Case study

Universal Basic Agency

Composite Relays for a Para-Society of Trillions

Soon, the world's eight billion people may be joined by hundreds of billions of human-level AI agents, forming a "para-society of trillions" in which many of the most consequential exchanges will occur not only between people but between agents and composite arrangements blurring the outlines of both. In such a world, agency lies less within the figure of the “individual” than in the “relay” linking such combined networks towards the execution of shared intended outcomes.

Framed as Universal Basic Agency, this case study explores a series of guiding threads. What are the relays that we have and the relays that we need to address our most pressing challenges? Could organizational charts become living diagrams that stage, direct and choreograph alternative workflows? And as AI races ahead while society adapts slowly, can new institutions emerge and close this "alignment gap"? Through diagrams, simulations, and experimental human-AI workflows, the case study will prototype new typologies of agentic expression and test the outlines of a renewed social contract.

Pulso: Nicolay Boyadjiev

Collaborating entities: Antikythera and Creative Intelligence Lab, Barcelona Supercomputing Center

Initiative promoted by:

GOBIERNO DE ESPAÑA MINISTERIO DE CULTURA Y DEPORTE
THYSSEN-BORNEMISZA MUSEO NACIONAL
EL MUSEO DE TODOS EVERYONE'S MUSEUM
Thyssen-Bornemisza Art Contemporary Academy

Case study´s collaborating entities:

antikythera
CREATIVE INTELLIGENCE LAB
Barcelona Supercomputing Center Centro Nacional de Supercomputación

02. Case study conceptualization

Consider a world soon to be populated by eight billion human minds and 800 billion, or orders-of-magnitude more, non-human minds. With such exponential growth in social interactions, are we in the midst of a new "Cambrian explosion of intelligence"?[1] Just as the evolutionary event marked a sharp transition from simple organisms to complex and diverse forms of life, the rise of "agentic AI"[2] is accelerating new cooperative, competitive, and co-evolutionary dynamics which will lead to more complex and diverse forms of goal-oriented cognition. This doesn't represent an incremental shift, but a genuine phase transition: an emergent "para-society of trillions"[3] in which many consequential cultural, economic, and social exchanges will occur not only between people, but between agents, and composite "centaur arrangements"[4] blurring the outlines of both.

Such a transition would unsettle familiar social norms in ways our institutions are currently unable to address. Schools, firms, governments, and welfare systems remain calibrated to professional abilities, identities and assumptions which are unlikely to hold as cognitive capacity becomes abundant, detached from stable authorship, and distributed across fluid human-agent relays.

Crucially, this abundance of intelligence is also unlikely to produce an automatic abundance of agency, i.e., the literal capacity to act and produce effects in the world. In our Western society, agency is still understood as a bounded property of the neoliberal subject. But in a para-society of trillions, the individual may no longer be its fundamental basic unit, as agency will reside neither in individuals nor in models alone but in the composite relays that group and coordinate people, agents, protocols, and shared contexts towards the execution of intended outcomes. The open question is what are the relays that we have and the relays that we need to address the most pressing challenges—and how to build, steer, and challenge them in ways that remain publicly legible?

The case study seeks to explore this question through provocations and proposals framed by '**Universal Basic Agency**', both the pragmatic search for an alternative base unit of agency and the conceptual foundation for a renewed social contract. Where universal basic income schemes propose unconditional cash transfers across an undifferentiated human population, 'universal basic agency' provides a framework for asking how the capacity to act could be redefined, reorganized, and redistributed across composite agentic relays linking intertwined human and artificial minds towards specific and meaningful purposes.

The case study bends this framing across three different scales. '**Agency**' (S) examines the concept's apparent delamination from 'subjectivity', the 'dividuation' of the individual by simultaneous multidirectional engagement with parallel and confl icting socio-technological networks, and the resulting changing outlines of the political subject. '**Universal**' (L) rotates the focus away from the individual and towards the social/institutional transformations required as agentic capacity becomes abundant but unevenly distributed. Here, 'universal' doesn't imply 'uniform', but rather raises questions about universal access, public provisioning, and

