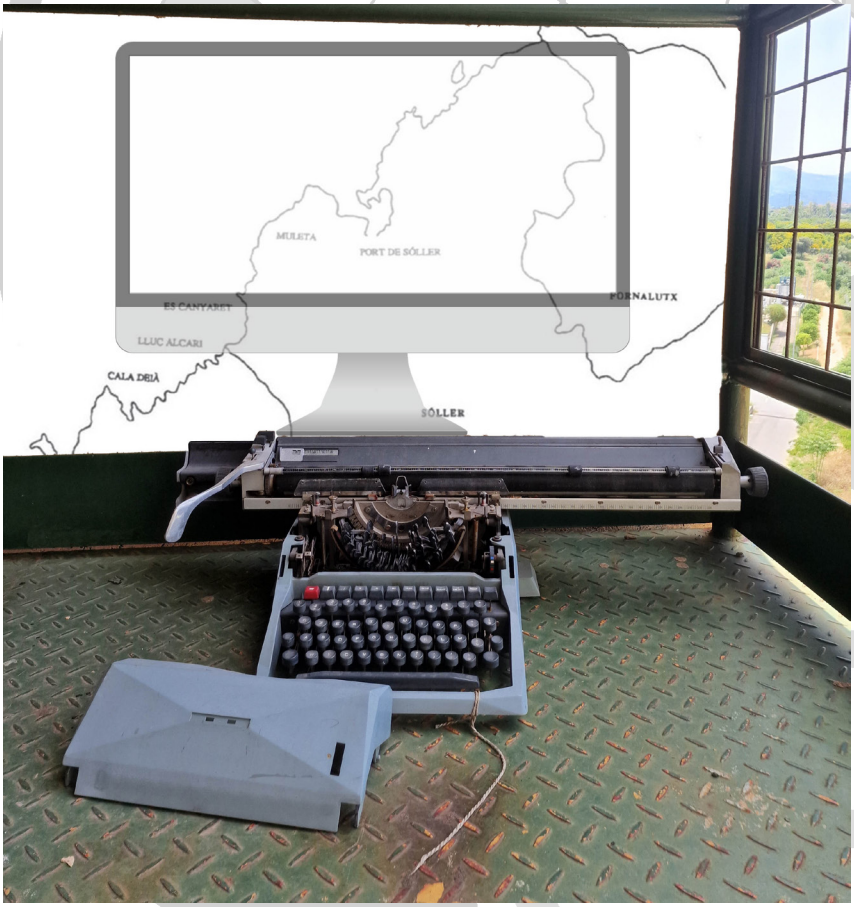
INFORMATION TECHNOLOGIES AND SOCIAL MEDIA: NEW SCIENTIFIC METHODS FOR THE ANTHROPOCENE

Gaetano Sabato, Joan Rosselló (Editors)



Preface by Javier Martín-Vide

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Geographies of the Anthropocene

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Gaetano Sabato, Joan Rosselló

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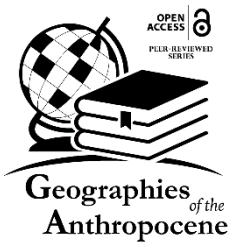

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Geographies of the Anthropocene

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Geographies of the Anthropocene

Open Access and Peer-Reviewed series

The book series "Geographies of the Anthropocene" edited by the International Scientific Publisher "Il Sileno" (Il Sileno Edizioni) will discuss the new processes of the Anthropocene epoch through the various worldviews

of geoscientists and humanists, intersecting disciplines of Geosciences, Geography, Geoethics, Philosophy, Socio-Anthropology, Sociology of Environment and Territory, Psychology, Economics, Environmental Humanities and cognate disciplines.

Geoethics focuses on how scientists (natural and social), arts and humanities scholars working in tandem can become more aware of their ethical responsibilities to guide society on matters related to public safety in the face of natural hazards, sustainable use of resources, climate change and protection of the environment. Furthermore, the integrated and multiple perspectives of the Environmental Humanities, can help to more fully understand the cultures of, and the cultures which frame the Anthropocene. Indeed, the focus of Geoethics and Environmental Humanities research, that is, the analysis of the way humans think and act for the purpose of advising and suggesting appropriate behaviors where human activities interact with the geosphere, is dialectically linked to the complex concept of Anthropocene.

