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The acoustic phenomenon of 'cocktail party'

Notes on the collective production of sonic space

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Abstract

The term 'cocktail party effect' derives from acoustics and refers to the possibility to distinguish the voice of a particular speaker amid the noisy confusion produced by a plethora of overlapping voices and conversations. In this article I propose a conceptual elaboration of the term by considering the acoustic phenomenon in question, both literally and metaphorically, as one of the most characteristic conditions shaping contemporary collective and acoustic experience in environments overloaded with information. In the first part, I discuss the conditions that give rise to the cocktail party acoustic phenomenon, as they relate to particular types of social, communicative and listening practices. In the second part, I present a case study of the phenomenon based on the creation of a soundscape composition developed in conjunction with a written text, both occasioned by the political activity in the public space of the Syntagma Square in Athens during the summer of 2011.

The conceptual distinction between the visual and the acoustic space, introduced and elaborated by media theorist Marshal McLuhan and anthropologist Edmund Carpenter (Carpenter & McLuhan, 1960; McLuhan, 2004), has been one of the most influential theoretical propositions in the current development of the interdisciplinary field of sound studies. Acoustic space is conceived as quintessentially dynamic, without fixed boundaries, while the visual space encourages registering and locating static points within a well-defined frame. The experience of the acoustic space is 'gyroscopic', as the sound, or rather multiple sounds, reaches the listener simultaneously from multiple directions. In contrast, visual experience encourages the sensorial focus on a single and fixed direction. Acoustic experience favours a more or less immediate sense of the environment, rather than a detached, secondary representation thereof.

This distinction, originally formulated in the mid-1950s, acquires renewed significance, when related with a number of recent developments, be they epistemological (such as the sensorial and affective turn), economic (globalised flows of capital, experience economy), techno-social (ubiquitous flows of information, real time anthropotechnological interactions, fluid subjectivities). For cultural and social theory in particular, the distinction between visual and acoustic space corresponds to prevalent binary schemes that conceptualise space, notably 'representation of space' versus '"representational space' (Lefebvre, 1992), 'strategies' versus 'tactics' (de Certeau, 1984) and 'striated' versus 'smooth' space (Deleuze & Guattari, 1987). The first part of all these binary schemes refers to the top-down, hierarchical, static, rational and large-scale construction of space. The second part refers to the bottom-up, open, experiential, performative, contingent use of space.

issn 1904-500X

Since the 1990s there has been a plethora of scholarly and artistic projects that draw their inspiration from the second part of the above binaries, seeking new ways to express an expansive perception and production of the sociocultural environment. Nowadays, however, it is no longer possible to maintain the insular romantic-emancipatory outlook of this trend, as the global economy and its concurrent militarised operations quite adeptly embrace the features of smooth space, rhizomes and nomadology (cf. Goodman, 2010). Therefore, we need to return to a theoretical caveat that accompanied, more or less emphatically, all of the above binary distinctions in their original formulation, but was largely overlooked in its scholarly and artistic application; namely, these binaries do not imply the eventual unitary predominance of one model over the other, but rather their intense mutuality and complementarity.

The emergence of 'sound' as an interdisciplinary field has followed, whether explicitly or not, the aforementioned 'gyroscopic' perception of the acoustic space. In the past 15 years or so, there has been a steady flow of projects, their scope constantly expanding by drawing upon and synthesising multiple scholarly fields, including cultural history, social anthropology, cultural studies and media studies, philosophy, musicology, architecture, physical acoustics, design and informatics. The momentum that largely drives this development is gathered from the straightforward connection between sound and the prelinguistic generation of experience, sensations, materialities and other such qualities inherent in the second part of the above binary distinctions. Even though there are implicit metaphysical notions occasionally underlying this trend, often related to extreme relativism, but also to rigid empiricist epistemologies, this 'acoustic' practice of constructing contemporary sound studies offers many creative contributions, enriching the conceptual tools and methodological approaches applied both in academic and in artistic production.

At the same time, however, in developing the field of sound studies we need to take into consideration the mutuality of the two conceptual models of space production and look for their novel configurations and mutual transpositions in contemporary environments where urban life, economy, culture and politics are collectively produced. In this article, I attempt to demonstrate this as a potential direction within a growing common practice in the field – namely, the study of sonic phenomena in relation to social, cultural, communicative, technological and other related processes at play – by making use of the 'cocktail party' acoustic phenomenon to elucidate a case study of collective, acoustic experience.

