





The Book of X

10 Years of Computation, Communication,
Aesthetics and X

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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

Packaging Across Networks
Tracing Strategies and Curatorial
Intelligences of the Cuban *Paquete Semanal*
Nicolas Malevé, Nestor Siré, Gaia Tedone

The Internet registers every moment when a certain piece of data is clicked on, liked, disliked, transferred or transformed. Accordingly, a digital image can never be merely copied (as an analogue, mechanically, reproducible image can), but is always newly staged or performed. And every performance of a data file is dated and archived. Further: every act of seeing an image or reading a text on the Internet is registered and becomes traceable.¹

Under current conditions of “Surveillance Capitalism”,² we have come to accept as a ground truth Boris Groys’s proposition that “every act of seeing an image or reading a text on the Internet is registered and becomes traceable”.³ These words powerfully highlight how the act of viewing and selecting content online is inscribed within a complex web of traceable relations. From the standpoint of curation, the focus then moves from the representational interface of a specific image to the conditions and

- 1 Boris Groys, *In the Flow*. London: Verso Books, 2016, 185.
- 2 Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. New York: PublicAffairs, 2019.
- 3 Groys, *In the Flow*, 185.

invisible curatorial intelligences that enable the performance of that specific data file. However, this statement hardly captures what happens when images and texts travel across both sides of the digital divide and the conditions necessary to capture a user's behaviour are not met. As the uneven material conditions of different networked infrastructures force us to rethink a series of assumptions about the circulations of images, different tracing strategies need to be explored and implemented to account for discontinuous paths of movement and diversions. In this text we want to explore X as crossroads via a number of blockages, errors, and transformations that occur when images and files move from one side of the digital divide to the other, from an online network to an offline one, and from a specific networked economy to another. Essentially, we want to investigate how various forms of technological and connectivity errors can offer the opportunity for practices of repair and maintenance and the forms of curatorial intelligence they make possible.

The “we” of this text already embeds the condition of socio-technical asymmetry which are at stake in this reflection, which develops from the collaborative research between Gaia Tedone, Nicolas Malevé and Nestor Siré—respectively based in Italy, Belgium and Cuba—under the support of a grant issued by the Swiss National Science Foundation. Much of the work and exchange that shaped this collaboration occurred over the platform Telegram, which provided a relatively stable tool of communication with Cuba in spite of the turmoil the country found itself in over the course of the research period, from tropical storms and hurricanes to political protests and Internet shutdowns. Since its creation in June 2021, the Telegram channel “Packaging Across Networks” has operated as the official archive of the project, hosting the digital traces of a public event organised at the

Lucerne School of Arts and Science and two international workshops; others channels and groups were assembled and disassembled over the last year, working as unofficial back-end conversations for the project.

This project was the result of the encounter between two sets of interests and practices: on the hand, Siré's long term research on the *Paquete Semanal*, which is a one-terabyte collection of media that is aggregated weekly in Cuba on a physical hard drive and is distributed through a pirate network of distribution via in-person digital copying. On the other hand, Tedone and Malevé's ongoing investment, from both a curatorial and computational standpoint, with the concept of the networked image, as an image whose meaning and value is defined by the patterns of circulation it creates. As it has been argued, "a networked image emerges through the network; its existence is intricately entangled and intertwined with software, hardware, code, programmers, platforms, and users".⁴

What happens to images and files when the very premise of the Internet as an always-on network is challenged? Which kind of knowledge can be gained if the materialities of different networks are put under scrutiny? Which alternative forms of infrastructures might emerge or be envisioned? These were some of the questions we set out to explore, choosing the methodology of critical tracing to ground our reflection on how content circulates from the Internet to the Cuban Weekly Package. This specific methodology was originally elaborated by Tedone within the framework of her writings and PhD research concerned with the online curation of networked images where she posited it as

4 Geoff Cox, Annet Dekker, Andrew Dewdney and Katrina Sluis, "Affordances of The Networked Image". *The Nordic Journal of Aesthetics*, 30 (61-62), 2021, 40-45. <https://tidsskrift.dk/nja/article/view/127857>

← Atrás

Editar



Packaging Across Netwo...