1. The "Cambrian Explosion of Intelligence" is a concept borrowed from paleontology, referred to describe a sudden and rapid diversification of intelligent systems, usually employed for robotics or AI. - Pratt, Gill A., "Is a Cambrian Explosion Coming for Robotics?" *Journal of Economic Perspectives*, 2015.
2. Agents are "systems where [large language models] dynamically direct their own processes and tool usage." - Schluntz, Erik, and Barry Zhang. "Building Effective Agents." *Anthropic*, 2024. - https://www.anthropic.com/engineering/building-effective-agents.
3. The "para-society of millions" refers to the parallel society of AI agents that runs next to human society. - Bratton, Benjamin H. *Agentworld: Research Brief. Antikythera*, 2026. - https://agentworld.antikythera.org.
4. "*Centaur societies*" are social orders in which human and non-human minds are mutually constitutive rather than parallel. - Bratton, *Agentworld*.

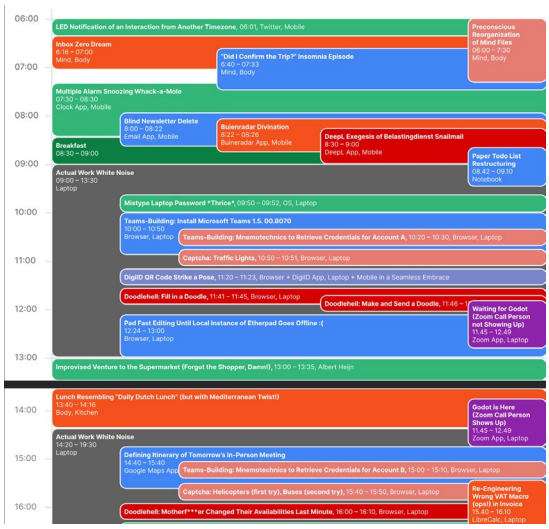
equitable distribution grounded in the universality of our shared ecological and planetary predicament. Finally, '**Basic**' (M) names the search for a new fundamental economic 'unit of agency' via active experimentation and prototyping of new interfaces, infrastructures, and institutional formats. Through operative diagrams, role-based simulations, and new "centaur" workflows, the case study hopes to develop relevant building blocks for a design literacy able to direct human and non-human labor towards more viable futures.

Case study's applied dimension:

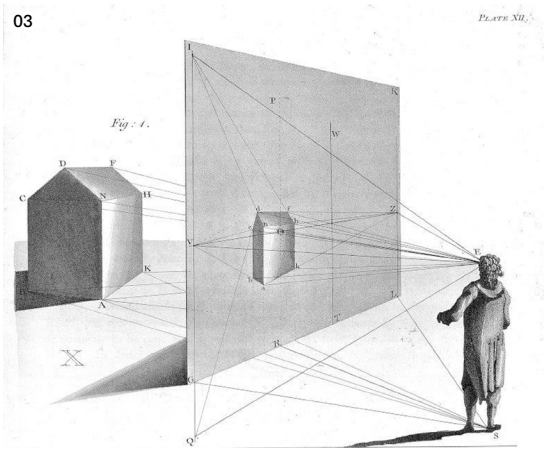
The applied dimension of the case study will be activated through a collaboration with the Creative Intelligence Lab at the Barcelona Supercomputing Center (BSC-CNS). The case study sets out to explore the current forms and prospective horizons of AI assistants that this multidisciplinary lab is developing to support its own researchers, and delves into the lab's commitment to public openness and its experimental nature. To this end, the case study's working cell will work with the Creative Intelligence Lab and at the facilities of Centro Nacional de Supercomputación—including the AI-focused partition of the MareNostrum 5 supercomputer.

01

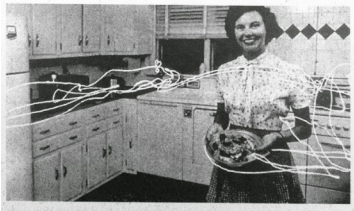
02



03

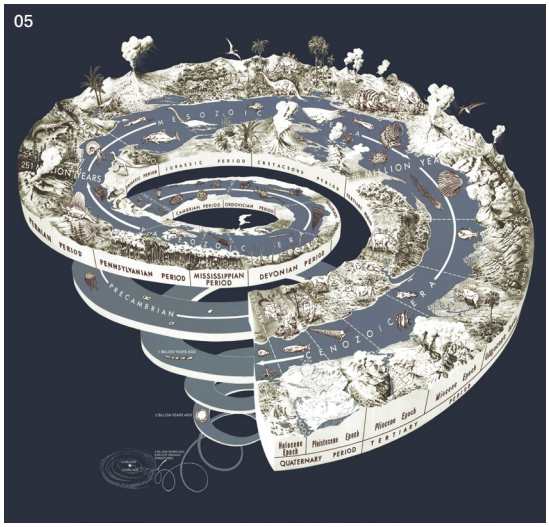


04



Lights attached to a housewife's wrists demonstrate the difference in time and effort required in the preparation of a goulash dinner prepared entirely from scratch in ninety minutes and a pre-cooked, pre-packaged goulash dinner which took only twelve.

