

# Editorial

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This special issue of the CITAR Journal of Science and Technology of the Arts is dedicated to the 5th International Conference on Computation, Communication, Aesthetics and X (xCoAx), which took place in Lisbon, Portugal, from July 5 to 7, 2017.

xCoAx is a multimodal event, including an art exhibition, a performance night, and a conference where scholars from all over the world present and discuss their ideas. We are very grateful to the CITAR journal for having us as guest editors and for giving us this space where some of the more stimulating ideas that emerged from xCoAx could be further elaborated.

The papers included in this issue are possibly among the most ambitious we have ever had the pleasure to read in our still short yet intense history with xCoAx. The ambition, in this case, is not to go onwards or upwards, but inwards: towards the core of what computation is and towards the core of what it means to be human. Of course, if ultimate answers are still (and possibly forever) out of our reach, the comparative results we obtain from the search for commonalities and differences between computers and humans are interesting enough for us to continue with the quest.

Rutz goes back to analyse what an algorithm is with a specific focus on the relation humans have with algorithms in their creative endeavours: how humans

rely on algorithms to fulfil their desires, how humans adapt to algorithms, how humans show algorithmic characteristics, like breaks, flows, halts, especially when they are making art.

Nake and Grabowski waded in similar waters, but in the opposite direction: by focusing on re-coding, they propose the intellectual exercise of reverse engineering a visual artwork back to the original algorithm that generated it. To prevent the risk of reducing a human being to a data source while reducing worldly processes such as creativity to computational ones, the authors propose to insert re-coding into an art education framework.

Alves da Veiga expands the discourse of generative art from the realm of visual art to performance. He proposes a model for the creation of performances based on stochastic systems that generate numeric values interpreted as components of a theatrical experience. As in any computational system that is meant to interact with the real world, such interpretation is based on a mapping technique, and the one proposed here addresses seven fundamental variables: light, space, plane, form, motion, sound and, last but not least, the human.

Computing technology is indeed a way to model the human, but Hernández-Ramírez takes the discourse one step further, analysing what happens when technology creeps into the human to modify it from

the inside. If self-modification is an ancient practice, he argues, new technologies enable us to tinker with the human dimension in a new way, based not only on the materiality of the body, but on the information that describes us in all our aspects, bodily and mental.

Information technology is indeed ubiquitous, and Papadimitraki brings our attention back to the outside, with a focus on the environment surrounding us, in terms of space and architecture. The hot topic on everybody's mouth nowadays is smart cities, but she uses them only as a starting point of a much deeper discourse on spatial ontology, to which the use of code to create architectural objects adds a new temporal dimension that deserves investigation.

Coding can be an extremely useful instrument in many endeavours, but it is different from the physical tools we use to build or fix objects: it is, after all, language. Temkin reminds us of the intrinsically linguistic nature of code in the most playful way, by giving us an overview of the most bizarre programming languages out there, some of which are designed in a way that it is impossible to write a functioning program with them. Those who create such languages do not consider themselves artists, but their challenge to the very idea of coding is nothing short of creative.

Even without venturing into the extremes of non-functioning code, complex systems always pose several problems, glitches, hiccups, due to the great number of interacting parts. Eustáquio invites us to a radical change of perspective, by adopting interference as a paradigm to describe and design interactive systems. He analyses a number of works in which interference is no longer seen as an unwanted side effect, but it allows for the discovery of new potential, and provides a new space for creative expression and collaborative engagement.

We are back at it again: we have never ceased wondering what we are, and we will not leave any path untapped in this quest. From this very general, existential and epistemological perspective, art and computation are just two different ways to pursue the same goal. In trying to understand ourselves, we have built computational artefacts that are meant to work with us, for us, like us and, in some cases, instead of us. Whether computational technology is a new way of doing old things or a radically new realm remains to be seen. What is sure is that the question

itself is already pushing us to rethink who we are, how we communicate, create, and modify the environment we live in.

Come join in the conversation.

## **BIOGRAPHICAL INFORMATION**

Luísa Ribas holds a PhD in Art & Design (2012), a Master in Multimedia Art and a Degree in Communication Design from the Faculty of Fine Arts, University of Porto. Her research addresses interactive systems as aesthetic artifacts, their design and experience, while focusing on sound-image relations. She has contributed to publications and events on digital art and design as a collaborator of ID+ and CIEBA research centers. As a professor at the Faculty of Fine-Arts, University of Lisbon, she teaches Communication Design with a focus on print and digital computational media, being currently the scientific coordinator of the Master in Communication Design and New Media.

André Rangel, 1971. Intermedia artist-cum-designer that holds a PhD in Science and Technology of the Arts, a Master in Digital Arts and a Degree in Communication Design. Currently Guest Assistant Professor at the Faculty of Fine Arts of the University of Porto and Researcher at the Research Center for Science and Technology of the Arts. 3kta.net founder and director, xCoAx.org co-founder and co-organizer.

Mario Verdicchio was born in Milano, Italy in 1975. He obtained a PhD in Information Engineering in 2004 at Politecnico di Milano, where he worked in the Artificial Intelligence and Robotics group. He co-founded xCoAx in 2012 while he was a researcher at the School of Engineering at the University of Bergamo, Italy. His collaborations include the University of Virginia, USA, the University of Porto, Portugal, and the University of the West of Scotland, UK, where he currently works as a lecturer at the School of Media, Culture and Society.

Miguel Carvalhais is a designer and musician. He's an Assistant Professor at the Faculty of Fine Arts of the University of Porto, a researcher at INESC TEC and a fellow at V2\_Lab for the Unstable Media. He's the author of "Artificial Aesthetics: Creative Practices in Computational Art and Design".