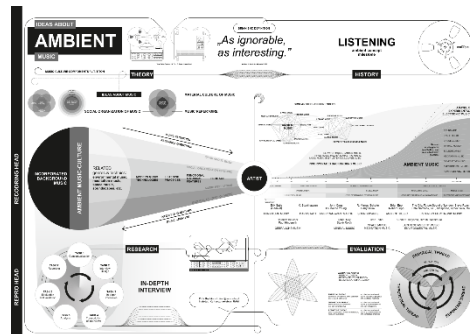


# Visualising the Research Process. The Case of Ambient Music Studies

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Received 19 March 2023; accepted 26 June 2023; published 28 August 2023.

## Abstract

The article addresses a project of visualization of research on ambient music, including the historically changing subject of this research, its theoretical background and qualitative studies arising from it. In this study, the visualization of the research process is related to the concept of graphesis, or visual interpretation, discussed and partly problematized in the context of visual representation of interdisciplinary topics at the interface of various knowledge systems.

**Keywords:** research visualization; visualisation of knowledge; cultural studies; qualitative research; ethnomusicology; ambient music; listening; graphesis; visual interpretation; creative process; interdisciplinarity

## 1. Introduction

The article addresses a project of visualization of research on ambient music, including the historically changing subject of this research, its theoretical background and the empirical studies derived from it in the form of in-depth interviews. Other content represented in graphic form is the research process itself,

or more precisely, the procedure of transition between the summary of the theoretical and reconstructive part and the development of the empirical part, which should enable theoretical conclusions.

## 2. *Graphesis*, or how to think via images

The project at hand is related to the concept of visual production of humanistic knowledge, which Johanna Drucker calls *graphesis* (Drucker, 2014). In her book *Graphesis: the Visual Production of Knowledge*, she addresses three tasks related to the question posed in the title of her book. These are: a critical review of the historical progress of visualization, the "denaturalization" of the interface, and the identification of possible avenues for so-called visual interpretation in the humanities (Enslin, 2016). Within this framework, the author focuses e.g. on the sources of scepticism concerning visualisation in the sciences, which she contrasts with the equivalence of any visual, numerical, or textual representation, assuming that each has the features of factual interpretation. Second, as the author points out, along with the development of scientific knowledge, its visual representations have evolved into a precise graphic language, more refined and detailed over the years. This can be considered the basis for the dissemination of broadly construed visual communication. The complete and sophisticated visual language has revalued the aforementioned scepticism so thoroughly that it has become the source of other problems of so-called visual epistemology.

First, behind the presumed objectivity of visual representations, imaging in science harbours an elaborate set of interpretive and possibly persuasive procedures, which lead to the visualization of questions that do not so much ask *how things are* as indicate *this is so*. The image offers answers rather than questions, and therefore its power is the root of the indistinguishability of research claims from research questions. This takes place through the graphic language of visual communication, whose "uniqueness" growing up with the development of science can hamper a correct assessment of what kind of knowledge and which of its states we are actually dealing with. Second, an additional issue to be highlighted in this regard is the role and status of data, i.e. the component of visual epistemology which is extremely difficult to question in visual imagery. As Drucker points out, the data in question are not *given* at all; it is *collected* and as such is an interpretation of facts rather than data in itself. The answers suggested by visualizations undermine all questions through the power of "objective data".

These two fundamental questions of scientific visual communication and visual epistemology shed light on visual interpretation, a key issue of *graphesis*. In line with Drucker's idea, it can be assumed that visualization simultaneously represents and co-creates the object of research on which it is based. It itself is

a research procedure different from a textual one (Arsenault, Smith & Beauchamp, 2006). The crux of the matter is visualization as a graphic interpretation of the process of detailing research conclusions, captured in an image. It is a thought process captured in motion, or as a graphically represented process of inscription and interpretation. Visualization is part of this process, which means that without its production, the research conclusions and further studies would be different if they had not been graphically represented before. Visualization as *graphesis* is interpretation, while the graphic elaboration of a research problem (including the stylistic means or aesthetic conventions used) influences the direction of this interpretation (Drucker, 2020).