In physical acoustics, the metaphorical term 'cocktail party effect' refers to the ability of the listener to distinguish and focus on a sound that coexists with many other similar and simultaneously generated sounds, especially the sound of voices. This phenomenon first attracted scientific interest early in the 1950s, when it became evident that air traffic controllers had difficulty distinguishing the simul-

issn 1904-500X

taneous voices of pilots they heard over loudspeakers in airport control towers. Nowadays, most studies concentrate on functional applications of the phenomenon during the interaction between the user-listener and speech-based digital interfaces. In the intervening years, several laboratory experiments in physical acoustics and psychoacoustics (indicatively Cherry, 1953; Norman, 1976; Bregman, 1990) have attempted to identify the variables that control the phenomenon by modulating the formal qualities of voice (frequency, intensity, duration, etc.) as they relate to the human physiology of hearing (e.g. binaural hearing).

In what follows, I attempt to situate the phenomenon within a broader system of production and experience of public space. In the first part of the article I examine the development of the cocktail party acoustic phenomenon with respect to particular social and cultural conditions and associated communicative and listening practices. In the second part I present a case study of the phenomenon by creating a sound essay in conjunction with writing a textual essay about the political activities in the public space of the Syntagma Square in Athens during the summer of 2011.

The 'cocktail party' as a form of sociality

For the cocktail party acoustic phenomenon to emerge, there needs to be an ample mass of voices. The concept of mass is key. Using the phrase 'a mass of voices' to describe the indistinguishable, incomprehensible sound of multiple voices heard simultaneously invokes specific connotations related to Adorno's notion of 'mass' as a system that squashes anything individual or idiosyncratic under an expanding, homogenising totality. In this article, however, the use of the term 'mass' focuses on the processes and qualities constituting the mass, rather than this particular value-laden ideological framing.

As noted by Cooper (1991), the main function of the mass is the dual movement of collection and dispersion. In the cocktail party acoustic phenomenon, this relation is first and foremost spatial and performative. An essential initial condition for the emergence of the phenomenon is the gathering of many people, often by invitation, in a particular space. It is preferable that the gathering space be well-bounded and reverberating, each voice mixing with itself and with other voices, thus enabling the production of a 'lo-fi' collective voice. At the same time, the assembled people need to be sufficiently dispersed, occupying all possible spots and micro-locations of the space. This distribution within the space is not organised into specific positions, but emerges in practice by alternations in rarefactions and compressions of small collectives (e.g. small parties of friends). In addition, the distribution of positions is not static, but is constantly changing. The contingent movement of individuals and the formation of transient small collectives, through contrivance of routes, unplanned stops and serendipity, intensify the dynamic quality of the phenomenon.

issn 1904-500X

Another preliminary condition for the emergence of the cocktail party acoustic phenomenon is the generation of a common kind of sound from multiple sources, usually multiple voices. In the cocktail party acoustic phenomenon, voice creates a sense of collectivity in a different way than in other cases where collectivity is vocally produced, such as (a) the dominance of a single voice which expresses collective knowledge or public concerns (e.g. in a lecture or a political speech), (b) the harmonious composition of an ensemble of voices distinguished by their tone, timbre etc. (e.g. a choir), (c) the synchronisation of voices in a dominant, repetitive, rhythmic pattern (e.g. in demonstrations, sports events and other rituals). The collective, intersubjective voice of the cocktail party acoustic phenomenon is also different from instances of people talking simultaneously with the antagonistic intention to dominate the conversation, as it often happens, for example, during political discussions on Greek television.

The cocktail party acoustic phenomenon is strengthened or weakened depending on the relation between the number of voices and the degree of their acoustic differentiation; the more voices, the more they can become differentiated in terms of intensity, frequency, timbre, spatial distribution, duration and speech contents. However, this differentiation always remains within a specific range delimited by the 'humanness' of the vocal sound. No single voice should predominate, for example by being amplified through technical means. The emergence of the cocktail party acoustic phenomenon does not entail loss of individuality in the public space or conformity to a pre-existing whole. Rather, it is an attunement of the individual to the activation of many others in a shared performative environment.