57 miembros, 9 en línea

videochat

silenciar

buscar

más

compartir enlace

<https://t.me/packagingnet>



A screenshot of a Telegram chat interface. The chat is titled "+PACKAGING ACROSS NETWORKS" and shows a meeting announcement for "DISCUSIÓN RATE/PQUETE SEMANAL" on July 5, 2021. The announcement includes a link to a GitHub repository and a "CODE OF CONDUCT" document. The chat also features a network diagram, a "PAQUETE SEMANAL" announcement, and a "THE END" message. The chat is moderated by "Packaging Across Networks" and "Merloes Foto Gallery London".

a “reflexive method to begin charting, connecting and critically examining the unstable flow of networked images”.⁵ This contingent, processual and open-ended method of investigation was adapted to the context of this research project, where both the notion of “curation” and that of “online” were being challenged by the phenomenon of The Cuban Weekly Package, its distributed curatorial intelligence and offline network of circulation. More specifically, the method of critical tracing shaped our positions as researchers interested in building a relation of critical proximity with the objects and agents involved in the human and technical infrastructure of the *Paquete*, by closely mapping their roles, behaviours and mutations inside this specific ecosystem. In practical terms, this process produced a number of visual and textual outputs, including charts, diagrams and a glossary of speculative concepts and emerging terms, a selection of which we are elaborating upon in this text.

Tracing Curatorial Intelligences

Thanks to Siré’s wide knowledge on the topic, we set off to examine the *Paquete* as a social phenomenon, by first focusing on its overall curatorial intelligence and the behaviours of its users. The *Paquete* includes a wide variety of digital content—from movies and TV series to manga, mobile applications, news and software. The material is organized into folders which are titled by topics. It cannot be pornographic nor explicitly political to avoid the intervention from the Cuban government. The *Paquete’s* content is selected by two “alegal” businesses called “Matrices”, OMEGA and Estudio ODISEA. The concept of “alegal”, describes the grey area in which activities that are not protected or regulated

5 Gaia Tedone, “Tracing Networked Images: an emerging method for Online Curation”. *Journal of Media Practice* 18 (1): 2017, 51-62. DOI: 10.1080/14682753.2017.1305843

by the government exist in Cuba, such as illicit distribution of media. The physical hard disk is then distributed by *paqueteros* across the island to the homes of Cuban users who often share the cost of the membership across small groups of friends. Each week, the matrices and sub-matrices assemble and curate between 15.000 and 18.000 files copied without permission from the internet.

To download a web page and copy it on a hard drive so that it will later circulate on offline networks of distribution may seem like a benign operation. But if we look beyond the interface and trace this action, we realise the extensive set of ramifications it involves. A webpage is hardly a self-contained object. It is a collection of various pieces of code and assets. When a page loads in a browser, it calls remote images, banners, scripts, fonts or html fragments. These elements are provided by different services who become able to monitor user's behaviour and collect information about them. This is what Groys calls tracing user's activity. To download the file on disk cuts off the connection to the various providers of these assets. All the individual pieces that make up the page are collected and saved locally on the user's device. When the user loads the page copied on the disk, the third parties are not able to monitor user's behaviour anymore. As the web economy hinges on the ability of third parties to collect and monetise user data, this gesture has consequences. The example of ad placement demonstrates the layered process of monetisation of user information and the wide range of actors taking part in it. On a web page, an ad seems like a visual element integrated in the layout of the page much like the others. But before it lands on the page, the ad follows an intricate process of selection. There is no direct line between a company willing to promote its product and the page serving the ad. Schematically, the process looks

like an auction. The company hires a broker agent that identifies potential targets for the product. This target is a user profile based on criteria such as gender, age, tastes, preferences and browsing habits. When a user corresponding to the desired profile connects to a page, all the brokers having an interest in the profile are notified by the agent monitoring the page. The brokers are then invited to bid and the highest bidder's ad is placed in the page. These negotiations are automatised and the interactions and auctions happen in a few milliseconds. Capitalist economy in the form of high-speed trading is literally embedded in the technical production of web pages. For the page's visitor, this process is transparent and they are not aware of their profile being the object of a financial transaction.

When files are downloaded on disk then shared offline, this mechanism of negotiation is interrupted. Once a file or an image enters the *Paquete Semanal*, it moves from one form of connectivity to another. It also moves from an economy to another. As Siré and his long-lasting collaborator artist Julia Weist explain "in this offline system, there are no channels for feedback, such as likes, comments, or threads. And when consumers engage with content, there is no stored history of activity to point to who they are, what they're interested in, and how they might behave".⁶ In the *Paquete*, what is sold are media files, not user profiles, and they are priced per kilobyte not per click.

To come back to the inaugural quote by Groy's, the online economy relies on a form of tracing. Critical tracing means unravelling this process. It also forces us to consider the online economy as a distributed form of curating. The curatorial intelligence enabled by an always-on network does not simply relate to

6 Nestor Siré and Julia Weist, *Proyecto DATA*. New York: Triple Canopy, 2020. <https://www.canopycanopycanopy.com/issues/26/contents/proyecto-data>

“literal” content (i.e. to select a news article to an online reader-ship). It more crucially relates to the mechanism through which an audience’s metrics are auctioned to advertisers. In the context of the *Paquete*, curatorial intelligence changes dramatically together with the tracing and the economy. But the curatorial intelligence of the *Paquete* still encompasses both the selection of content and ad placement in a technologically mediated form. At this juncture, we need to analytically distinguish the curatorial intelligence of individual providers such as Nestor Siré and the curatorial intelligence of the *Paquete* as a whole and trace their entanglements.