The book series "Geographies of the Anthropocene" publishes online volumes, both collective volumes and monographs, which are set in the perspective of providing reflections, work materials and experimentation in the fields of research and education about the new geographies of the Anthropocene.

"Geographies of the Anthropocene" encourages proposals that address one or more themes, including case studies, but welcome all volumes related to the interdisciplinary context of the Anthropocene.
Published volumes are subject to a review process (**double blind peer review**) to ensure their scientific rigor.

The volume proposals can be presented in English, Italian, French or Spanish.

The choice of digital Open Access format is coherent with the flexible structure of the series, in order to facilitate the direct accessibility and usability by both authors and readers.

CONTENTS

9. The making of space, music, and soundscapes through digital art tools

Gian Luigi Corinto[1]

Abstract

Starting from a grounded case, the purpose of this chapter is to examine how research on/with artists who frequently use the internet and ICT might shed new light on traditional geographical concerns such as space/time and place/identity. Internet and ICT enable the formation of groups of people influenced by new characteristics, creating a highly intriguing geographical discourse. Contemporary artists tend to use digital tools in combination with traditional ones. They also make extensive use of social media to communicate, share experiences, and promote their art. Digital technology provides inescapable support to any artistic creativity and determines different forms of aggregation. The knowledge generated by musical sounds is more abstract, intuitive, and unconscious than the disembodied knowledge produced by words and images. The Internet would produce a new *digital generation*, more complete and aware than predecessors, happy to unite in collaborative networks of independent peers. Individual consciousness would transcend the human body's limits and would finally be free to explore spaces of creative and spiritual sharing. The chapter reports the research experience on the 2019 paint exhibition *Raging Babies*, dubbed by two digital musicians. The outcomes of in-depth discussions (as *focused conversations*) with three artists regarding the formation of collaborative networks utilizing ICT and the Internet are reported. The effects on geographical research performed by the author are also explained and commented.

Keywords: real and virtual places, art performance, painting, music, soundscapes.

1. Introduction: Geography and Grounded Art Experience

The chapter reports an art experience conducted in 2018-2019 with three visual and musical artists. They are Lorenzo Tonda, painter, Abo Carcassi

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and Pietro Michi, electronic musicians. They all use both traditional and digital tools. Starting from a grounded case, the chapter examines how research on/with artists who frequently use the internet and ICT might shed new light on traditional geographical concerns such as space/time and place/identity. Space and place are central topics for geographers, densely intertwined with the definition of community. Internet and ICT enable the formation of groups of people influenced by new characteristics, creating a highly intriguing geographical discourse. After at least thirty years of public ICT, all aspects of human life are facing a profound transformation, if not a revolution. All issues of politics, economics, the perception of the self, and the sense of community belonging, the sense of personal and public are involved. The internet appears to enroll a new digital generation capable of practicing collaborative networks of independent counterparts, imitating the web. The human body would no more be a limit to social relations and the spatial dimension of places, as human senses and abilities can transcend physical borders and share activities in so-called virtual spaces (Heim, 1995).

In this line, the electronic age presents a double opportunity for artists. It allows both to engage the audience and refine art techniques. Individual artists or any art collective can access a great wealth of audiovisual information and engage audiences with direct use of social media. An artist can implement personal abilities by combining digital devices and software with traditional tools. Digital tools help artists paint, take photos and videos, compose music, design, produce, reproduce, and even deliver their works of art. You might even say those new instruments are in the toolbox of any artist today. So, devices and technologies are effective in building an art community and fostering a creative atmosphere in a broader space. In addition, artists can design and organize art exhibitions or events using the web. At issue are the quality and quantity of acquired knowledge, reducing costs and saving time. There is also the possibility to manage new creative languages and the mix of physical and virtual art places (Arvola, 2014; Jeacle & Carter, 2014).

