



Curatorial > INTERRUPTIONS

With this section, RWM continues a line of programmes devoted to exploring the complex map of sound art from different points of view organised in curatorial series.

With this new series we make the most of the vast musical knowledge of the artists and curators involved in the Ràdio Web MACBA project, to create a series of 'breaks' or 'interruptions' in our Curatorial programming. In à-la-carte-music format, our regular curators and collaborators have carte blanche to create a purely musical experience with only one guiding parameter: the thread that runs through each session must be original and surprising. In *Bregman / Deutsch Chimaera – 47 minutes in bifurcated attention*, Florian Hecker suggests an amalgamation of two seminal collections of psychoacoustic works, which demand from its audience a selective piecing-together of distinct units into an overall Gestalt, one that culminates in a chimerical auditory experience.

Curated and produced by Florian Hecker

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In his installations, live performances and publications, Florian Hecker deals with specific compositional developments of post-war modernity, electroacoustic music as well as other, non-musical disciplines. He dramatizes space, time and self-perception in his sonic works by isolating specific auditory events in their singularity, thus stretching the boundaries of their materialization. Their objectual autonomy is exposed while simultaneously evoking sensations, memories and associations in an immersive intensity.

Recent performances include *Push & Pull*, Tate Modern, London, 2011; *Instal, Tramways*, Glasgow, 2010; *Hebbel am Ufer*, Berlin, 2010 as well as a series of collaborations with Aphex Twin at Warp 20, Cité de la Musique, Paris and Sacrum Profanum, Krakow, both in 2009. Solo exhibitions include MMK Museum für Moderne Kunst, Frankfurt (2010), Chisenhale Gallery, London (2010), Bawag Contemporary, Vienna (2009) and Sadie Coles HQ London (2008).

<http://florianhecker.blogspot.com>

INTERRUPTIONS #4

Bregman / Deutsch Chimaera – 47 minutes in bifurcated attention

This program refuses to deliver any satisfactory integration of sonic elements on any immediately evident rhythmic, harmonic or textural level. In this context, the audience is challenged to operate their own amalgamations. One can choose, select, embrace and depict a sonic stream, or get lost in the overall orientation of these abstract auditory objects – or both?

01. Summary

I

The point of departure for this podcast comprises two publications from the mid nineties: *Musical Illusions and Paradoxes*¹ by Diana Deutsch and *Demonstrations of Auditory Scene Analysis: The Perceptual Organization of Sound*² by Albert S. Bregman and Pierre A. Ahad. These CDs feature demonstrations – or illustrations, as suggested by Bregman (1996, 2) – of the research in psychoacoustics (Bregman) and musical psychology (Deutsch) by their respective authors. Both volumes are introduced with a spoken commentary by the authors themselves and accompanied by extensive booklets that further describe what is heard as well as instructions and suggestions on parameters such as playback volume, loudspeaker position, distance from the same, and whether headphones are required or not. Here the recorded and textual components form a prescriptive double, a package where the listener verifies the CDs objectives though a subjective audible encounter.

II

In *Musical Illusions* Deutsch focuses her attention on a body of research that attempts to understand the perceptual organization of musical notes and their corresponding pitch values. By dramatizing and subverting this orientation, I have ventured into a less definable territory, one that leaves behind this organizational criteria and instead looks into a speculative and phenomenological inquiry into the field of psychoacoustics and sound itself.

This proposal addresses a key discussion in this field, where researchers propose different approaches to the study of human auditory perception, contesting whether sound should be classified in terms of an 'event, stream or product of figure-ground segregation' (Kubovy & van Valkenburg 2004, 113-147). Treating the auditory perception of sound as 'event' extends the elementary idea that auditory phenomena are the result of 'abrupt changes that occur in the environment' (p. 118) – a transformation that is marked by distinct 'events'. Treating the auditory perception of sound as 'stream' takes into account how Gestalt perceptual principles organize our perception of the flow of sounds in the environment. The 'figure-ground segregation' approach focuses on the auditory perception of sound objects or 'units of attention' (p. 122).

This last approach supports the idea of sound as object, one that sustains an understanding of the world as a collection of objects as opposed to events³ or processes (p. 119). Some authors admit that the idea of sound as a product of 'figure-ground segregation' might, at times, appear to be too narrow. Here, it is important to take into account that a listener might focus his or her attention on a 'figure' that is part of an array of alternatives that are not necessarily best represented as the 'foreground' since they are also 'auditory objects'. (Kubovy & van Valkenburg 2004, 123)

Without settling for any particular definition, these contradictory approaches seem to lose sight of the ways in which our perception of sound might, at times, appear un-categorizable. An example of this can be found in the discussion of 'timbre'.