Inside the *Paquete*, Siré curates !!!*Sección ARTE* (art section), a folder with a monthly frequency which takes up 5 gigabytes in size. This project focuses on exploring informal ways for the circulation of information, digital piracy and alternative networks. It also addresses the art-society relationship, the online-offline limits of net art and new media and their social interaction within the spaces of mass culture. The art section aims to provoke a broad reflection on the phenomenon of the *Paquete* in Cuba and is directed to the community of artists as well as to the general audience. It gathers information about art residencies and calls, books and fanzines, as well as it showcases commissioned artworks and curatorial projects. The art section replicates the operational logic of the *Paquete Semanal*; both are based on a directory of folders without Internet connection and are intended to be experienced offline, as a digital information package. More subtle similarities can also be detected, such as the use of multiple windows and digital aesthetics, ranging from file naming to directory architecture through the use of nested folders, in addition to its temporary archive status since every week all digital files are usually overwritten to copy the new folders.

Siré's curatorial project and his prolific engagement with the *Paquete* served as the basis for opening a discussion with several international practitioners who are similarly concerned with reflections on online and offline networks, informal channels of content circulation, and collaborative practices under conditions of socio-technical asymmetry. Over the course of the two Telegram workshops cited above, we attempted to articulate the tensions that arise when online networked content is disseminated in offline networks as well as the conditions in which these offline networks may reappear online. The social and economic dynamics that subtend these forms of networking were analysed thanks to the input of the artists, tracers, ethnographers and media activists who participated in the workshops, whose work will resurface in the paragraphs below. Their testimonies and local practices helped us to draw parallels between different geographic contexts and to question the very notion of socio-technical asymmetry. In the next section, we propose a cluster of terms drawn from our research glossary—the result of a meticulous work of conceptual tracing at the hands of Sam Mercer, Jara Rocha and Marloes de Valk—that we deem to be particularly useful when thinking, discussing and building alternative models of infrastructures.

Building a Collective Glossary: *Social Creativity and Human Infrastructures*

In Cuba, the notion of creativity cannot be abstracted from a context where resources are severely limited and censorship present. It sets the basis for the collaboration between individuals who share their times and resources to circumnavigate restrictions and blockages. The Cuban *Paquete Semanal* is an excellent example in this respect, since it mobilises social energies, actions and synergies that give shape to a functioning socio-tech-

nical network. The *Paquete* is not only the main national medium for the circulation of entertainment materials, it is also a cultural phenomenon. Its human infrastructure entails a mandatory basic learning process for both network workers, *paqueteros* and users, who experience a much more active relationship compared to global distribution systems for entertainment materials. They are active nodes in this distribution system, as their equipment and time is needed to complete the copies of the *Paquete*.

An emphasis on the agency of the end users permeates also the social creativity that emerges in other Cuban contexts such as the one of the popular laboratory called *Copincha* situated in the centre of Havana and run by our research collaborator Maurice Haedo in his own house. This is a space where people are invited to learn together to build collaborative environments for open creation that integrate knowledge and technological processes in harmony and coherence with Cuban reality and history. This is a history which finds its roots in the *Manifiesto of Technological Disobedience* by artist Ernesto Oroza and that puts emphasis on adaptations, repair and re-uses of technology.

What became clear through the testimonies of Haedo and his collaborator Offray Luna, who is the founding member of the hackerspace HackBo in Bogotá, is that social creativity and human infrastructures emerging in such contexts are not limited to cope with a “supposed lack”: a lack of development, of support and finances. They can work as the engines that drive a distinct form of innovation, one that challenges the capitalist eagerness to make repair obsolete and whose geography connects hackerspaces, computer labs and repair cafés in the Global South. This is where the idea of “pocket infrastructures”⁷ opens a new vision

7 Luna Cárdenas and Offray Vladimir, “Metáforas y Artefactos Alternativos de Escritura Para Jalonar La Investigación Abierta y La Ciencia Ciudadana y de Garage,” September, 2014.

for interactive infrastructures, which are easier to understand, use, extend, and modify and that foster longevity and sustainability. Haedo and Luna put emphasis on the technical and infrastructural debt of the so-called developed countries where the maintenance of large-scale infrastructures comes at a high social and environmental cost. On the other side of the digital divide, for countries that do not have this existing infrastructure, there is a path, however difficult and uncertain, towards new kinds of technology that experiment with novel forms of currency or sources of energy. The networked technologies developed in these contexts are based on the assumptions that connections are unstable, energy sources are diverse and cannot be taken for granted and that different speeds and disparate network topologies are the norm.