The chapter will detail the experience made by the author in designing and organizing the exhibition entitled *Raging Babies*, held in Florence from January 19 to the end of February 2019. The people involved in the event were the author as curator, the painter, the electronic musician, and the producer of hi-fi recordings of soundscapes. To delve into the experience and give critical interpretation the text is organized as follows.

The next section deals with the background theory used in the study. Section 3 discusses information selection issues in the representation of both real and virtual places. Section 4 describes the design and implementation of *Raging Babies* as a multidimensional art performance. The paragraph sets forth the results of the analysis. It is divided into two parts, the first devoted

to the geography of the pictorial representation, and the second to its relationship with the sonic environment designed around it. The last paragraph is devoted to comments and conclusions, also in view of future similar initiatives.

2. Background Theory

Any art uses aesthetic means to express and communicate with an audience. Whether art is expression and communication or much more, is a complex multidisciplinary issue, of a philosophical nature (Casey, E.S., 1971) yet even political, as Theodor Adórno (1973) put it in dealing with music in his 1949 *Philosophie der neuen Musik*. The issue of the philosopher was the sociopolitical conflict between content and language/grammar. He opposed the dodecaphony of Arnold Schönberg to the neoclassicism of Igor Stravinsky, the latter mistakenly considered a reactionary composer compared to the revolutionary inventor of the twelve-tone method (DeNora, 2017).

Throughout history, artists have always been enlisted to serve some form of culture, religious beliefs, political power, knowledge, and achievements of science. Geographical knowledge has been fostered by transferring the visual power of the eye into cartographic representation, especially during the period of the world's great explorations (Cosgrove, 1999). Although many cartographic representations of the Earth are works of art, the political power used them as a weapon to make war (Lacoste, 1976). The hyphenated spelling of Geo-*graphy* (writing the Earth) emphasizes the Geo-human interactions and the aesthetic sensitivity for relationships between emotions, feelings, and places in the real world (Malpas, 2011). Representation can be the construction of meaning. Yet, attention to place as a container of feelings and emotions is both a properly geographic and a challenging theory-making. The cultural geographers' recent interest in art has expanded beyond the usual focus on visual and iconographic readings of paintings, drawings, maps, photographs, landscapes, architecture, monuments, and sculptures. Geography includes increasing attention to the spatialities of sound, music and noise, video, film, performance, and dance. Attention to performing arts has also an epistemological meaning for the discipline (Thrift, 2008). Movement and performances of people produce *aesthetic* geographies, as they trace the Earth with a bodily topography, writing (*graphein*) cultural meaning on physical space with movements.

"If texts can create images, then spaces can change bodies and vice versa. If images can change cultures, then the body can create text; it *is* and *has* the text that controls cultural spaces, and at the same time is controlled by cultural images." (Hallensleben, 2010, pp. 18-19, original emphasis).

A corollary is that arts and artistic performances can also be seen as a means to change human behavior, which always has a place, and a public and environmental impact. According to Dewey (1934), a work of art is more a practical rather than a theoretical act. A work of art is not simply an object, because it creates a relationship with the viewer, thus becoming a social experience. It is an in-progress experience of doing and enjoying. And, as with any human experience (bodily or mental) it always has a place (Casey, 2013). So, you can add, aesthetic experience has a place.

Reconsidering the philosophical positions of Theodor Adórno on content versus language/grammar of music, the analysis of sociologist Tia DeNora (2017) helps us extend the considerations on music to any form of art and relationships with place. Following her ideas, Stravinsky wanted to restore an authenticity of its own to art. He had an aversion to the established system and subjective expression, preferring to create second-rate art, namely an art that refers to itself. Adórno interpreted this as renouncing the artist's self in favor of social consciousness. But Stravinsky, to renounce subjective expression, did not need to create a new idiom, atonal or serial, but used many different musical styles. Tonality was not a fetish but a compulsion to bring order and preserve artistic integrity. He just needed a way to connect many dissociated elements placed on different layers, for example, using simultaneously two different tones, offering the listener a real collage. In this creative patchwork, the listeners can find and choose their own meanings. So, the two subjectivities of the author and the listener remained autonomous. But the integrity of the artist is intact. Eminent Italian musicologists and musical critics put at the same creative climax composer Igor Stravinsky and painter Pablo Picasso, the two most influential artists of the XX century (Mila, 2012; Vlad, 1958). They both changed over time their styles while maintaining artistic integrity and authorial identity.