The sound of the cocktail party is the sound of the collective bond constituted initially on the basis of a common interest, issue or need that different people share and experience in the same space and time. However, the definition of 'common' is not expected, required or even desired in advance. There is no agenda on the invitation, usually not even a theme, just the practical details of the gathering (e.g. time and place); participants need not prepare their contributions. In other words, the sound of the cocktail party is mainly the singular manner of performing a common interest in a particular space and time. It is the manner of each individual or group differentiating and specifying the common interest, which, consequently, acquires multiple extensions and directions. Further, every individual has a high degree of freedom in interacting with the others, with respect to duration, intensity and content. In other words, the cocktail party is a type of equalising social environment, because no one is attempting to dominate the whole group and everyone can start a conversation on any topic, join an ongoing conversation, redirect it, transform it, interrupt it or just withdraw. One could say that the collective sound of the cocktail party, dynamic in its production and omnidirectional in its diffusion, is the sonic mode par excellence for constituting the social on the basis of individual freedom.

issn 1904-500X

In the cocktail party acoustic phenomenon, it is the enveloping sense of communicating rather than the particular content of communication that pervades. The hyper-differentiated individual utterances are fleeting figures of sound readily absorbed into the sonic background that turns into a total sonic mass. Individual voices are transformed into microscopic, inaudible grains of a collective voice that, despite being the product of fragments and discontinuities, flows uneventfully and continuously without discernible forms or metronomic rhythms. The 'granular' synthesis that characterises such sonic environments is an illustrative example of the way collectively generated sounds can produce what Deleuze and Guattari have termed 'smooth space'.

The smooth sound space of the cocktail party challenges a striated notion of acoustic communication that depends on discerning a sound clearly from the surrounding interference, noise and other irrelevant or superfluous information (cf. the principle of signal/noise ratio). Throughout the twentieth century, various fields from sound arts to communication studies have explored noise as a totalising sound environment consisting of new and intricate relations. Under this tenet, noise holds within it the potential for emersion of information (cf. Serres). Following critically this line of thought, we could argue that the cocktail party acoustic phenomenon is a noisy but, as regards information, dense communication process that urges active listening practices for extracting noteworthy information.

Hearing versus listening has been a typical distinction as far as auditory perception is concerned. Hearing refers to the physical function of the human organism and it is considered a rather involuntary and therefore not fully controlled process of receiving stimuli. Listening, on the other hand, develops the emotional and semantic dynamics of the acoustic phenomenon through an intentional and focused process of assigning meaning. Contemporary sound studies attempt both a synthesis of hearing and listening and an inquiry into their boundaries by foregrounding acoustic experience as a product of the multidimensional and fluid relation between the listener and his or her environment. Specific listening practices are developed in response to this relation. In the case of the cocktail party effect, the main listening practices are what Truax (2001) terms 'listening in search' and 'listening in readiness'.

At first, the listener experiences the cocktail party acoustic phenomenon from its 'periphery' (as it happens when someone enters a room full of people talking). From the very first moment, the listener finds it difficult to distinguish, even fleetingly, specific sources of sound, because the variables operating in sound localisation – e.g. differences in the intensity, frequency and phase of sound reaching each ear – are not discernable. The listener experiences a panacoustic sensation of the collectively produced voice, forming unexpected macro-patterns over time (similar to the patterns identified by Iannis Xenakis, which I will discuss later). How-

issn 1904-500X

ever, in the cocktail party acoustic phenomenon, the listener does not remain in the 'periphery' as an observer from a distance, but becomes actively engaged in the evolving actions that create the acoustic phenomenon. From the position of an insider, the listener does not ascribe a metaphysic dimension to the sound that surrounds him or her, as in the case of ubiquitous sounds that appear to emanate from everywhere and nowhere or in the case of acousmatic sounds when the listener can hear but not see the source of sound. The latter types of acoustic phenomena establish 'a power relationship between an invisible emitter and the worried receptor' (Augoyard & Tongue, 2005, p. 131). However, in the cocktail party, localising, accessing and interacting with sound sources within the pervasive lo-fi soundscape seems feasible and this motivates the listener into action and engagement. This runs counter to the view, held by many sound researchers (e.g. Schafer, 1994; Truax, 2001, p. 23), that lo-fi soundscapes (overcrowded sonic environments in which sounds are masked and heard unclearly) generally impede acoustic communication.