Ethnographic Bridge

Steffen Köhn, ethnographer and filmmaker who collaborated with Siré on the creation of art projects and documentaries, described his work as an attempt to make an ethnographic bridge between Cuba and countries outside Cuba. We thought this expression could be appropriated to characterise the work performed by the *Paquete* in general and the art section in particular. *Los paqueteros, las matrizes* are not mechanically circulating content from one place to another. These brokerage practices⁸ are characterised by their manoeuvrability. The various agents responsible to select, customise and distribute media content perform a function of moral gatekeeping. They negotiate certain implicit rules (i.e. no pornography or politics) with a margin of interpretation continuously tested. They engage in a complex

8 Stephanie Ketterer Hobbis and Geoff Hobbis, "Non-/Human Infrastructures and Digital Gifts: The Cables, Waves and Brokers of Solomon Islands Internet", *Ethnos*, 2020. DOI: 10.1080/00141844.2020.1828969

practice of dissemination. They are translating the media material, in the double sense of translation. They move bits across territories but they also make this material meaningful. This can take the form of making subtitles or editing video clip to remove the ads it contains to insert in its place local advertising. They intervene in chains of curation where every intermediary selects the contents relevant to their audience. The range of personalisation varies from a customer choosing the content that will be redistributed to their family circle and friends in a shop to the selection made by individual *paqueteros* bringing contents to their clients houses in areas far from the city centres. This curatorial intelligence goes further than the selection of media. It involves a constant technical recalibration: websites initially “hotwired” to advertisers are turned to static offline documents. Moving media from hard drives to USB keys to phones to televisions is an exercise of extreme “backward compatibility”. Content from websites only accessible with the latest browsers and high-speed connections are ported to devices running Windows 97 and ancestral TV sets. A TV series that a North American user may have trouble downloading may be already available in an offline rural area from Cuba and played on a television for which no commercial support is available anymore.

Vulnerability and Ad Hoc Ties

Where State and corporate investments are lacking or denied, informal networks take charge of the creation and maintenance of infrastructure as they can. This creates a sense of vulnerability as there is little guarantee that an agent in an informal network may provide a service reliably over a long period. The impediment may be economical. It is also the result of the legal infrastructure in place. In this context, circulation and exchange

of media are not defined necessarily by explicit guidelines, but by reciprocity and implicit rules. In this respect, the idea of alegality is relevant. In Cuba, informal businesses and networks operate in a context where they can be shut down without notice. Neither legal nor illegal, they are tolerated because they correspond to practices that are understood as necessary by the State as long as they don't interfere with its plans. They are however not officially acknowledged. They exist in a legal grey zone and a temporal interstice. As Siré writes, the State "cannot legalise them at the speed with which they develop".⁹ The ad hoc ties they form are always provisional. Alegal ad hoc ties are not formed outside of standards, planning, rules, but in the spaces left open between them. They fill gaps and connect separated segments. They form an accidental architecture in the words of our research collaborator Cristina Cochior sometimes "surprisingly" well organised. They provisionally resolve dependencies and they are the results of negotiations of unequal exchanges with the existing institutions and between nodes of a same network. The success of accidental infrastructures depends on pragmatism not romanticism. And their resilience can never be taken for granted.

Digital Infrapunctures

This is a term coined by Digital Humanities Professor Deb Verhoeven, which conflates infrastructure and acupuncture, referring to small-scale interventions that can have a catalytic and cumulative impact on the whole.¹⁰ This portmanteau word operates as a vision statement that foregrounds the need for critically

9 Nestor Siré, "!!!Cuban Creativity". *Weird Economies*, 07 November 2021. <https://weird-economies.com>

10 Christina Cochior and Manetta Berends, *Bots as Digital Infrapunctures*. Online Module, 2020. <https://bots-as-digital-infrapunctures.dataschool.nl/pages/about.html>

understanding infrastructures as relational structures that are lively, vulnerable and which can fail at various social and technical degrees. For instance, by producing connectivity errors and real time delays, but also by crucially embedding and being embedded in systems of inequality and exploitation. In order to acknowledge infrastructures' limits in terms of capacity and care, it is important to enquire who has the access and agency to actually intervene in the design of infrastructures and how meanings and values can be engineered in computational systems. The analogy with acupuncture alludes to the importance of considering the health of the system as a whole and of creating a framework for its repair via the activation of circuits of actions and reactions. The acts and practices that can fall under the speculative project of digital infrapunctures are necessarily participatory and context-specific. Within the framework of our research project, we responded to this proposition by approaching words as pressure points for envisioning new types of infrastructures. The tracing of the conversation that occurred during the workshops thus motivated us in the creation of this ongoing and collaborative glossary.