Stravinsky, unlike Schoenberg, anticipated the postwar avant-garde, though he did not take the decisive step of renouncing the grammar of a language, tonal, atonal, or serial syntax. Musicians such as John Cage and Edgar Varese, inheriting from both Schoenberg and Stravinsky, brought an end to syntax. If the music has a seven-note order, the twelve-notes would be an ordered grammar too. Thus, Varese redefined music as organized sound, introducing noises as new sounds (Cassidy & Einbond, 2013), produced electronically or naturally, by the environment, or by the audience in the location, as in Cage's composition 4'33". The written score of 4'33" destroys

the authorial aura but derives from a traditional artistic approach. There are the musical theater, a stage, a player with an instrument (or an ensemble), and a musical score written by the composer. Moreover, Cage demonstrated that music execution and listening must have a *situated* feature. The music-makers are the composer, the listener, and the environment, with its unavoidable randomness. Geographers might be happy about this finding. They can appreciate also that the geographical topic of *sense of place* (Relph, 1976) is similar to the concept of *aesthetic ecology* (DeNora, 2017), within which music plays a non-marginal role.

Following these suggestions, you can consider people capable of building up located social clusters using sensory relationships with others, materials, and environments, as well as situated languages, symbols, values, and ways of doing things, even with a bit of randomness. In conclusion, communities take action by using precognitive and nonverbal assets such as emotion, impulse, and symbolic manifestations. Material and immaterial "things" influence actions, collectively preferred and executed in real life. Practices of agents make situated identities and capacities manifest. There are many references to *tacit knowledge* and *embeddedness*, investigated by two Hungarian scholars, the economist Michael Polány (Polány & Sen, 2009), and his brother, historian and anthropologist Karl Polány (1944/2001). Human practices determine the borders and qualities of a place, substantiating the relationships between society and economy and vice versa. Today, place can be both real and virtual (Relph, 2007) just like social networks are real and virtual (Wellman, 2001).

3. Representing places: imagining a selection of details

When describing a place, whether real or imagined, in a novel, on canvas, or digitally, it is necessary to choose from the infinite details of reality. It is impossible to describe every detail, and any author must select a few elements by using a language (Tuan, 1991). The void between them is filled by the artist's representation capacity and entrusted to the audience's imagination. Representation *and* imagination compose the complete image of the place. In the same way as the design of virtual environments/places, the pictorial representation involves a subjective act of selection. Performing music adds a sensory possibility (Leyshon, Matless & Revill, 1998; Ouzounian, 2015), but the subjectivity of the sound designer remains. Virtual reality is three-dimensional, giving more sensory information than a movie or novel. So, you might assume that users can use less imagination yet have more interactive spatial perception possibilities (Relph, 2007).

Digital places are usually interactive and can be explored from different directions and modified by visitors (Dodge & Kitchin, 2003). The more vivid the imagination of visitors, the more intense the exploration and modification of virtual places will be. Arguably, attending a virtual space requires a different kind of creativity than reading novels. Virtual realities are not read but practiced (Adams, 1998).

The designer of virtual places should understand in advance the type of participation. They might provide some triggers to behaviors even though the results of participant involvement are never entirely predictable. In this sense, virtual places are works of art whose form is constantly changing due to the simultaneous actions of authors and participants.

The sense of a virtual place might not be different from that of a real place (Relph, 2007; 2009). Human senses will be engaged electronically, and emotions will vary between individuals, but the sense/meaning of place might also have a common expression. The organization of sounds, music, and noises can add a sensory possibility. In the future, virtual reality will engage the sense of smell also (Flavián *et al.*, 2021). Shared common sense/meaning would come from the accurate description of connections between users and virtual worlds: for example, online games, museums, and virtual art galleries. The place to share emotions will be somewhere on the webspace. Eventually, as in real life, the linkage between humans and places can become obsessive and dysfunctional, as in the topophilia/topophobia sentiment enlightened by Tuan (1990; 2013).