By saying that the listener becomes actively engaged in the actions that make up the cocktail party acoustic phenomenon, I am not referring primarily to participation in particular micro-level interactions (such as a conversation in a small group), which usually comprise discernable layers of acoustic information and content (i.e. foreground and background sounds). The cocktail party acoustic experience is produced par excellence by the alternation between distinction and confusion of sounds, as the listener moves in the crowd and between its micro-aggregations. Through this kinaesthetic and visually-aided experience, the listener may simultaneously hear the overall sound and become attuned to particular sounds and flows. In physical acoustics, this experience is termed 'audio stream segregation'. In the tension produced by localisable and non-localisable sound sources, by the focusing and distraction of acoustic attention, the listener creates spatial-acoustic paths. Listening is an active process, at times directional and selective, at times open and susceptible to the pandemonium of voices; the listener is in a state of constant search and readiness for noteworthy information.

Noteworthy information is encountered transiently, 'on the fly', and its occurrence appears random and contingent. In this sense, the listener's search, even if it is goal-driven, is open to constant disorientations and reorientations. However, as pertinent experiments in physical acoustics have demonstrated, this open environment tends to privilege communicative processes that activate the listener's familiar cognitive schemas. The reinforcement of already familiar cognitive schemas within such a highly dense acoustic environment is associated with: (a) the short duration of acoustic information, which tends to privilege familiar 'keywords', such as the listener's name (these are called 'target words' in psychoacoustic experiments); (b) the importance of repetition, because identical or similar words and phrases, even when dispersed over time, create referential moorings that enable the development

issn 1904-500X

and the orientation on an acoustic path amid the plethora of diverse information (the gestalt principle of similarity); (c) the listener's predisposition to follow words and phrases, from one or more sources of sound, if they fulfil a familiar syntactic pattern (the gestalt principle of proximity).

The reconceptualisation of 'cocktail party' as an acoustic phenomenon concurrent with a specific social practice of being together encompasses the cognitive conception of 'cocktail party' in psychoacoustics, and at the same time it applies it in ways that problematise its fundamental assumptions. In psychoacoustics, the description of the 'cocktail party effect' is predicated on control of a specific end; the simultaneous presence of multiple sounds is considered a problem that has to be solved analytically by distinguishing one stream of sounds that better complies with the predefined functions of the system in which the listener operates. In contrast, the cocktail party acoustic phenomenon considered as a form of sociality is both the prerequisite and the effect of a collective model of cultural sonic production predicated on delineation of the process rather than on control of its end; the simultaneous presence of multiple micro-sounds creates a dense space of information exchange out of which occasional macro-patterns emerge. While stream segregation plays a crucial role in this context, as it has been nicely demonstrated in psychoacoustic experiments, it does so only momentarily and, what is more, it serves as a trigger for the sonic participation of the listener, thus intensifying the complexity of the sonic phenomenon. The latter contingently provides the listener with more sounds to be segregated that invigorate his or her participation and so on. In short, the striation of stream segregation effectively multiplies the smooth ambience of the sonic environment it aims to control and vice versa.

The complementarities between integration and the segmentation in the cultural acoustic experience of the cocktail party acoustic phenomenon can be studied further as part of a dynamic web of relations, such as: open/closed, rarefaction/compression, random/planned, voluntary/involuntary, motion/stasis, event/duration. These relations are not intended as polar opposites, but rather as continua that afford particular spatial experiences of sliding by way of temporal variations (e.g. the experience of motion/stasis unfolds through decelerations/accelerations).