Conclusion

In their articulation, these concepts challenge the very notion of network as an always-on construct and reverse the assumptions underlying Groys's quote cited at the beginning of this text. In our view, Groys is right to describe the networked image in terms of the performativity of a data file. The problem is the underlying infrastructure that enables this performance is not universal. We must pay attention to its materiality and the agencies involved in building and maintaining it. The triangulation of the performance of a data file with registration,

connectivity and traceability needs to be problematized. A conceptual network sensitive to the differences in infrastructure is necessary to understand the nature of the curatorial intelligences at play in networks and their economic repercussions. Taken together, these concepts provide a framing for the materiality of infrastructures under conditions of unstable connectivity where there is a regime of scarcity in place rather than one of waste and squandering. And they foreground the logic of maintenance as a more sustainable alternative to the logic of innovation. Under this light, the notion of digital divide might be useful as it captures the unequal access to technological resources. But it might need to be rethought as it carries an inherent value judgment. It implies a same technological model at an uneven stage of development on the two sides of the divide. However, what is at stake is the possibility of an alternative technological model. To talk about socio-technical alterities might instead help capture the different scales and operational gradients of technologies and their complex relationalities. And acknowledge the potential emergence, even if still nascent, of alternative networking models at this X-shaped crossroads. What is therefore required is a critical proximity with new concepts and practices, such as Siré's one, that open up reflexive interventions in distribution networks. When words are approached as semantic pressure points a more tactical vocabulary for infrastructures can begin to emerge. This might be able to capture more sensibly the various routes and routines enabling the performance of a data file in different networking infrastructures, tracing a multiplicity of curatorial intelligences and strategies in the process.

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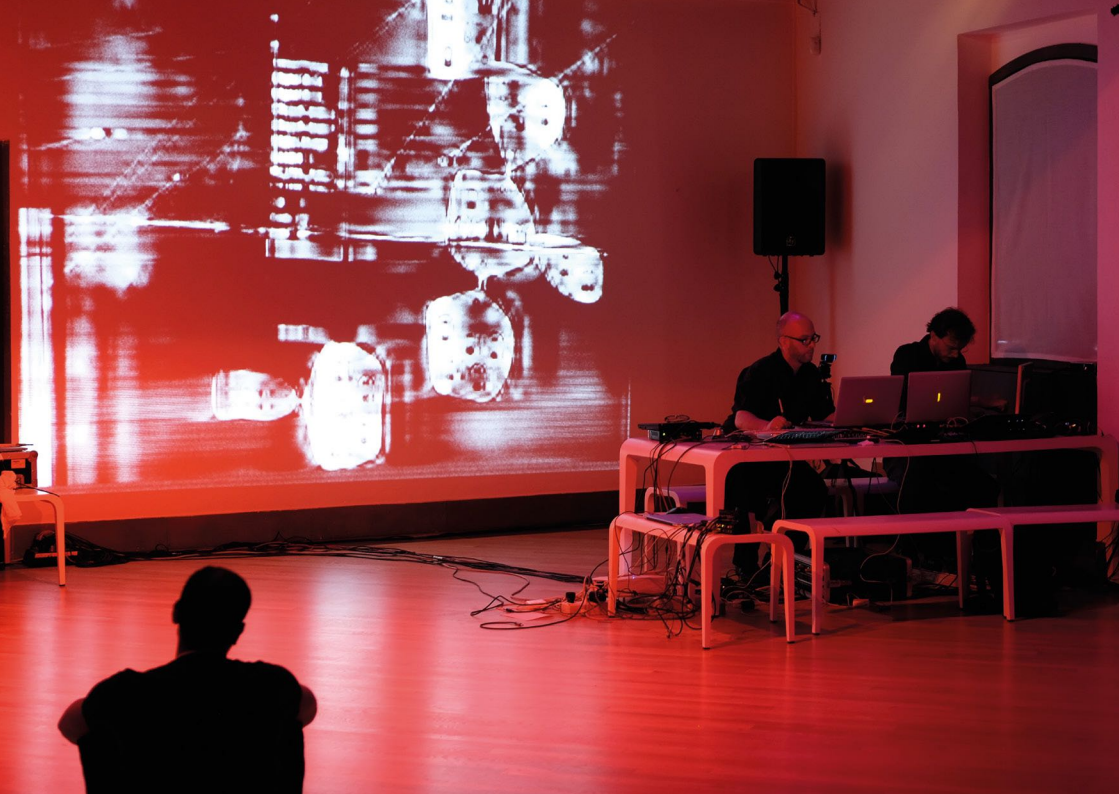


