

# Now? Towards a phenomenology of real time sonification

Stuart Jones

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**Abstract** The author examines concepts of real time and real-time in relation to notions of perception and processes of sonification. He explores these relationships in three case studies and suggests that sonification can offer a form of reconciliation between ontology and phenomenology, and between ourselves and the flux we are part of.

**Keywords** Sonification · Real time · Real-time · Perception · Attention · Ontology · Phenomenology

*No man is an island, entire of itself.*  
John Donne, *Meditation XVII*, 1624

*I can indeed say that my representations follow one another; but this is only to say that we are conscious of them as a time sequence, that is, in conformity with inner sense.*

Immanuel Kant, *Critique of Pure Reason*, 1781

*You can never directly know the outer world. Instead, you are conscious of the results of some of the computations performed by your nervous system on one or more representations of the world. In a similar way, you can't know your innermost thoughts. Instead, you are aware only of the sensory representations associated with these mental activities.*

Christof Koch, *The Quest for Consciousness*, 2004

## 1 Introduction

To start, some basic thoughts about the key objects of scrutiny: sonification, perception and time.

### 1.1 Sonification

Sonification is, after all, through its representations, connecting your understanding to something else (the data) by means of your capacity to connect with and understand (represent to yourself) sound.

And often this sonification is of something that has happened or is happening in a traversing of time; in this essay, I will be focused on situations where our sense is that the sonification that we are hearing is being generated from the originating data synchronously.

Whether or not the data are, most surely the sonification itself is traversing time, sound being the sensory domain that is most clearly time dependent, and thus sonification is a time-based practice, whether in mechanical, utilitarian dispositions, such as in medical use, or in more aesthetics-based application in sound art. In all, the representations and our representations of them in consciousness follow one another, and that is how we make sense of them.

And because it is sound, and we are trying to make sense of it, it is very likely that we will have some 'musical' sense of it. That is, musical in the way of being a *sequence* of aural events that makes conceptual sense as it traverses a span of time. This can be said to be true even of the mechanical sonifications heard in medical situations, that they may have this non-musical 'musicality'.

The rise of interest in sonification is supported by a growing understanding of how our apprehension of the world, as well as our perception of it, is multi-sensorial. This reflects a move away from a culture dominated by

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S. Jones (✉)  
20 Cleveleys Road, London E5 9JN, UK  
e-mail: wawamoz@gmail.com