'Voice of the multitude': a sound essay

This article is an attempt to conceptualise an array of thoughts, actions and field recordings instigated in the summer of 2011 in Athens. During that period the soundscape of the city centre was characterised by a condensation of voices, music, protests and riots that were part of an unprecedented process fermenting a political movement against the official management of the 'Greek crisis'. Following the example of the Spanish movement of Indignados, and responding to their call, a

issn 1904-500X

vast number of people met daily and continuously occupied the Syntagma Square, the most central square in Athens, across the street from the parliament. The composition of the crowd was heterogeneous, comprising people from a wide age range, from diverse educational, social and cultural backgrounds and from very different parts of the city. The political identity of the movement was ambiguous at least by standard criteria of 'left-right' political affiliation. Further, general opposition to the management of the Greek economic crisis by the government and the troika (i.e. the International Monetary Fund, the European Union, the European Central Bank) did not appear to culminate in a specific political agenda. This does not signify an absence of political culture, but rather, as Virno (2006, p. 201) has also noted, it is an attempt to preserve the great many variations of political culture that coexist in such political movements. In the course of activities taking place daily in the Syntagma Square it became obvious that the focus was more on the existential processes of self-organisation and fortification of the movement than on the distillation of a distinct political identity that presented an alternative to the dominant political system of Greece. This daily rallying of diverse people in large numbers in the Syntagma Square lasted almost four months. There have been sporadic calls for reviving these rallies ever since, but they have failed to produce the same passion and intensity as in the summer of 2011.

The so-called 'Greek crisis' has attracted unceasing interest in the international financial, political and media circles since its beginning in 2010. A more detailed critical analysis of the economic, political and cultural processes related to this complex and ongoing phenomenon is beyond the scope of this paper. In my work, the political activities at the Syntagma Square in the summer of 2011 serve as a case study for a creative reflection on the dynamic processing of contemporary experience and action from a social-cultural-sonic perspective. In this context, a few months after the summer of 2011 I began to listen to my field recordings from the Syntagma Square with the intention of presenting a short soundscape composition as a contribution to the ongoing academic-artistic project 'FONES/VOICES' based in Athens.

The simultaneous presence of multiple voices predominates in the soundscape composition. In reality, these voices were never heard in this way. Rather, they were heard clearly and in order; they are extracts from speeches given by citizens in the course of the Syntagma Square assemblies. During these speeches, the voice of each speaker was heard clearly, as he or she addressed a silent audience that responded to various points of the speech with gestures instead of exclamations and applause. At this point, I chose not to limit myself to the documentation of the speeches or even to enrich them with other metonymic sounds from the diverse human geographies assembled in the Syntagma Square. Instead, I attempted to convey the ten-

issn 1904-500X

sions, lurking or overt, that formed the ambience of this political affair, by bringing together the different times and contents of the speeches at one unifying moment and, hence, adopting some elements of the cocktail party acoustic phenomenon.

By way of this metaphorical use of a sonic phenomenon, the soundscape composition attempts to capture a thick sonic imaginary instant of the fluctuating tension that defined this political movement, as the tentative articulation of discernible political positions comprised only ephemeral, fleeting moments against a persistent background of generic and vague political opposition. Thus, the background sound of the composition consists of a pandemonium of voices, while discernible voices periodically emerge to the foreground, uttering characteristic phrases – some more detached, other more emotionally charged – that capture political positions, demands and anxieties, for example: 'None of the political parties represent us', 'We do not accept the dispossession of the majority', 'Let us reflect on what we consider acceptable and what inacceptable violence', 'We found ourselves duped and trapped', 'We are condemned to be victorious', etc. A female voice is heard towards the end of the composition uttering a series of random numbers, which correspond to the order of speakers, decided by a draw.

The voices are interrupted abruptly by the insertion of sound excerpts produced by using various text-to-speech programmes to process contemporary texts of political theory that are widely cited and debated in Greece. In narrative terms, these sounds are non-diegetic as they are detached from the action itself, but in a way they intervene in its form and development. Finally, a third group of sounds captures low intensity, somewhat 'stochastic' natural sound phenomena occasionally heard in the Syntagma Square, such as the crackling of burning wood, gusts of a storm hitting a window, etc.