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33 drone(4)
34 drone(7)
35 end
36
37 live_loop :perc1 do
38   sync :tempo
39   spread[5,13, rotate: [1,2].ch
40     sample :bd_haus if a
41     sample :elec_tick unless a
42     sleep 0.25
43   end
44 end
45
46 li
47
48 choose,8.
49 run_class_hard if
50 5
51 works... Works...
```









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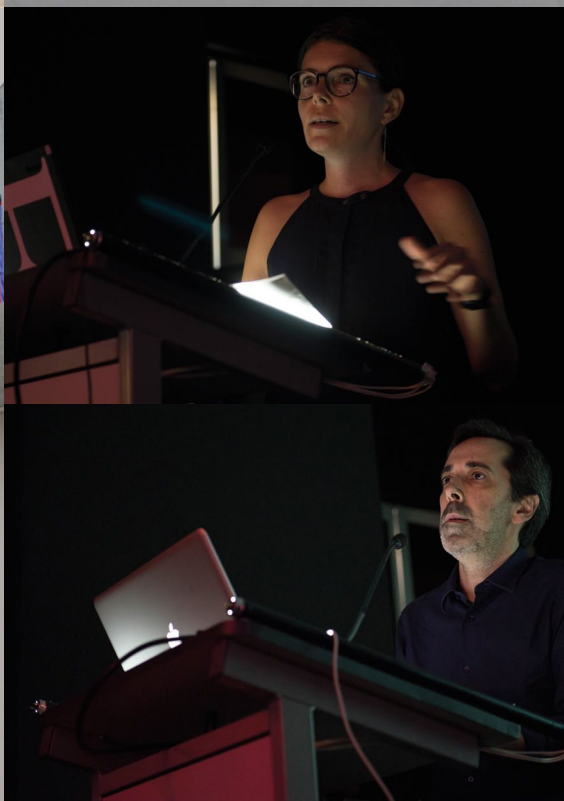
PATRIMÓNIO
CULTURAL



Computation Communication
Aesthetics And X.



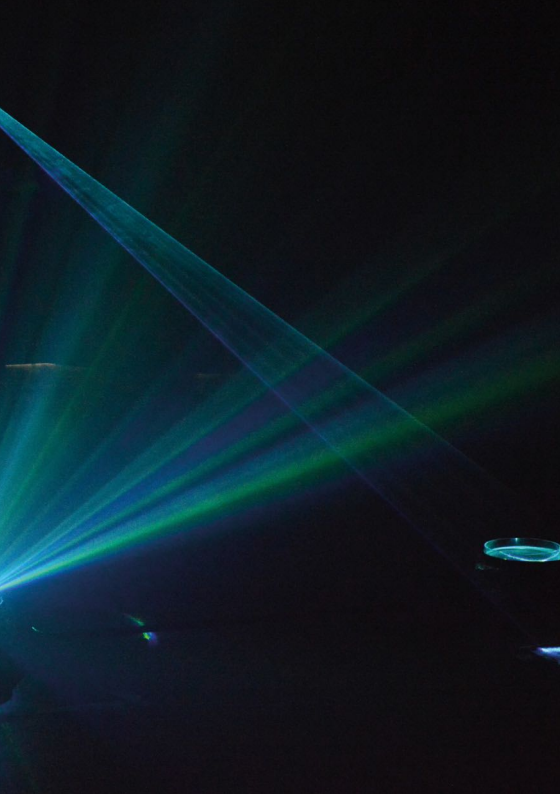