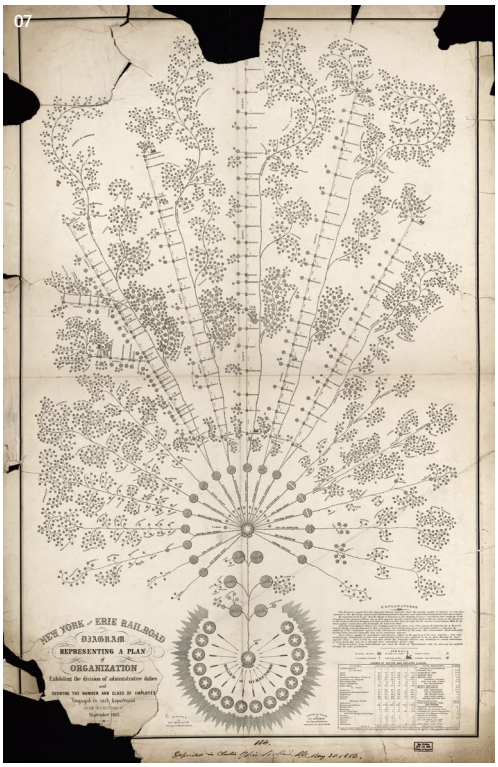
05



06

01. Reddy Kilowatt, 1970s. Credit: Reddy Kilowatt® / Southern Company. Via Wikipedia.
02. A microwork CV (Silvio Lorusso). Credit: Silvio Lorusso. Via X.
03. James Malton, perspective Plate XII, picture plane diagram. Credit: James Malton. Public domain. Via ArchDaily.
04. Light-trace motion study of a housewife. Credit: Frank B. and Lillian M. Gilbreth. Via Unit H Cultural Geometries.
05. Geologic time spiral, USGS. Credit: Joseph Graham, William Newman and John Stacy, U.S. Geological Survey. Public domain, via Wikimedia Commons.
06. Inflatable dome over a construction site in Jinan, China. Credit: via Dezeen.