A virtual sense might be an added variant to real places as now variably distributed in the geographic diversity of the world. The "real" will furnish ways to create virtual places with compelling identities.

4. The exhibition Raging Babies as a multidimensional art performance

In preparation for the *Raging Babies* (Pic. 1) exhibition at *Studio Rosai* in Florence, the working group met a dozen times in the painter's studio in 2018. The meetings were with two, three, or all four members together. The meetings had the character of Focused Conversations (FC) (Heritage, 2008). Following Stanfield (2000), the FC method gives face-to-face relationships an orderly and structured focus to meetings. The group is made of peer agents intentionally moving from shared topics. All have clear information and pay attention to common issues. Thus, individual experiences are shared among participants to identify meanings, options, possibilities, and solutions to the questions raised. Meetings at *Studio Rosai* aimed at achieving a twofold goal.

On the one hand, participants aimed at organizing both the exhibition and the opening event. On the other hand, the conversations had a research purpose, aiming at acquiring qualitative data (Paulus *et al*., 2008) along with data retrieved during and after the exhibition. The group analyzed the retrieved data, discussed and approved findings after the end of the exhibition and again during a last meeting on January 3, 2022, in view of this text. The following parts of this section report the results of the group's conversations.

Pic. 1 - *Lorenzo Tonda, Raging Babies, 2019. Oil on canvas, 250x250.*

4.1. Desiring sustainability through painting

Why Raging Babies? There is nothing more terrible than innocent children. Their rage can be devastating, subject to the power of objects, shapes, and the charm of feeling virging. Human beings are attracted by

excess, capable of bringing into play exorbitant energies, fantasies, needs, and desires that are infinite and often candid. Today we feel trapped. Yet in the trap we feel good, fulfilled, in the company of friends and family, happy, we even laugh, we open vintage wines to celebrate. The economy that governs us is based on the claim of the universality of the principle of spending, the sun that illuminates society with the powerful rays of utility that, instead of making us happy, originates the accumulation of savings, capital, and power. So that children become furious at the perennial lack of things, and willingly throw themselves into a physical struggle, into a perennial brawl, to obtain something that is at hand. And why should it not be so? But there is an inconceivable contradiction between wanting things—the more useless they are the more they give joy—and saving capital. It's as if someone who throws candies in the air were to become the most powerful man on earth just by making a gesture of throwing shiny objects at the sky. Immediately the children will enter into a furious struggle for the conquest of a fistful of candies. There is no trace of ambiguity in this, and the fight deserves center stage and full attention. The painter puts angry children at the center of the square, within which both the distinction and the tangle of forms, some soft, some hard, are displayed. The soft ones are the flesh ones, they are alive and have a sex. The hard ones are geometrical forms and impose themselves sharply in the scene. To recognize the candies thrown into the air by an invisible hand requires an expert eye, the naive one of children, while the hard shapes of geometry can be seen very well, they are evident to each of us with their edges. They are perfect in the complete abstraction of form: almost as if they have self-awareness.

We must move in the grammar and syntax of discourse about things and never among them as they are in the world. Neither faith nor ideology are helpful. Art manifests itself through the steady hand of the artist who, appropriately enough, wastes time in the aristocratic consumption of his artisan talent. It is the waste, the excess of energy, and the true artistic nature of children, who never exhaust the naive search for physical confrontation. Only the one who wastes can give a complete artistic discourse, the only one within which colors and shapes take their true meaning.

4.2. Electronic music and soundscapes to give a space to the painting

The painting represents space in two dimensions. The final *Raging Babies* picture reproduced on canvas with traditional brushes and colors is first prepared digitally. The painter meticulously takes care of the details, perspective, and spatial distribution of the 3D-drawn shapes. Digital images

can create environments that are accessible to VR-viewers and smartphones. The composer designed an electronic music score specific for the opening event, inspired by the whole figure and the spatial details of the painting[2]. He placed speakers to produce a quadrophonic soundscape in the gallery enveloping the sonic space for the visitors (Pic. 2).