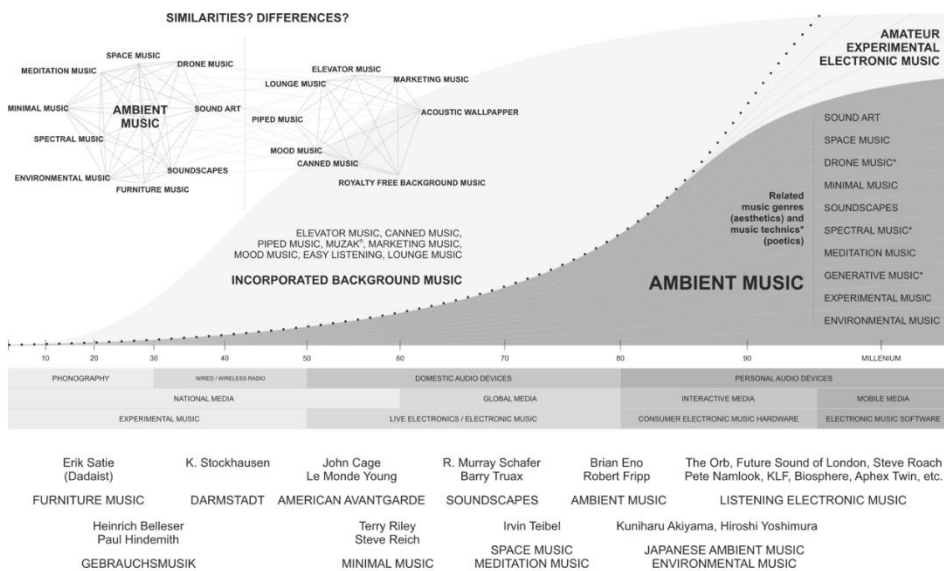


Diagram 1: A generalised timeline of 20th century background music © Piotr Kędziora

### 3. Ambient as music culture and ambient listening

In the research presented here, ambient is addressed within the theoretical concept of music culture (Titon, 2017). In its component of music-related ideas, a specific concept of listening that arises from e.g., the artistic and conceptual practices of this music genre, as well as the preceding phenomena of background music, plays an especially crucial role in ambient (Vanel, 2008; Fink, 2009; Szabo, 2022; Roquet, 2016). Represented in the environmental listening *habitus* typical of ambient music (Nowak, 2016), the reception approach is correlated with concepts of a musical work and music in general; they are framed within larger systems of relations between the three basic components of musical experience: music, author, and listener.

The history of ambient and broadly construed background music (Diagram 1) points to the existence of the aforementioned unique type of environmental or ambient listening (Kędziora, 2021). To varying degrees, previous attempts to commercially or artistically address this type of listening through appropriate music (specific means of expression, aesthetic assumptions, etc.) can be reduced to a shared reception attitude around which ambient (among other forms of artistic, commercial, or popular background music) develops its expressive language. This does not make ambient a unique genre, since all other historical and contemporary forms of background music have pursued such a language (with varying intentions and degrees of success). This goal has been achieved to varying extent. These attempts shared the assumption of an appropriate model of reception, manifested through environmental listening, and at the same time based on the characteristics of sound and musical perception specific to this listening.

Arriving at the question of listening through the analysis of historical forms of background music and the reconstruction of various perspectives formulated within the framework of sound or musical knowledge is the basis of theoretical reflection within ambient studies, to be complemented by qualitative research. Such studies enable confrontation of the results of this reconstruction with the views of artists working within ambient and its related genres. Thus, the core idea of developing ambient research is to identify and systematize actual, rather than assumed, concepts of music and listening informing the artistic creation of this genre of music (and expressed through this creation, explicitly or otherwise). Empirical research can shed light on the extent of the correlation between the stylistic characteristics of ambient music and the assumed pattern of listening to it.

The context of environmental listening reflections concerning music anthropology, sound studies, musicology, and media studies, includes also the issue of the ubiquity of listening (Kassabian, 2013) and the essentially ambient nature of any recorded music (Prendergarst, 2003; Adkins M. Cummings S. & Ambient@40 International Conference, 2019) used as music to accompany our daily activities (Lanza, 2004). In this sense, the discrepancy between the artists' intentions and the actual way we interact with their music seems to be the key conclusion of adopting the perspective of so-called music effects (its functional relationship to culture) and its use for individual, local or global needs other than purely musical ones. Thus, moving away from the posited model of the listener as a passive performer of an imposed duty towards music understood as an autonomous art form, the listener is placed at the heart of the musical experience, posing questions about the goals and effects of music in the context of the "demand for listening to it" in the context of overall contemporary culture.