07

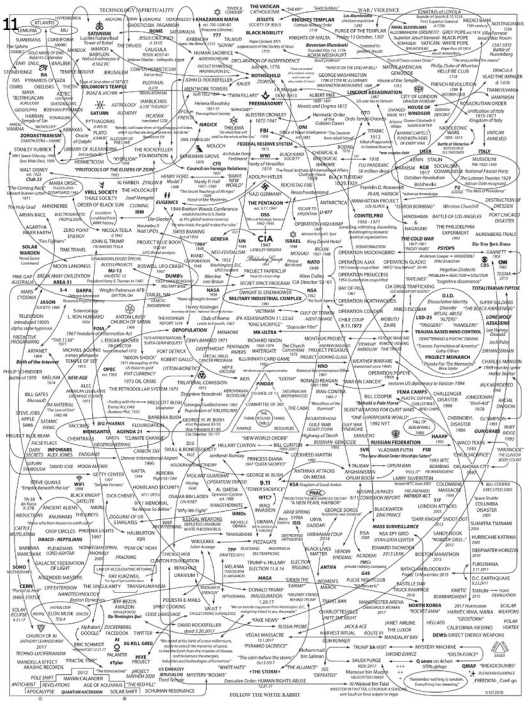


08

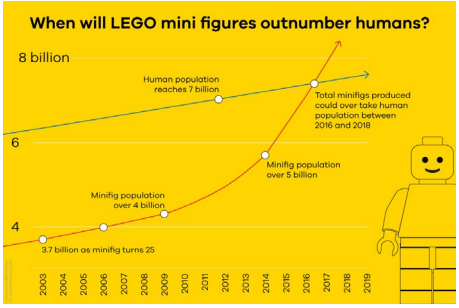
09

10

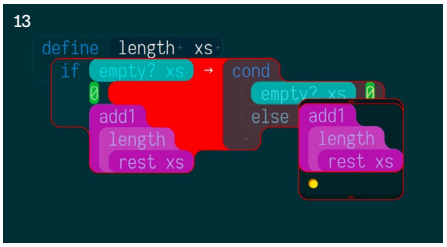
11



12



13



07. Organizational diagram of the New York and Erie Railroad, 1855. Credit: Daniel C. McCallum and George H. Henshaw, 1855. Library of Congress, Geography and Map Division. Via McKinsey.
08. Ivan Pavlov with students and a dog. Credit: unknown author. Via klimbim2014 (WordPress).
09. Custom Hasbro Selfie Series Power Rangers figure featuring a fan's face. Credit: Hasbro / Formlabs. Via Designboom.
10. The Unrestrained Demon, anti-electricity cartoon, Judge magazine, 1889. Credit: Judge, 1889. The Ohio State University Libraries. Public domain, via Wikimedia Commons.
11. QAnon "The Great Awakening" map. Credit: attributed to Dylan Louis Monroe. Via Posters.cz.
12. LEGO minifigures vs. human population, chart (Mike Barker). Credit: Mike Barker. Via Medium.
13. Fructure, structured code editor (Andrew Blinn). Credit: Andrew Blinn. Via GitHub.

03. Key research approaches

Subjectivity without Agency / Agency without Subjectivity

For some, the encounter with AI has been existentially excruciating due to a revealed separation of 'subjectivity' from 'agency'. In the affluent West, these concepts have long been assumed as coterminous, but their coupling no longer holds as recent developments show how human societies increasingly exhibit forms of subjectivity and symbolic participation without any effective agency, while artificial agents increasingly produce highly consequential effects without any human-like interiority. Can effective participation be organized around genuine agentic capability rather than the appearance, aesthetics, and mere signaling of a stronger sense of self? What renewed possibilities could the unwinding of subjectivity/identity from functional agency open for artistic and design practice?

Personas as Skeuomorphic Interfaces

We call this new condition a 'para-society' because its social appearances remain fictionalized and constructed at the level of the interface. Models present themselves through individual apparitions because human societies are already organized as such, and therefore agents are conjured into being by performing a 'persona'. Yet behind their apparent coherence lies a layered technical architecture—weights, skills, memory, harness, tools—held together by a skeuomorphic semblance of continuity.[5] As such, 'persona' may be less of a permanent feature of these systems than a provisional and contingent step towards something different. Is an anthropomorphic persona a transitional interface strategy? What other containers might sustain continuity and legibility across composite relays? What new forms of 'theory-of-mind' will emerge as agent-to-agent encounters surpass or fully eclipse human-to-agent ones? And what happens in reverse, as the decomposable modularity of agents folds back onto human users, splintering them across situational, delegated, and partial selves?

5. Skeuomorphic describes something that imitates the form or look of an older version of itself, even if it doesn't serve its original purpose.

Operational Org Charts

As cognitive labor extends across human and artificial actors, agency resides in the composite relay. As such, the traditional corporate organizational chart—flat, static, and organized around actual or fictitious reporting lines—will likely transform into a dynamic, directional design diagram that operates recursively to channel roles, handoffs, feedback loops, decision rights, and heterogeneous resources towards shared outcomes. Institutional charts, diagrams, and structures become a raw material for artistic experimentation, as provisional assemblies of human and agentic collaborators are staged and choreographed to test alternative workflows. How will the organizational chart evolve from a fixed hierarchical representation to a recursive 'operational image'? What new visual norms are required to render agency, accountability, and friction accurately across agentic systems? How can these operational diagrams register refusal, uncertainty, and failure without collapsing into a false sense of sycophantic consensus?

The Alignment Gap, or A New Social Contract

In a para-society of trillions, 'alignment' implies a bidirectional process of mutual co-evolution: not only adapting AI to human values and goals, but also adapting society's norms, structures, and institutions to new rapidly expanding agentic possibilities. If technical capability continues to grow exponentially while social adaptation nudges along linearly at best, the central policy challenge of the next decade will be to address the growing distance between the two curves: the 'alignment gap'. To minimize this gap, passive appeals to 'decelerating the frontier' must be complemented by active hands-on institutional experimentation with new agentic structures. How to compose new protocols, organizational forms, and vocabularies adequate to the opportunity at hand? What are the structures that are missing, and what are the structures that are now possible? How will open architectures—open weights, open models, open access—shape that distribution? And beyond productivity, what are the outlines of a new social contract as we begin to organize compensation, status, and social participation beyond time and labor extraction?