Pic. 2 - *Musician Daniele Carcassi preparing the hall for the music listening*
Source: Photo by Fabio Norcini.

The piece of situated music produces a space of triple nature. One is internal to the music score as designed by the composer as a cartographer; a second one is internal to the exhibition hall, a designed architectural space; a third one is external to the exhibition hall because the sound goes beyond the walls into the adjacent space. People coming to the gallery could hear sounds even from the street before entering the hall. The painting *Raging Babies* is then immersed in a soundscape and an aesthetic ecology. During *Raging*

[2] *Raging Babies* by Daniele Carcassi, retrievable at https://danielecarcassi.bandcamp.com/album/raging-babies

Babies, 13 soundscapes recorded by *Biodiversità Records* were streamed in the hall for visitors[3].

The world is made of landscapes. Our eyes allow us to see one of them at a time. Technology helps us widen our sight and senses; perception might become even bigger than imagination. The web (the internet) allows sharing the real listening of the soundscapes that are scattered in the world. In fact, the internet is an instrument capable of producing community through the web. You might risk feeling omnipotent, passing through the door of too big a perception, of immense sharing, of appropriation of other people's landscapes. And so, we need prudence and sensitivity in listening. We need an ecology of soundscapes. The 13 soundscapes of *Biodiversità Records* surround the audience with *noises* coming from the home garden, from the cultivated countryside, from the city full of people and noises, from the thick of the forest, from the bottom of the sea, from the skies furrowed by airplanes and birds, from the world divided into personal and collective landscapes.

Soundscapes are stories of knowledge, experiences, and feelings: is it true that mind, sound, and landscape don't exist if not in a reciprocal relationship? Fatigue and joy in looking for as many sonic details as possible are the basis for building up a soundscape. The artist who puts together soundscapes retrieved from the whole world is looking for his landscape. It becomes ours, unifying memory and the Earth, between memories and sound materials to be combined. Putting soundscapes as the sonic environment to *Raging Babies* is a simple operation: a fight scene, some background noises. But the world has many noises, many sounds: confusion is possible. The clarifying technique is available. The web belongs to everyone and it is possible to make a community out of it. The artistic game is the appropriation of the soundscapes of other artists from all over the world who have made them available to create a collage that is greater than the individual parts. Ecology of the Earth, sustainability of life, is the understanding that only artistic waste will save us all from the waste of material resources.

5. Discussion and conclusions

The chapter presents a case study on a situated art exhibition. Participants in the working group aimed to make a ground experience of testing different skills using digital and traditional tools. The occasion was the painting of a picture displaying fighting babies as the depiction of present-day

[3] *13 sounscapes*, by Pietro Michi, retrievable at https://biodiversitarecords.bandcamp.com/album/13-soundscapes

environmental anguish and fear of the young for future unsustainable life. The painter's intention to engage an electronic musician and a producer of soundscape recordings at the exhibition opening suggested framing the present work geographically. The aim to treat the topic *place* as a performing object was intriguing yet fruitful. The exhibition's curator proposed to have meetings organized as conversations oriented to identify organizational practices and analyze different points of view on the relationship between art, digital tools, and the making of space. The group had several meetings to establish confidence and organize the job as FC (focused conversations) to gather data useful for epistemological purposes (Heritage, 2008). The easy collaboration and complete concordance of the newly acquired knowledge proved the method as effective, at least for the group's goals. All participants declared the digital art tools as fundamental for their individual and collective activities. They usually manage social media such as Facebook, Instagram, and Twitter. They also declared the unavoidable role of the internet and social media in promoting this initiative as any other performance. Artists can increase their capabilities by using digital tools, intended as the numerical control of the rendering of their work through professional software. On the one hand, the use of ICT expands the technical possibilities of making art by building virtual networks, engaging different disciplines, such as geography, sociology, and media studies (Adams, 1998; Dodge & Kitchin, 2003; Jeacle, & Carter, 2014). On the other hand, the internet expands the communication global web-space for art activity. This option allows intense cultural exchanges that contribute to making communities (Wellman, 2001).

