

## Simulation and Computer Experimentation in Music and Sound Art

21-22 March 2019

Orpheus Institute (Ghent, Belgium)

**Co-organisers:**

'Music, Thought and Technology' (Orpheus Institute, Ghent) and  
'Algorithms that Matter' (University of Music and Performing Arts Graz, FWF AR 403-GBL)

Computational methods have made their way into most of scientific and artistic fields; simulation has become a paradigmatic mode in contemporary practices. In science, in design, in medicine and in art, simulations of natural, human, technological or abstract systems (or techniques derived from simulation) are ubiquitous. The development of new methods of computation and simulation in the natural sciences initiated an ongoing discussion about the relationship of *in silico* experiments to empirical or theoretical modes of investigation. The seminar aims to bring together practitioners and scholars to discuss the wide-reaching implications of the 'agential cut' (Barad) or 'ontic cut' (Rheinberger) – the separation between operationalised model or abstract theory and perceived or experimentally verified 'reality', the fissure already indicated by Husserl and realised in experimental computational systems. These introduce a new type of interface between the machinery and what is implemented, allowing for the ongoing production of new data and going beyond the traditional atemporal theoretical models; crucially, simulations also allow new and mobile perspectives onto the 'object' modelled by tracing contingent, situated, multiple paths through what DeLanda describes as 'a space of possibilities' – alternative realities within a space that displays stability or consistency at another level. In Rheinberger's words 'it becomes urgent to ask whether computer simulations represent a new category of epistemic object altogether.'

Computational models afford a way to test theoretical constructs or observe the consequences of non-physical or even imaginary hypotheses. One arrives at a critical conception of computation, situating it beyond the dualism of a deductive, representational approach and an inductive, empirical approach, acknowledging a speculative quality of algorithms that 'are not simply the computational version of mathematical axioms, but are to be conceived as actualities, self-constituting composites of data' and 'equipped with their own procedure for prehending data.' (Parisi) The very activity of experimentation and augmenting the language of artistic creation is exposed through the use of algorithms.

**CALL FOR PROPOSALS**

**Proposals are invited that critically explore the space spanned by the different perspectives on simulation and experimental computation addressing their role in all areas of music, sound art and related research, in all its possible technical, technological, musicological or theoretical aspects. We invite proposals for presentations in the form of paper (20 minutes), demonstration or performance, or any hybrid thereof. We particularly welcome proposals for presentations that explore the role of simulation in innovative ways.**

A non-exhaustive list of possible questions and topics might include:

- Do computer simulations represent a new category of epistemic objects?
- The role of metaphor or verisimilitude in terms of the structure or behaviour under consideration. Of the brain in neural networks, of social or biological structures in A-life systems, for example. At what point can the metaphor be abandoned?
- Lines of enquiry suggested by Baudrillard's distinction between simulation and simulacrum. Where, for instance, are the borders between reconstructions, interpretations and acts of 'pure' imagination? If an act of

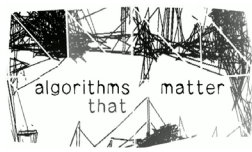
'projected' or 'applied' imagination can be seen in this light, why not one of personal creativity?

- Is there a relationship of simulation between the performance of music and the abstract 'work'? Between the 'work' and its ineffable motivating impulse?
- Does the new state of science suggest that we rethink our entire model of the ways in which we understand the stages and ontologies of music production in general, including historical models?
- In which way does a system embody its author's understanding of the phenomenon in question? That is, might it tell us as much about the context, the world-view of its own development as about its subject phenomenon?
- The way computation can merge with composition and performance opens to question our received understanding of the processes of contemporary musical/sonic creation.
- A major value of computation as a tool lies in the possibilities it offers for the development of instruments and apparatuses of enquiry or experience that would otherwise be impossible. What value do simulations of physically 'impossible' systems have? What relation is there to the tradition of 'thought experiment'?
- Rather than remaining inert tools, computational processes tend to unfold a specific agency, retroacting on the research or creative process they are inserted into.
- What kind of materiality do computational experiments develop? If they lack the material resistance as part of the experimental arrangement (Gramelsberger), could there be a different kind materiality that comes into play?
- Computational methods enter in a 'co-generative' relationship with the entities they interact with: they co-determine the outcome of the research or artistic endeavours. Humans and computational processes are inextricably entangled in a network of relations, an ecosystem of interdependences devoid of hierarchies and separability.
- If there is always already an 'experimental intelligibility internal to computation' (Parisi) through which the premises of the input data are autonomously revised, what are the opportunities in this duality of experimentality (intrinsic to computation as well as introduced through an experimenter's design)?
- What are the implications for artistic work if experimental computer systems are always the result of a collaborative writing process of several authors (Gramelsberger)?

#### Convenors:

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Proposals (200 words) should be sent to: [amat@iem.at](mailto:amat@iem.at) to arrive no later than **8 December 2018**. We intend to send notification of acceptance by 15 January 2019.



#### References:

- Barad, Karen (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Durham and London: Duke University Press.
- Baudrillard, Jean (1994). *Simulacra and Simulation*. Ann Arbor: University of Michigan Press.
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- Gramelsberger, Gabriele (ed., 2011). *From Science to Computational Sciences: Studies in the History of Computing and its Influence on Today's Sciences*. Zürich: diaphanes.
- Husserl, Edmund (1970). *The Crisis of European Sciences and Transcendental Phenomenology*. Evanston, IL: Northwestern University Press.
- Parisi, Luciana (2017). 'Computational Logic and Ecological Rationality' In: Hörl, Erich and James Burton (eds.), *General Ecology. The New Ecological Paradigm*. London: Bloomsbury Academic.
- Rheinberger, Hans-Jörg (2018). 'Transpositions: from traces through data to models and simulations' In: Schwab, Michael (ed.), *Transpositions: Aesthetico-Epistemic Operators in Artistic Research*. Leuven: Leuven University Press.