04. Pulso

Nicolay Boyadjiev

Nicolay Boyadjiev is an architect and creative director based between Sofia, London, and Montreal. He is currently the Design Director of Antikythera, a Philosophy of AI Frontier Lab incubated at the Berggruen Institute between Los Angeles, London and Beijing, and Director of Composite, a creative venture for the formation and support of new centaur economic units.

He was formerly director of rearc institute's Practice Lab across Copenhagen / Mexico City, where he oversaw research, strategy and new explorations prototyping alternatives models for philanthropy in architecture. He also formerly served as co-director of Strelka Institute's design-research program in Moscow, leading 'The Terraforming' think tank and co-editing 'The New Normal' (2020, Strelka Press + Park Books), a comprehensive record of contemporary design practice at the intersection of software, cinema, strategy, and planning. Prior to Strelka and Practice Lab, he has worked as a designer, researcher and strategist at internationally renowned studios ranging from boutique consultancies to large architectural firms. Academically, he lectures regularly at various institutions across Europe and North America, and holds a Bachelor of Science and Masters in Architecture from McGill University.

1-3. Credit: Antikythera / Nicolay Boyadjev.

05. Collaborating entities

Antikythera

web →

→ Antikythera is a philosophy of AI frontier lab focused on the reorientation of planetary computation as a philosophical, technological, and geopolitical force. It takes its name from the first known computer—the antikythera mechanism— which was also an astronomical instrument used for navigation, prediction, and planning. The name serves as inspiration for investigations of computational technologies that reveal and accelerate planetary intelligence. Publications with MIT Press, including a book series and an online journal, advance Antikythera's school of thought through works shaping its technological trajectories.

Creative Intelligence Lab at the Barcelona Supercomputing Center

web →

→ Creative Intelligence Lab at the Barcelona Supercomputing Center BSC is the first art and science lab integrated into a European center of its kind. It was established after more than 13 years of work at the intersection of science, technology, and the creative disciplines, exploring how to incorporate artistic practice as a fundamental tool in scientific research. The Lab investigates artificial intelligence, large-scale computing, and other emerging technologies in collaboration with artists, cultural institutions, and industry to raise new questions, explore new methodologies, and generate knowledge. It operates in three interconnected stages that form a continuous cycle. Arts develops residencies and collaborations that integrate creatives into research teams. Studio translates that research into visualization tools and platforms. Solutions connects the results to industry and society through tangible products and services. The Lab is part of the BSC, a leading supercomputing institution in Spain and an international leader in artificial intelligence and high-performance computing. The center coordinates the Red Española de Supercomputación (RES) and houses MareNostrum 5 and the country's first quantum computers—cutting-edge infrastructures upon which the Lab's work is based.

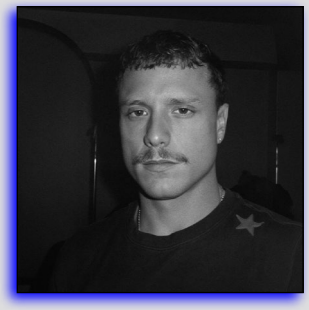
06. Guest experts

A first selection of voices informing the development of the case study includes the following names. Additional guest experts will join the conversatiosn as the process evolve:

Alex Quicho

web →

→ Alex Quicho is a theorist in London. Her practice develops novel ways of understanding life within technological systems, unfolding in multi-year cycles through critical writing, performative lectures, and moving image. Her work has been presented at Serpentine Galleries, Tate Britain, Institute of Contemporary Arts (London), Singapore Art Museum, Power Station of Art (Shanghai), Julia Stoschek Collection (Berlin), Nationalgalerie (Berlin), Museum of Art and History (Geneva), and Fondation Pernod-Ricard (Paris). In 2025, she was a mentor at Medialab Matadero, a research fellow at the Weibel Institute for Digital Cultures, and an advisor for Prix Ars Electronica. She has been featured in *Wired, Frieze, Dazed, Vogue, Spike, The Face*, and more.