Both the organizing process and final exhibition confirmed many findings of scientific literature considered in preparing this paper. *Raging Babies* represents on a flat canvas the space performed by children fighting over futile objects. Human bodies and geometric solids produce the shape of the space of conflict. The artist has reproduced the third spatial dimension using painted perspective and adding the show of computerized virtual reality. The audience was able to experience the third dimension of the work using special devices as well. The addition of musical sounds and recordings of natural noises enhanced the audience's spatial perception. The entire performance provided attendants the opportunity to perceive a triple space. One is internal to the painting as perspective cartography. The second is the exhibition space, an architectural venue already designed. The third is the space that the sound reached outside the gallery, beyond the walls of the building. Participants were immersed in an actual aesthetic ecology as defined by Tia DeNora (2017).

In perceiving space, the eye and ear usually work together. But they can act separately to assess its size and quality, a kind of situated sentiment, the

spirit of the place. Perception of space, the sense of balance, and the information about movements and vibrations around us depend also on our ears and the interpretation of sounds (Leyshon, Matless & Revill, 1998). The geographical significance of the spaces and places of music does not simply concern the place where the music is performed or the physical point of direct or mediated emission of the sounds, but also concerns the different spatialities that musical emission and resonance can form and delimit (Ouzounian, 2015). You can feel the musical space even with closed eyes. Opening your eyes, you can combine the sound spatiality perceived through hearing with the vision of the surrounding space and landscape. Conversations among components of the working group confirmed the above literature findings.

The main lesson learned from the ground research on *Raging Babies* is that the visual experience of looking at a painting is enhanced by the diffusion of music because it induces the audience to feel different spatial dimensions. The environmental message inherent in the exhibition was supported by the multi-sensory perception of images, music, and recorded soundscapes. It is possible to assume that any other type of artistic message would have induced the same geographical considerations on spatial perception. In this sense, the controversy over Adorno's contrast between the content and language of music seems to remain intact. But the figurative painting language merged with the abstractness of electronic music and the combinatorial randomness of sounds from distinct and distant landscapes produces a collage of artistic styles. This finding is consistent with DeNora's criticism of Adorno's rigid position. ICT and the internet add great potential to artistic collage making, and it is consistent with the geographical topic of the making of space. The involved artists did agree on this point, which is valid for theory and research-making in many disciplines.

A final consideration about limitations of the present work. Doing field surveys is an inherent quality of geography. However, the present work appears to be in some way original. According to the author's current level of knowledge, the number of comparable grounded works is limited. This issue depends mainly on the sporadic attention paid so far by Italian geographers to music and noises, if not to art in general. The uniqueness of the work defines both its originality and limitations. Therefore, it should be considered exploratory, although the results were of particular interest to the working group and future research design. The team will be engaged in supporting the painter in a large mural project located in a public garden in the city of Florence. Comparisons with similar research initiatives are necessary to confirm the results and lessons learned during the work.

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The development of technology during the Anthropocene has affected science and the ways of "doing science". Nowadays, new technologies help scientists of several disciplines by facilitating knowledge and how to manage it, but also allow for collaborative science, the so-called "Social Science", where everyone can be a scientist and be involved in providing data and knowledge by using a computer or a smartphone without being a specialist. But is it really that simple? Actually, the daily and integrated use of different digital technologies and sharing platforms, such as social media, requires important reflections. Such reflections can lead to a rethinking of epistemologies and scientific paradigms, both in human geography and social sciences. This volume titled "Information Technologies and Social Media: New Scientific Methods for the Anthropocene" includes 10 chapters exploring some changes related to the way to do science with a multidisciplinary approach. From classroom experiences to the use of Citizen Science, from Artificial Intelligence use to how Social Media can help researchers, the book reflects on the ICT influence during the last few decades, exploring different cases, complementary perspectives and point of views.

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