Both the choice of sounds and their composition take the form of a sound essay rather than a typical soundscape composition. This shift occurred, because the soundscape composition was created in dynamic interaction with the study of texts on political theory, experimental music and new media theory. Usually the study or the writing of texts occurs before or after the creation of a soundscape composition. In this case, however, the reading and writing of texts occurred simultaneously and in dynamic interaction with the processing of the sound material; listening to a recording invoked the reading of a text, which fed into notes and comments, which in turn translated into practices of sound processing and composition, which invoked a different text, and so on. Thus, the recurring inceptions, interconnections and iterations shaped a process of moving between sounds and texts by way of transcoding, metaphoric association and reflection. Next, I present the written text that evolved simultaneously in a process of associations and leaps and in dialogue with the sound essay.

issn 1904-500X

'Voice of the multitude': a textual essay

Voice is a constitutive way for people to be present in the public space and to form political collectivities. Typically, this occurs within the political culture of 'the people' speaking with one strong voice, which implies that they are, must be and can become 'one'. This outlook is founded together with the establishment of nation states and the need to unify and control a large and heterogeneous population under a central administrative and political authority. In principle, the 'one voice' ideal expresses the general will that is formed collectively through widespread participatory processes and is based on the exchange of rational arguments and well-substantiated judgements. The quest of expressing social unity through the articulation of one common voice is undermined when this voice emanates from the crowd. In manifestations of the crowd, it appears that diverse voices do not lead to a dialectical synthesis, but rather they are bulldozed into a homogenous and irrational voice, which is volatile and susceptible to manipulation. The unification of the crowd through the massive reproduction of one strong voice is often seen as the product of a hypnotic, trance-like experience, exacerbated by the repetitiveness of slogans, as it happens in mass demonstrations. In either case, whether we are dealing with the dialogical synthesis of diversity or with the one-dimensionality of the crowd, voice is a mode of expression towards the resolution of a collectively experienced problem. An alternative to people positioning themselves in relation to the problem is to exit the problem relation and to 'migrate' into an autonomous public space (Virno, 2006). In the tension produced by the desire to exit, the process of attempting to speak with one voice appears to undergo a transformation in form and purpose. It has been noted that collective debating, as a form of political action, does not serve the 'rational search for optimal solutions' (Virno, 2004, pp. 88-94), but aims at invention through the skilful performance of idle talking as 'a means without an end' (Gavriilidis, 2011). Under these circumstances, Hardt and Negri propose a new multi-voiced 'great conversation', which will not represent the relations of production as harmonious, but will extend and intensify their interactions. They argue that breaking up the flow of conversation is often desirable, so long as it does not produce such cacophony as to 'prevent anyone from understanding anything' (Hardt & Negri, 2009, p. 304).

This reference to the boundary between breaking up the flow of the collective political expression and producing cacophony brought me to the work of experimental music composer Iannis Xenakis. As Xenakis himself recounts, his work and the directions it has taken were influenced deeply by the youthful experiences of taking part in mass demonstrations in the years during and immediately after the German occupation in Greece (Varga, 2004). Xenakis first describes the organised rhythmic utterance and alternation of slogans, starting from the front line and

issn 1904-500X

propagating backwards through the whole demonstration. He focuses, in particular, on the acoustic event of the disorderly demonstration breakup under the gunshots of the occupation army. At the moment of the clash, the unity of the mass of people breaks down, creating a dense acoustic event produced by the maximum differentiation of its constituent elements. In this case the notion of 'mass' is not based on the congregation around a centre (i.e. the central slogan of the demonstration), but rather on the diffusion that develops through the individualised interactions of the multiple atoms of the mass, moved by their common quest for survival (e.g. screams and shouts of demonstrators running for cover). For Xenakis, this phenomenon constitutes a special kind of sonic mass, not uncommon in nature or in everyday life, which develops in an unpredictable way. These ideas, as formulated by Xenakis, invoked for me the concept of 'encounter materialism' or 'aleatory materialism', as introduced by the French political philosopher Louis Althusser.

In his late work, Althusser (2006) turns his focus on an 'underground current of philosophical tradition' – which has since become an academic mainstream – starting from Democritus, Epicurus and Lucretius, through Machiavelli, Spinoza, Hobbes, Rousseau, Montesquieu to Heidegger and Wittgenstein. 'Encounter materialism' or 'aleatory materialism' is the core concept that runs through this current. In 'encounter materialism', meaning takes form as the encounter of elements of matter that swerve from their parallel fall and collide. This mode of encounter does not follow some norm or plan. It is contingent; it may happen, or it may not. Further, neither the form nor the duration of the encounter can be specified in advance. If the encounter persists to a suitable duration, then it is transformed into meaning, norm, law. Otherwise it returns to void. Void, what is not yet, but can become, is the basic precondition for the existence and the motion of the world. In the void, the elements of matter can theoretically be here or there, but they do not exist, so long as they have not encountered each other. Althusser takes this a step further, stressing that the discipline of political philosophy is not advanced through reason, determinism or identification of prior causes to events. Like the elements of matter, philosophy is in the void and its mission is to create void: to disengage from the study of well-defined subject matter and from the formulation of specific problems, surrendering instead to chance encounters and collisions (Althusser, 2006, pp. 174-175). 'Encounter materialism' is not only a philosophical concept, but a practice of knowing and, I may add, a creative practice in general.