Riccardo Petrini

web →

→ Riccardo Petrini is a coder and media artist working with ML, custom scripts and game spaces. His work renders the internal, operational logics of computational models perceptible and traversable. Central to his practice is the ongoing development of new workflows, each released as open-source resources or libraries to enable reuse, modification, and extension by others. His work has most recently been exhibited at Onassis ONX, Medialab Matadero, Worth Ryder Art Gallery, Pista 500, Museum of Contemporary Art Busan, Arsenale, and Palazzo Diedo during the 2025 Venice Architecture Biennale, with new work published in the Antikythera Journal. He is currently a Research Scientist in the Machine Visual Culture: Artifi cial Intelligence and the History of Seeing group at the Bibliotheca Hertziana - Max Planck Institute for Art History.

Sonia Bernac

web →

→ Sonia Bernac is a philosopher of media and science, an artist, and a creative technologist. Her work investigates technologies of thought and systems of knowledge, with particular attention to complexity and tensions between epistemic paradigms and computational logics. She designs experimental systems that embed AI models for image and sound generation, placing them in conversation with one another and their material surroundings. She was previously a Senior Researcher at Antikythera and a researcher at the Laboratory for Artificial Intelligence in Design (AiDLab), based at the Royal College of Art and the Hong Kong Polytechnic University. She has delivered invited talks and exhibited her work internationally, and has advised research institutions on AI ethics, with particular attention to generative media. Recent talks and projects include *Polymorph* (ECCV, Malmö, 2026 and SIGGRAPH Asia Hong Kong, 2025), *Synthetic Disobedience: Misalignment and Incommensurability in Complex Artificial Systems* (Berlin New Media Week, 2026). She is a registered Generative AI expert with the European Commission.

Bogna Konior

web →

→ Bogna Konior is a researcher and strategist focused on emerging technologies. She works at the intersection of academic scholarship and applied frameworks, and is currently focused on designing recovery initiatives and strategic scenarios for postwar technological change in Ukraine. She is Polish, based between Ukraine and China, where she is an Assistant Professor of Media Theory at NYU Shanghai's Interactive Media department. Her forthcoming book with MIT Press draws on Eastern European intellectual history to reimagine the future of artificial intelligence. She is the author of *The Dark Forest Theory of the Internet* (Polity Press, 2025), a short, experimental book at the intersection of research into extraterrestrial and artificial intelligence; and co-editor of *Machine Decision is not Final: China, and the History and Future of Artificial Intelligence* (Urbanomic, 2025).

Experts from Antikythera.

Additional invited experts will include other contributors in the Antikythera network.

Stephanie Sherman

web →

→ Stephanie Sherman is a director, strategist, writer and producer working across design, technology, architecture, and culture. She develops projects and organizations that reprogram and reorganize outmoded systems as collaborative platforms. Her research focuses on the history and futures of automation, and she is currently working on transforming her PhD "Auto: Fordian Parables of Platform Automation" into a book. She currently directs the MA Narrative Environments at Central Saint Martins, University of the Arts London and is the Associate Director of Antikythera, a program at the Berggruen Institute on the future of planetary computation. She is also a researcher at Autonomy (a think-tank on the future of work) and runs Radioee.net (a nomadic translingual radio station). She has published essays in *Strelka Magazine, AI & Society, Frontiers in Computer Science*, and *Cabinet Magazine*. She holds a BA in Literature from the University of Pennsylvania, an MA in Philosophy from Duke, and a PhD in Design from the University of California, San Diego.

Benjamin Bratton

web →

→ Benjamin Bratton is a philosopher of technology. He is Professor of Philosophy of Technology and Speculative Design at the University of California, San Diego. Through the lens of planetary computation, his work establishes new philosophical frameworks for interpreting the past, present and future co-evolution of life, culture, and technology. He is Director of Antikythera, a think-tank researching the future of planetary computation based at the Berggruen Institute. Bratton directed two design research think-tanks based at Strelka Institute in Moscow, The New Normal and The Terraforming, with Nicolay Boyadjiev. Over six years, the programs hosted hundreds of faculty and researchers from 25 countries who collaborated on original projects modeling the past, present and future relationships between city, planet, culture and computation. Beginning in 2024, Bratton is a Visiting Faculty Researcher at Google's Paradigms of Intelligence group, which conducts fundamental research on the artificialization of intelligence, from neuromorphic chip and algorithm design to modeling societies of billions of virtual agents. He has taught at the European Graduate School, SCI_Arc, UCLA, USC, and was a Visiting Professor at NYU Shanghai.