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Aesthetics And X.

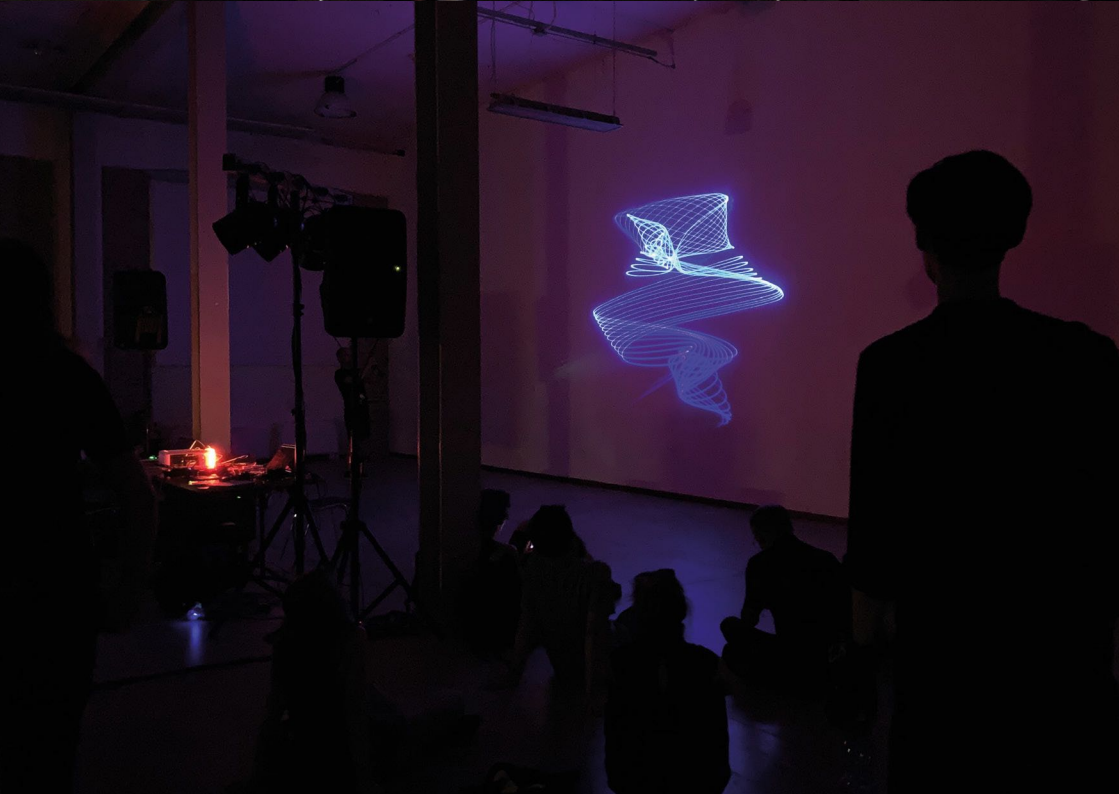


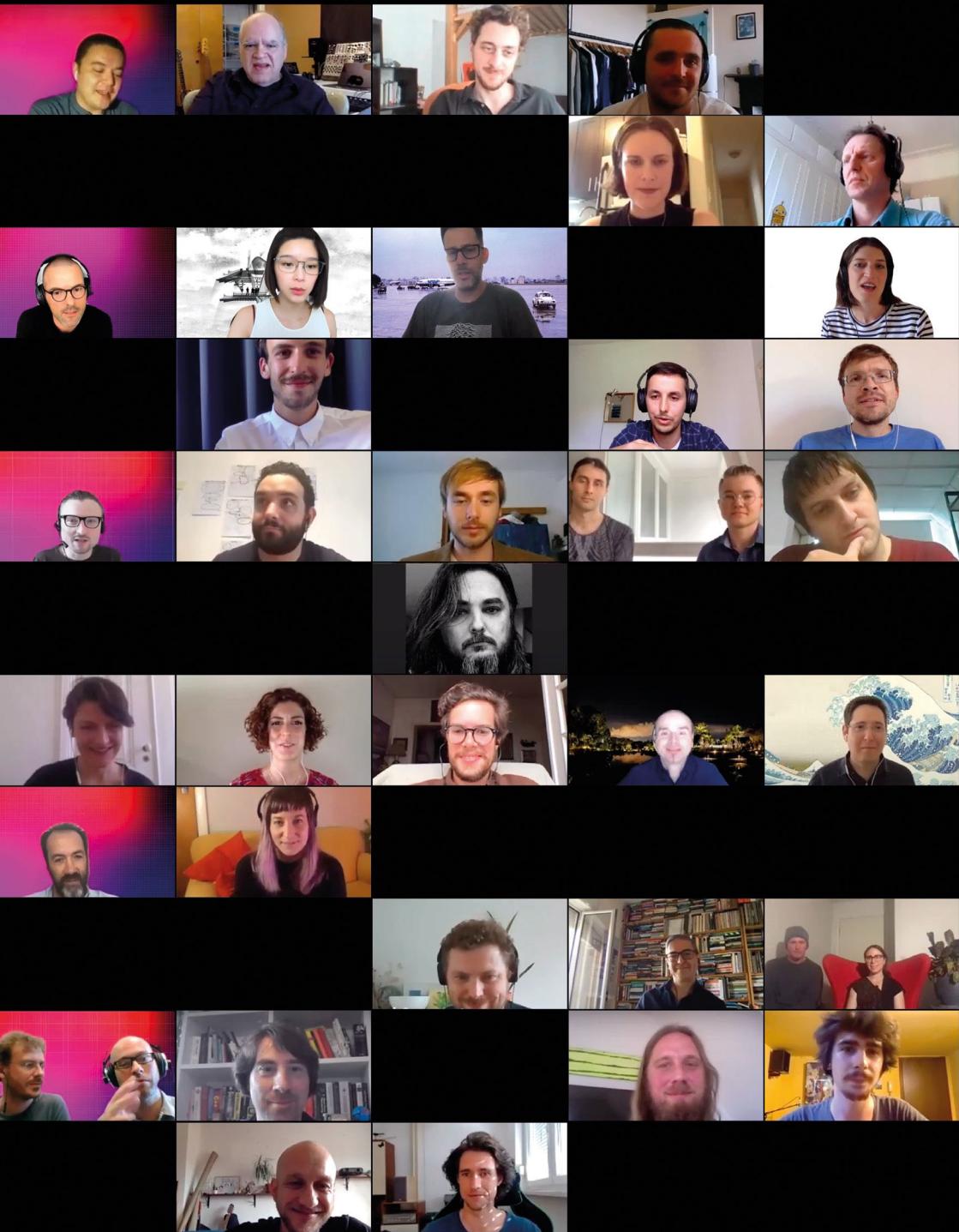


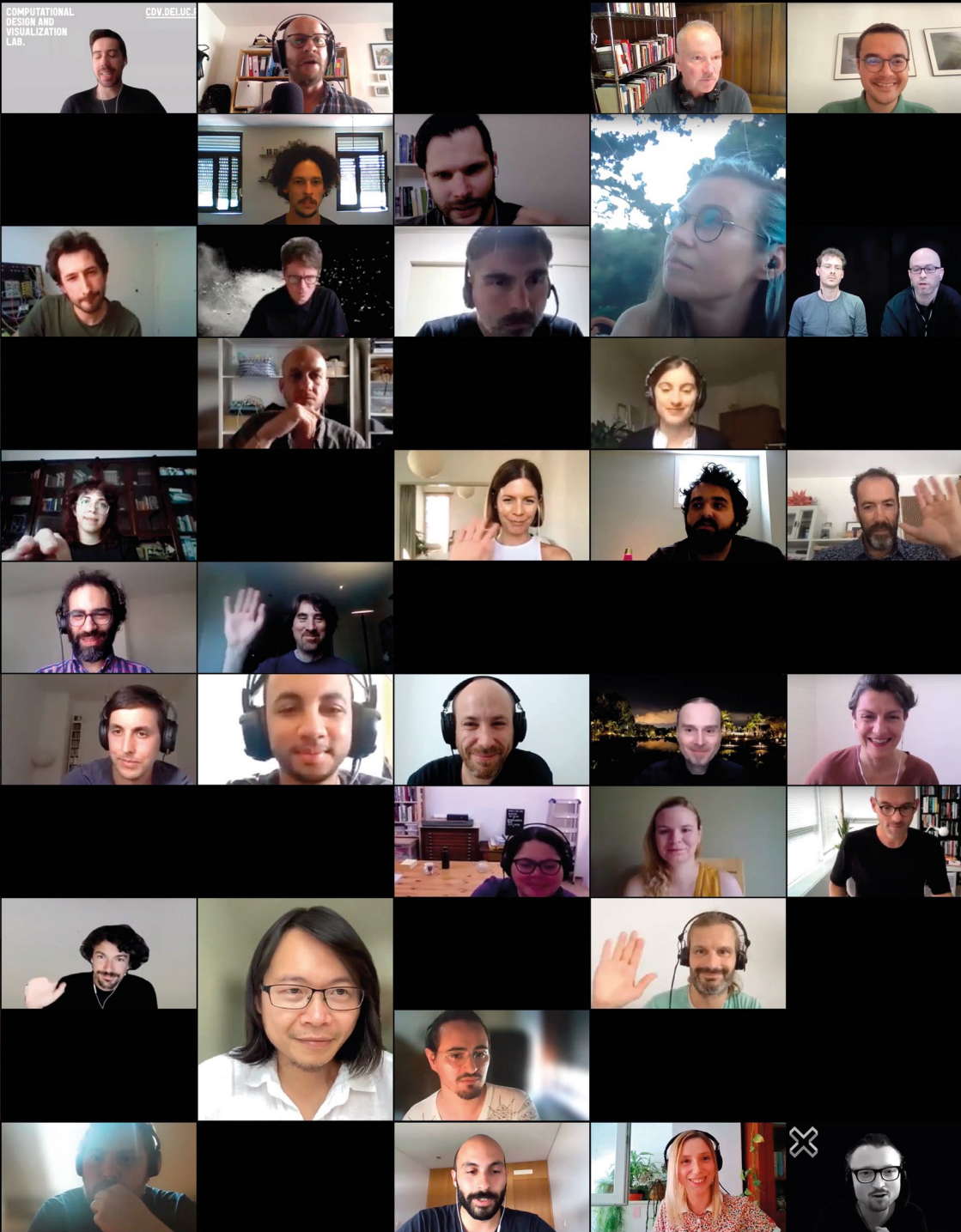












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