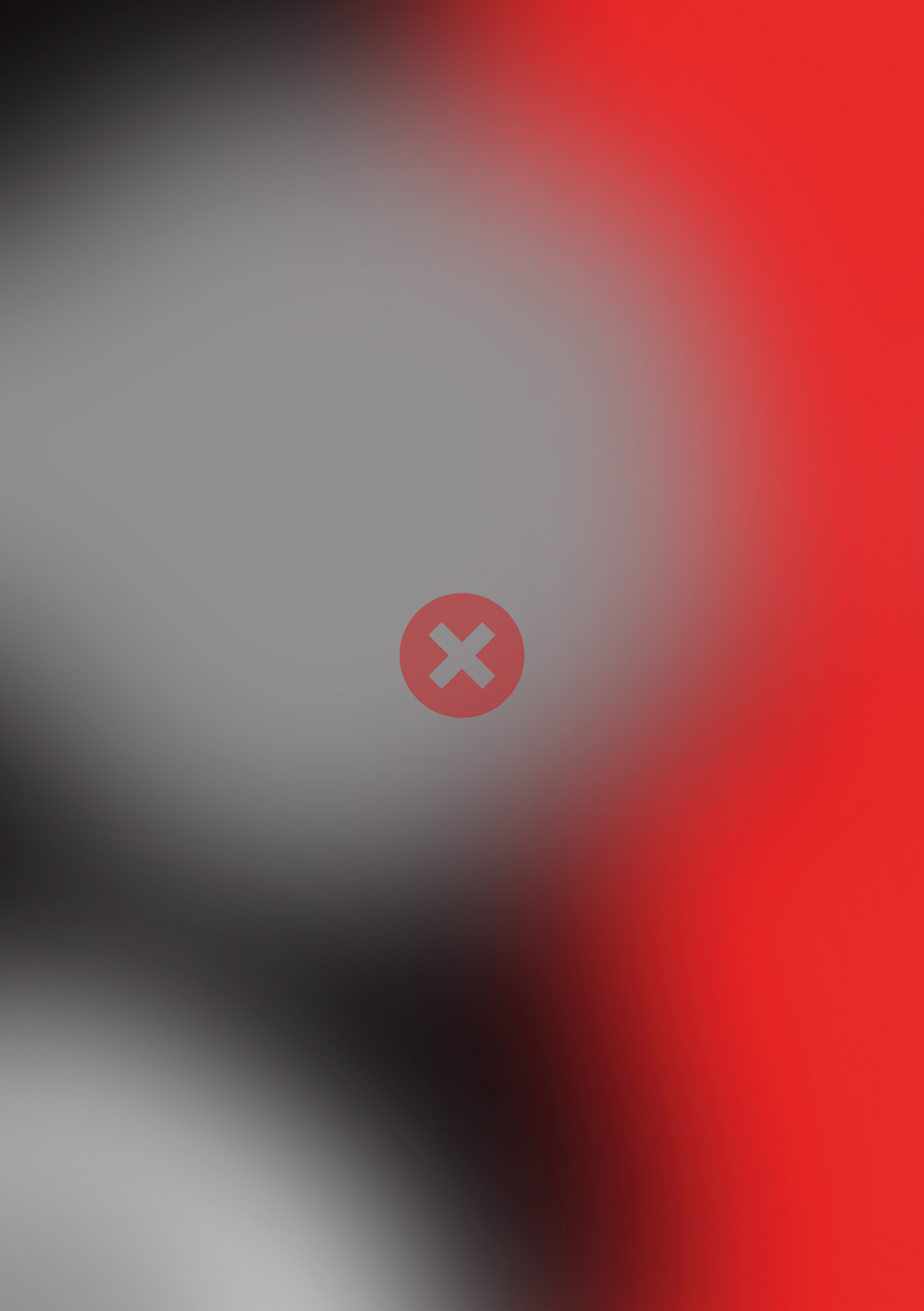

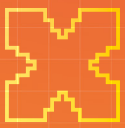

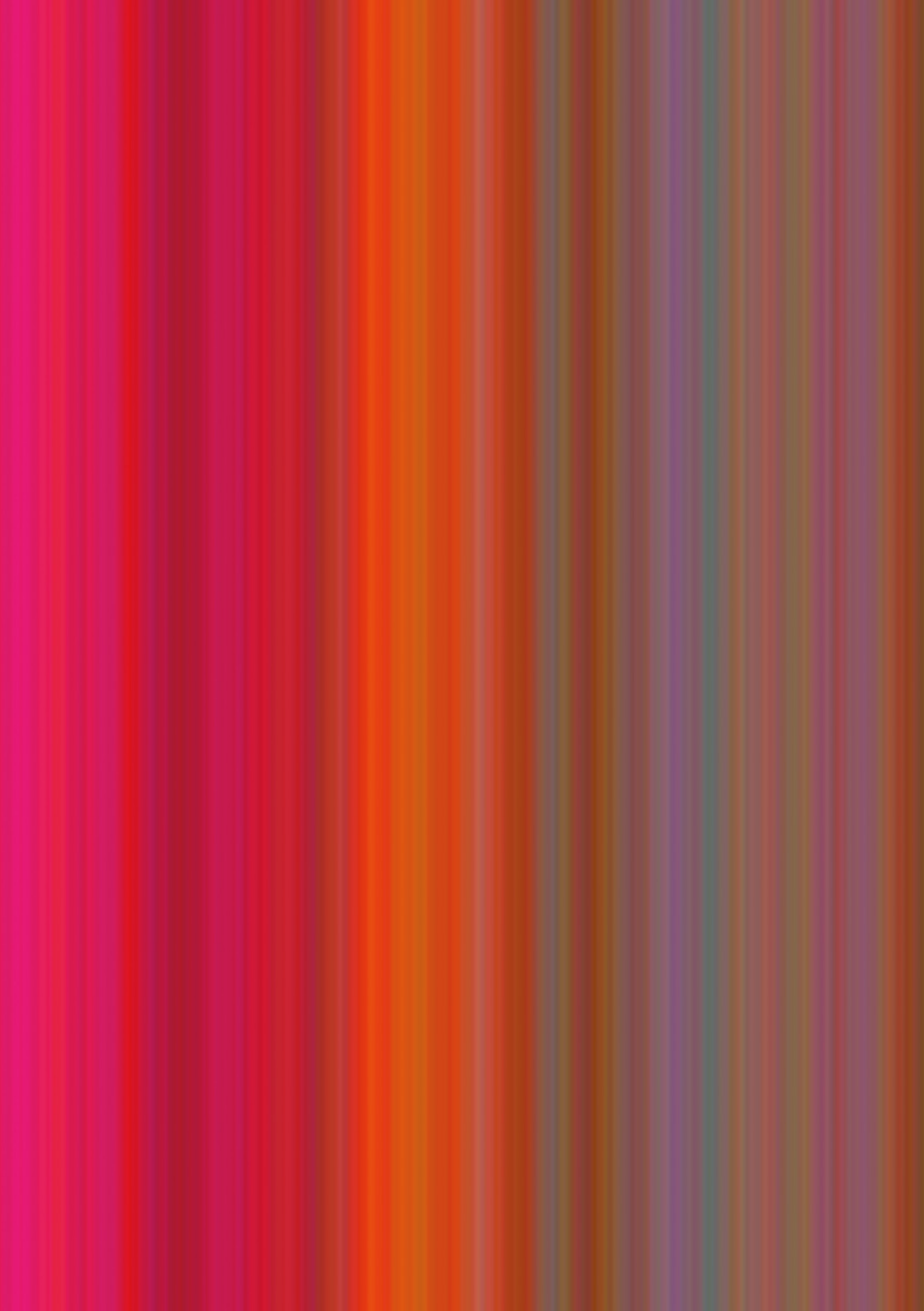

The Book of X
10 Years of Computation, Communication, Aesthetics and X

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The Book of X

10 Years of Computation,
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Foreword

This book celebrates ten years of xCoAx, the international conference on Computation, Communication, Aesthetics and X, which was first conceived in the winter of 2011 in Rome and, after one and a half year of discussing ideas, concepts, tasks and goals, was brought to reality in the summer of 2013 at the University of Bergamo, Italy.

Crossroads, interconnections, interdisciplinarity, and exchange between the deterministic and quantitative rules of computation and the elusive and qualitative experiences of communication and art have been at the core of this effort since the very beginning, and they are symbolized by the X that has accompanied all editions (and this very book), every time with a new appearance.

The changing form of the X through the years reflects the dynamic nature of xCoAx: conceived mainly as a traditional conference in 2013 in Bergamo, xCoAx was already carrying the seeds that would soon bloom into a multimodal creative effort.

Some participants were ready not only to present and discuss their ideas with a slideshow, but brought their gear to provide material incarnations of their endeavors in the form of artworks and performances. The spaces of the former cloister of

Sant'Agostino were big enough to accommodate this additional layer, but the affordances were limited and some adaptations were required to make everything happen as it was imagined by the organizers and the contributors.

It was an exhilarating experience that marked the beginning of a journey for which there would be more and more rich and complex steps to take each year. The following edition in 2014 in Porto saw a full-fledged exhibition in the AXA Building in the city center and a synergic combination of the performance section of xCoAx with an Algorave in one of the hottest clubs in town. With two successful editions under its belt, xCoAx's path was traced, and the only way was up: the number of submissions was growing from year to year and the venues had to be chosen carefully to keep up with both quality and quantity of those proposals. The stage at the Centre for Contemporary Arts in Glasgow in 2015, the galleries at the Galleria di Arte Moderna e Contemporanea in Bergamo in 2016, Museu Nacional de Arte Contemporânea do Chiado in Lisbon in 2017 and Museo del Traje in Madrid in 2018 were concrete manifestations of how xCoAx was thriving through the years.