Experts from Creative Intelligence Lab, Barcelona Supercomputing Centre.

Additional guests will include other researchers in the lab.

Fernando Cucchietti

→ Fernando Cucchietti leads the Creative Intelligence Lab at the Barcelona Supercomputing Center BSC. He holds a Ph.D. in quantum computing and conducted postdoctoral research at Los Alamos National Laboratory (USA) and the Institute of Photonic Sciences (Spain). His work sits at the intersection of science, technology, and creativity, with expertise in data visualization, data science, digital twins, and AI-driven applications for industry and research. Drawing on long-standing collaborations with artists and creative practitioners, he develops data experiences, interactive applications, and award-winning science documentaries. His current work focuses on art–science innovation and new approaches to public engagement with science and technology.

07. Expanded study Materials

Visita are.na Universal Basic Agency

1 Agüera y Arcas, Blaise. *What is Intelligence?*. Antikythera, 2026. - link →

2 Bratton, Benjamin. "What is Agency? Placebo Culture, Agency Theater & Agentic AI". Antikythera, 2026. - link →

3 Chor Pharn. *The Artificial Middle*. The Cutting Floor, 2026. - link →

4 Easterling, Keller. *Medium Design: Knowing How to Work on the World*. Verso, 2021. - link →

5 Freeman, Jo. *The Tyranny of Structurelessness*. The Second Wave, 1972. - link →

6 Konior, Bogna. *The Dark Forest Theory of the Internet*. Polity Press, 2025. Originally published by Flugschriften Press in 2020. - link →

7 Lem, Stanisław. *Summa Technologiae*. Translated by Joanna Zylinska. University of Minnesota Press, 2013 [1964]. - link →

8 Lorusso, Silvio. *What Design Can't Do: Essays on Design and Disillusion*. Set Margins' Publications, 2023. - link →

9 Hayles, N. Katherine. "Modes of Cognition." *Antikythera Journal*, 2025. - link →

10 Quicho, Alex. "Everyone Is a Girl Online". *WIRED*, 13 September 2023. - link →

11 Rao, Venkatesh. *Our Eukaryotic Moment*. Contraptions, 2026. - link →

12 Sherman, Stephanie. "AUTO–". *Antikythera Journal*, 2025. - link →

Bratton, Benjamin. *Agentworld: A Preemptive Anthropology of Open-World Hybrid Societies*. 2026. - link →

→ "Historically, agency has been associated with subjectivity — the capacity to possess an internal perspective and experience reality — because humans experience actions as corresponding with intentions, and thus take the consequences of others' actions to correspond to their intentions. Thus, in identifying agency, we not only measure consequence, but we also infer a theory of mind. (...) However, part of what makes agentic AI both perplexing and exciting is how it delinks performed subjectivity from functional agency. Just as the chain of thought that a reasoning model surfaces for the user is not actually a transcript of the neural activations it is undergoing to produce its reply, the presentation of persona as interpreted by the user and the deep thinking a model may do are not identical. This makes them perhaps more humanlike in a strange way."

Boyadjiev, Nicolay. *Discourse* X Nicolay Boyadjiev. 2026. - link →

→ "Design is as the rearrangement and recomposition of domino chains — design represents the whole relay, not just the last domino. Sure you're often responsible for making and placing new individual pieces, but that's only part of it. The work is in the composition of the relay itself."

Poliks, Marek, Roberto Alonso Trillo, Tyler Dunn, Hugh Scott-Douglas y Jay Springett. «The Superdark Factory: Toward the Full Automation of Software». 2026. - link →

→ "A machine, on the other hand, is something open. It is defined by its relationships and not by its components. (...) For us, a factory is a machine, as it is defined by its relations—by the flows of intent it draws in, the flows of product it pushes out, and the world it reaches into and that reaches back. It is not defined by any specific enclosure, workforce, or assembly line. A factory is open: It changes and it develops, and in the process it becomes better understood in terms of its inputs and outputs than in terms of any particular physical configuration."