[Bregman / Deutsch Chimaera – 47 minutes in bifurcated attention, 2D Sketch, 2011]

'Timbre tends to be the psychoacoustician's multidimensional wastebasket category for everything that cannot be labeled pitch or loudness, including short-term spectral changes such as onset transients, long-term spectra, those dynamic qualities which a musician would term 'texture', and so on.'⁴

This witty statement, made in 1979 by Albert S. Bregman and Stephen McAdams, illustratively opens up the vast space in-between the different notions and conventions employed in discussing auditory and musical perception. Eleven years later, Bregman restated his unease concerning the categorization of 'timbre'. Bregman's suggested definition is in strong opposition to the definition provided by the American Standards Association that tags timbre as 'that attribute of auditory sensation in terms of which a listener can judge that two sounds similarly presented and having the same loudness and pitch are dissimilar' (ASA 1960, in Bregman 1994). In contrast, he suggests the formulation: 'we do not know how to define timbre, but it is not loudness and it is not pitch'.⁵

III

This recognition that there are unresolved paradoxes within our perception of sound opens a 'phenomenological gap', a fault-line within psychoacoustics' own efforts; one that has a strong linkage to extra-musical and psychological thought and practice.⁶ In this 'open-air field where categories from musical psychology and traditional psychoacoustics never manage to settle down, where we are unable to provide a name or classification of experiential phenomena, one is left with the task of qualifying what could be termed the 'hallucinatory' (Hecker & Matos in press and Mackay 2010, 11).

With this in mind, this program proposes the exploration of an *Auditory Chimaera*, one that intertwines the first 46 minutes of the right channel from the Bregman's *Demonstrations of Auditory Scene Analysis: The Perceptual Organization of Sound* CD, and the entire left channel from Deutsch's *Musical Illusions and Paradoxes* CD. As described by psychoacousticians Bertrand Delgutte, Zachary M. Smith and Andrew J. Oxenham⁷, the process of the *Auditory Chimaera*⁸ first analyses and then exchanges the 'envelope of one sound and the fine structure of another' (Delgutte et al. 2002, 87). During this process, crucial information on the 'where' (e.g.: pitch perception and sound localization) and 'what' (e.g.: speech perception) paradigms of auditory perception are exchanged.

The Bregman / Deutsch Chimaera dissects and adulterates the pitch-time structures of the auditory scenes of its inputs while suggesting a trade, swap and crossmatch 'of their qualities'. In a way that celebrates their dynamic materiality, the Chimaera unleashes these deformed inputs, unfolding their forces within transient 'wholes', without exhausting their infinite potential as abstract objects. Here, one can choose, select, embrace and depict the sonic streams, or get lost in the overall orientation of these abstract auditory objects – or both.

As French philosopher Henri Bergson observed: 'consciousness does not supplement but subtracts; what comes to consciousness is a drastically reduced and schematized portion of that which is immediately given in sensation'.⁹ This negative labour of reduction and integration immediately reconfirms the inaugural Duchampian declaration: 'it is the viewers who make the pictures'.¹⁰ Accordingly, the incomplete synergy of this broadcast demands from its audience a selective piecing-together of distinct units into an overall Gestalt.

¹ Diana Deutsch, *Musical Illusions and Paradoxes*, Philomel Records, Inc., 1995.

² Albert S. Bregman and Pierre A. Ahad, *Demonstrations of Auditory Scene Analysis: The Perceptual Organization of Sound*. Cambridge, Massachusetts: MIT Press, 1996.

³ Here it is important to notice that the authors (Kubovy & van Valkenburg 2004) recognize that the difference between sound as object and sound as event is not clear-cut but rather 'interchangeable', p. 119.

⁴ Albert Bregman and Stephen McAdams, 'Hearing Musical Streams', *Computer Music Journal* 3, no. 4 (December): pp. 26–43. Cambridge, Massachusetts: MIT Press, 1979.

⁵ Albert S. Bregman, *Auditory Scene Analysis*. Cambridge, Massachusetts: MIT Press, 1994.

⁶ For more information regarding the 'phenomenological gap' which emerges between such different psycho-physical notions of sound – as Event (Blauert), Stream (Bregman) and Auditory Object (Kubovy et al.) see: R. Mackay 'These Broken Impressions'. In Susanne Gaensheimer (ed.), *Florian Hecker. Event, Stream, Object*. Cologne: Verlag der Buchhandlung Walther König, 2010.



[Bregman / Deutsch Chimaera – 47 minutes in bifurcated attention, 2D Sketch, 2011]

⁷ Chimaeric sounds reveal dichotomies in auditory perception, Zachary M. Smith*, Bertrand Delgutte*†† & Andrew J. Oxenham†† * Eaton-Peabody Laboratory, Massachusetts Eye & Ear Infirmary, Boston, Massachusetts 02114, USA † Research Laboratory of Electronics; and ‡ Speech and Hearing Bioscience and Technology Program, Harvard-MIT Division of Health Sciences and Technology, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, USA. in *Nature*; Vol. 416; 7 March 2002.

⁸ The term Auditory Chimaera metaphorically employs the notion of the Chimaera from Greek mythology. The Chimaera is a hybrid creature which, according to Homer, was 'of divine race, not of men, in the fore part a lion, in the hinder a serpent, and in the middle a goat, breathing forth in terrible manner the force of blazing fire' (Iliad 6.181). For more information about the Chimaera mythology, see <http://www.unifi.it/surfchem/solid/bardi/chimera/>, retrieved 1 July 2011.

⁹ John Marks, *Gilles Deleuze: Vitalism and Multiplicity*. London: Pluto Press, 1998, pp. 68.

¹⁰ Michel Sanouillet (ed.), *Duchamp du signe*. Paris: Flammarion, 1975, p. 247.

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03. Acknowledgments

Bertrand Delgutte, Tommi Keränen, Robin Mackay, Sónia Matos, Anna Ramos.

04. Credits

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05. Copyright note

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