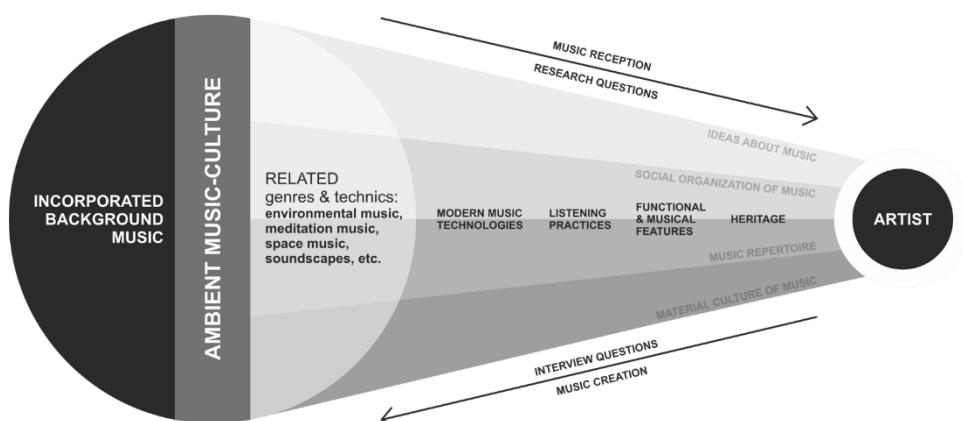


Diagram 2: Research Questions to Interview Questions conversion based on Ambient Music-Culture Model © Piotr Kędziora

#### 4. *Graphesis* of ongoing studies as their amplification or manipulation

The case of visualization discussed here concerns the process of ordering the research material gathered so far and designing the next stages of development of ambient research. This is essentially an attempt to relate to Drucker's rhetorical question "Can we argue with images?" (Drucker, 2020), within the framework of theoretical considerations on music. Can images effectively support the production of arguments or the posing of valuable research questions, or can they produce them themselves?

The answer to the above question is to be found in what seems to be essential in the *graphesis* approach, namely, the possibility of transcending the paradigm of a static image as a complement to the prevalent textual description. After all, visual interpretation, as seen by Drucker, is contingent on the idea that a narrative is already contained in the image itself. Thus, the crux of the problem discussed here is the eponymous process of research rather than e.g., its results and also the process of designing research rather than the state after its implementation. The graphic articulation of this research narrative via a *pattern* leading through the successive stages of the process of thinking with images (Jankowska, Michałowska & Łuczkiwicz, 2019) assumed an actual form in this case; it is a loop of a tape connecting two Revox reel-to-reel tape recorders. In fact, this is the material basis of the *Tape-Delay System* technique used by Brian Eno and Robert Fripp during their studio recordings of ambient works (Lysaker, 2019).

In this sense, the graphic material presented functions as a blueprint whose components include the parts that have already been implemented: the temporal axis of the development of background music, the structure of music culture, and the attendant conceptual model of the procedure for deriving new research problems to be addressed (the planned parts). The process of transition from existing knowledge to planning the production of new knowledge in this particular case took place precisely in the space of an image, in a sketch, whose successive more and more detailed versions transformed a draft into a production file. This effect was achieved through *graphesis*, a visual interpretation that generates, reinforces and articulates the rationale for future research to be carried out by a more profound analysis of the theoretical and historical questions. In this sense, *graphesis* is the beginning of empirical qualitative research, embedded in the horizon of theoretical problems adopted earlier.

In line with the above intentions, it seems that the visualization of the ambient research is correct and, consequently, effective. This is because it is possible to trace the successive steps in the emergence of empirical research in the form of in-depth interviews (Diagram 2). It is also possible, at each visualized stage, to detail potential mistakes that may have been made on the way to the goal of justifying the form and scope of further ambient research. Furthermore, there are two noteworthy problems that arise during this study, although in fact they are inherited from any attempt at a (textual or visual) narrative interpretation of the research process.