This notion, namely that indeterminacy is anterior to form, cause and end, brought me back to Iannis Xenakis and in particular to his views on John Cage. Xenakis finds Cage's experiments with randomness fascinating, but he also critiques them on two counts. First, he sees Cage's adherence to intuition as excessive and one-sided. Second, he argues that composers always maintain some control in defining their work (Varga, 2004, pp. 76-77). Xenakis distinguishes his approach

issn 1904-500X

from other avant-garde music traditions, which, in exploring the notion of contingency and randomness, overstress the importance of improvisation. In improvisation, the performers act like the elements of matter in our earlier description; they may play this or that sound sequence, they may encounter each other in various ways, or they may not. In improvisation and in cases of random phenomena, their outcome is not specified in advance. However, according to Xenakis, their development is subject to some initial conditions that can be recognised and may also be specified. Unlike Althusser, Xenakis would say that 'aleatory materialism' is not produced in complete void. With this rationale, Xenakis draws upon mathematics and physics, using elements from the laws of probability, the kinetic theory of gases, etc. in order to create sonic masses, comprising the manifold coexistence and interaction of micro-sounds under conditions that are open to unpredictable development, but at the same time are subject to a minimal set of instructions (Varga, 2004, pp. 99-109). In the work of Xenakis, the computer is an important tool for the attainment of this tension between indeterminacy and determinism. Xenakis is particularly interested in programming as a system of defining elemental relations of causality, which produce different events every time they are activated.

The use of the computer to produce random events through the definition of elemental relations of causality brings us to two important points related to the growing interest in the cultural aspects of software and computation. The first point concerns the ever greater black box in human-computer interaction. In simple terms, as computational tools for creation and communication become more easy to use, human activity is mediated by more layers of computational processes. These layers, as noted also by Kittler, are not simply more complex, but more importantly, they are increasingly opaque and inaccessible, not only to users, but also to programmers. In other words, when it comes to computer use, the more it gives us a sense of immediacy, the more the computational processes that mediate our experience have multiplied. The second point is that computational systems create an unprecedented, strong mix of relationality and representation. Digital representation stages multiple instances of arbitrariness between the referent and its matter. For example, the meaning of binary digits 0 and 1 does not lie in their numerical value, but only in their difference, which can be further differentiated by increasing the relational series of binary digits. These series create a new kind of language, which, according to Golumbia (2009), is immune to ambiguity, equivocation or nuances of word meaning, to irony, humour or vagueness. It is also independent of the cultural and historical context of specific spoken languages, their evolution and interaction. An illustrative example, where the production of language does not depend on performative context but solely on procedural operations, is text-to-speech software programmes. These programmes apply Weaver's idea that 'A book written in Chinese is simply a book written in English which was

issn 1904-500X

coded into the "Chinese code"' (Weaver quoted in Golumbia, 2009, p. 90). Weaver and other computer theorists aspire to a new meta-language that provides the fundamental structure for the representation of diverse languages, be they verbal, aural or visual. To achieve this, the new universal language must consist of the least possible number of elements related only by way of their difference, devoid as much as possible of any 'outside' reference, representation or identity. Yet, this is congruent, at the highest degree of abstraction, with the performative practices that are produced in specific places and times through extreme hyper-differentiation of individual action and open-ended, but bounded interaction. This intensified mutuality of the abstract and the concrete characterises the dense fields of performative acts, such as the cocktail party acoustic phenomena and the political movement discussed above.