It was not, however, a simple growth in scale: always with the goal of catering to the widest audience possible, in 2017 xCoAx introduced an event where didactics and research could meet, the Doctoral Symposium. If the conference, the exhibition, and the performances were arenas where scholars and artists could show their work, discuss theory, and exchange ideas, xCoAx was still missing a more protected place where younger Master's and PhD students could present and test, perhaps for the first time, their research ideas against the expertise and guidance of more experienced researchers. After an incredibly positive feedback from the first students who tried this experiment, the Doctoral

Symposium has become a staple of xCoAx ever since, making it an even more inclusive event, where everybody is welcome to give, take, share and exchange all kinds of theories and practices around computers and art.

To increase the dimensions along which xCoAx enables people to pursue such goals also meant more challenges from a logistic perspective. Simply put, to do more things one needs more space. However, since those things are meant to bring people together, just to have more space wasn't enough: xCoAx needed space organized in a way that would allow for some separation (think of the darkness and silence that some art installations need as opposed to the lights and sounds of some performances), but that would not turn that separation into dispersion, since the event's synergic aims require that all the offerings be within a participant's easy reach. xCoAx hit that sweet spot in 2019 at the Fabbrica del Vapore in Milan, a gigantic former train factory converted into an art complex that strengthened xCoAx's sense of community more than ever, in a space that worked both as a metropolitan square and a tiny village at the same time.

Little did we know that that would be the last "ordinary" xCoAx in a long time. The organizing committee was already working hard with the team from Graz for yet another exciting edition when the world was hit by the covid-19 pandemic, which changed everything, let alone xCoAx. The months leading to xCoAx 2020 were the ones when the world stopped in an unprecedented series of lockdowns that impacted every person, every town, and every country. Traveling was out of question, and the era of online meetings began. Zoom, Teams, Webex... digital platforms only a few had been familiar with became the only way in which classes, lectures and seminars could be held. The transition was not at all easy at the beginning, and for multimodal, in-

ternational events like xCoAx the challenge was even bigger: How to connect people in different timezones to enable the closest thing to a lively and stimulating Q&A session about a paper? How to convey the aesthetic experience of artworks and performances through the standard frames of digital platforms and computer screens?

This might look like an easy feat for xCoAx, full of experts in digital technologies and the arts, but in a new world that was both in chaos and in a standstill, where time and space had no meaning any more, the first full online edition in 2020 was xCoAx's biggest adventure yet.

With the pandemic loosening its grip in some parts of the world, and with some lessons learned from the online experience, xCoAx explored the opportunities offered by the newly emerged hybrid paradigm in 2021. Even outside the context of this event, the jury seems to be still out on whether mixing online and in-person interactions gives us the best of both worlds or rather sheds light on the limits of each approach. Still, seeing the local organizers of Graz use the generous space of the MUMUTH theater for xCoAx was a ray of sunshine after more than a year of mostly indoors life.

We would love to say that the tenth (yet another X) edition of xCoAx could not have happened at a better time, in coincidence with the first event back in person, in the beautiful city of Coimbra. However, we are not back in the same world that we left: we are not yet sure to be out of the pandemic since vaccine distribution has been very different in different parts of the world, we are still facing the risk of new variants, and we might be on the verge of a global war, the kind of which most of us have only read about in history books.

In such circumstances, one might wonder, does it make sense to make xCoAx happen? Does it make sense to celebrate its past ten years? Let us answer with a resounding "yes!"

We do not oscillate between determinism and uncertainty, between rules and creativity only because at xCoAx we deal with computers and art. We do so because it is in our own human nature: all endeavors, be them scientific, cultural, or social, are the dynamic and ever-transforming results of a precarious balance between order and chaos, quantities and qualities, objectivity and subjectivity. All the questions that are asked, tackled, and discussed at xCoAx are ultimately questions about ourselves, about what it means to be human in this world.

Now, more than ever, we need answers not only to be prepared for the future but also to prepare a better future. Thanks to so many people, authors, artists, performers, designers, technicians, volunteers, and institutions, we've had ten fantastic years of such fundamental investigation. Here's to many, many more.

x

The editors

Tim Shaw

Arcs, Sparks, Streamers

High voltage experiments are some of the earliest attempts to control and understand electricity. Large beams of light and splutters of sound penetrated the laboratories of experimental scientists in the 18th and 19th century. Most contemporary media runs on a fraction of this power. Though small circuits need less energy, larger server farms and intensive algorithmic power associated with "smart technology" often lie on the fringes of consciousness. Away from reach, the power of current communication infrastructure is hidden away from immediate perception.

These experiments involve the videography of a home brew Jacobs Ladder, a high voltage demonstration involving an arc of electricity across two protruding electrodes. Though the input voltage remains consistent, the moment the electricity interacts with the air a semi-chaotic system occurs. A short, high frame-rate video records one cycle of the arc, the power equivalent of uploading this video to a server in the USA from a laptop in the UK. The frames of the short video are then superimposed on top of one another using a simple Python script. This is repeated 8 times.

Engaging with the perceptive quality of high voltage gives an immediate connection to the materiality of electricity. Something we are often removed from when engaging with contemporary communication infrastructure.

Tim Shaw is an artist working with sound, light and communication media. Presenting work through performances, installations and walks, Tim is interested in appropriating communication technologies, exploring how these devices change the way we experience the world. He works with field recordings, electronics, light, video, synthesis, sound objects, self-made hardware and DIY software.

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