#### ***4.1. Problem 1: Interfaces***

The concept of *graphesis* as a dynamic interface between the visual systematization of the knowledge produced and the actual outlining a plan of action to produce new knowledge triggers two problems related to the program of visual interpretation. One concerns the interface, understood as an autonomous entity with certain characteristics, states and variables, its (indispensable) analysis can indicate the benefits and limitations (or even exclusions) of its form (Galloway, 2012). In this sense, the understanding and problematization of the idea of interface deviates from Drucker's perspective on visual research in the digital humanities but sustains the need for critical reflection on this inherent element of visual communication (Drucker, 2014). Assuming that the visualization of past research results is their interpretation that sheds a certain light on further proceedings, the graphic representations that mediate the transmission of knowledge determine the effects of the research process of a shift to the next stage of qualitative research. However visualized, the connection between existing and expected knowledge is in fact an interface problematized in the above manner, which has a considerable impact on the possible outcomes of the visually designed scientific process.

#### **4.2. Problem 2: Interdisciplinarity visualized**

The second problematization of the issue of the interface and visual interpretation is the intriguing commonality of a different kind, one which arises in the field of research conducted at the interface of the various disciplines that constitute the knowledge of music and the knowledge of sound, i.e. sources of epistemic knowledge that cannot be ignored in resolving issues of music and listening.

At the heart of this problem, then, lies the question of the unification of knowledge. To put it “figuratively”, it involves the superimposition of several layers on which the issues related to ambient as an artistic practice and descriptive category of the contemporary audiosphere are conceptualized. This involves intersecting elements from the fields of cognitive psychology, neuroscience, cultural history, philosophy, aesthetics, instrumentology, media studies, communication studies, musicology, and its auxiliary disciplines: music sociology, music ethnography, music anthropology. The heterogeneous approaches, as a result of which the perspective of theoretically addressing ambient is produced and satisfied beyond the division of disciplines, is at the same time the source of the basic problem of the lack of unified requirements for scholarly analysis. In this view, visualization is one of the ways to produce this common point of reference by graphically indicating the linkages and connections between various forms of knowledge and manifestations of practical uses of the ambient category by both artists and researchers of contemporary soundscape (Schafer, 2006; Truax, 1996) and musicscape (Makomaska, 2022). Interestingly, the visibility of interdisciplinarity is not something unprecedented because just as in visual shorthand (e.g., of a symbol), one makes a certain interpretation of the knowledge of a particular discipline, demonstrating its historical variability or its highlights, in textual representation this takes the form of a historical narrative.

At the same time, however, *graphesis*, as a form of representation of the connections between different knowledge systems, can in an uncontrolled manner reformulate the ways of justifying the selection of sources and their interdisciplinary combination, imposing its legitimacy through the attractiveness of the representation of methodological problems via visual networks of connections, zones of influence, rules of causality, or principles of appropriateness, congruence, and exclusion. Given the most common ways of interacting with graphic representations of scientific knowledge, only an in-depth analysis of their content triggers verification procedures for what we can call a certain fake coherence. This problem is all the more difficult when we deal with the graphic representation of processes involving multiple axes and variables (simple forms of graphic representation include e.g. statistical data). However, the abbreviated form of graphic representation of complex relationships of diverse nature and levels of abstraction is not conducive to the interdisciplinary re-

search expressed in graphic diagrams, despite the accumulation of interpretative and semiotic problems. In other words, the visual aspect of a research or methodological problem at hand can effectively act as evidence of the need to cross disciplinary boundaries. Furthermore, it can also, in autotelic manner, self-justify itself as a possible solution to the problem it addresses as it has its own graphic representation.

## 5. Conclusion

The example of ambient research is relatively straightforward in terms of the *graphesis* addressed here, and in fact reflects the standard procedure of forming a field of empirical research. The shift from theoretical assumptions and conclusions from source research to the verification of hypotheses through in-depth interviews and correctly designed methods of their transcription and evaluation is a standard research procedure in the social sciences (Flick, 2006; Kvale, 1996; Silverman, 2021). However, the undoubted advantage of visualization in this case is that it effectively unites in one place many elements worthy of empirical research. Their possibly alleged if evocative consolidation, expressed in a visual language, certainly helps the creative process by loosening the regime of scientific methods.

The problems that lie in the interdisciplinary field of interest of various disciplines of the social sciences, humanities, and philosophical sciences may be far more complicated and so the problematic connectivity of the different heterogeneous knowledge systems mentioned above may be heightened. Therefore, *graphesis* should probably still be considered an experimental or alternative method rather than a core of qualitative methods.

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