Conclusion

Exposure to a plethora of information coming simultaneously from multiple sources and directions is one of the defining characteristics of the cultural experience of public spaces, be they urban, technological or of any other sort. The study of the sonic, social and communicative aspects of the cocktail party acoustic phenomenon can contribute to our understanding of the practices constituting such contemporary collective spaces. In this article, I have approached, literally and metaphorically, the cocktail party acoustic phenomenon as a performative activity that creates a sizeable community constituted, in principle, on the basis of a generalised sense of coming together and communicating. For the development of the phenomenon a certain set of 'pre-set instructions' has to be followed. At the same time, the actual formation of community is heavily depended on individual hyper-differentiated expressions. It is also egalitarian, in the sense that individual expressions amply overlap, so that none is easier to discern than the other. Under these conditions, the cocktail party acoustic phenomenon creates a condense information space, where the practice of finding information worthy of attention involves constant search and alertness on behalf of the listener moving about in the space. Thus, a nexus of successive kinaesthetic disorientations and reorientations arises, privileging the detection and activation of already familiar cognitive schemas. The acoustic space of the cocktail party constitutes a field of intense but transient interaction, with effects that will potentially come to pass and further develop at a different time and space. The study of the collective production of public space as a case of the cocktail party acoustic phenomenon could be extended further to encompass the varying conditions, agents and interactions at play in various circumstances in social life and to include the conditions that give rise to cocktail party acoustic experiences as well as their aftereffects.

issn 1904-500X

References

Althusser, L. (2006). Philosophy of the Encounter: Later Writings 1978-1987. London: Verso.

Augoyard, J.F., & Torgue, H. (2005). Sonic Experience. A Guide to Everyday Sounds. Montreal and Kingston, London, Ithaca: McGill-Queen's University Press.

Bregman, A.S. (1990). Auditory Scene Analysis: The Perceptual Organization of Sound. Cambridge: MIT Press.

Carpenter, E., & McLuhan, M. (1960). Acoustic Space. In: Carpenter, E., & McLuhan, M. (eds.), *Explorations in Communication: An Anthology* (pp. 65-70). Boston, MA: Beacon Press.

Cherry, E.C. (1953). Some Experiments on the Recognition of Speech, with One and Two Ears. *Journal of the Acoustical Society of America*, *25*, 975-979.

Cooper, R. (1991). Interpreting mass: collection/dispersion. In: Lee, N., & Munro, R. (eds.), *The Consumption of Mass* (pp. 16-43). Oxford: Blackwell Publishers.

De Certeau, M. (1984). *The Practice of Everyday Life*. Berkeley, Los Angeles, London: University of California Press.

Deleuze, G., & Guattari, F. (1987). A Thousand Plateaus. Capitalism and Schizophrenia. Minneapolis, London: University of Minnesota Press.

Gavriilidis, A. (2011). Fallogocentrism: The Ageing Disease of Modernism. *Synchrona Themata*, *113*, 10-12.

Golumbia, D. (2009). The Cultural Logic of Computation. Harvard University Press.

Goodman, S. (2010). Sonic Warfare. Cambridge: MIT Press.

Hardt, M., & Negri, T. (2009). Commonwealth. Cambridge, Massachusetts: Belknap Press.

Lefebvre, H. (1992). The Production of Space. Oxford, Massachusetts: Blackwell Publishers.

McLuhan, M. (2004). Visual and Acoustic Space. In: Cox, C., & Warner, D. (eds.), *Audio Culture: Readings in Modern Music.* New York, London: Continuum.

Norman, D.A. (1976). Memory and Attention. New York: John Wiley and Sons.

Schafer, R.M. (1997). The Soundscape: Our Sonic Environment and the Tuning of the World. Vermont: Destiny Books.

Truax, B. (2001). Acoustic Communication. Connecticut, London: Ablex Publishing.

Varga, V. (2004). Conversations with Iannis Xenakis. Athens: Potamos.

Virno, P. (2006). Virtuosity and Revolution: The Political Theory of Exodus. In: Virno, P., & Hardt, M. (eds.), *Radical Thought in Italy. A Potential Politics.* Minneapolis, London: University of Minnesota Press.

Weaver, W. (1955). Foreword: The New Tower. In Locke, W.N. & Booth, A.D. (eds.), *Machine Translations of Languages: Fourteen Essays.* Cambridge, MA: The MIT Press.

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