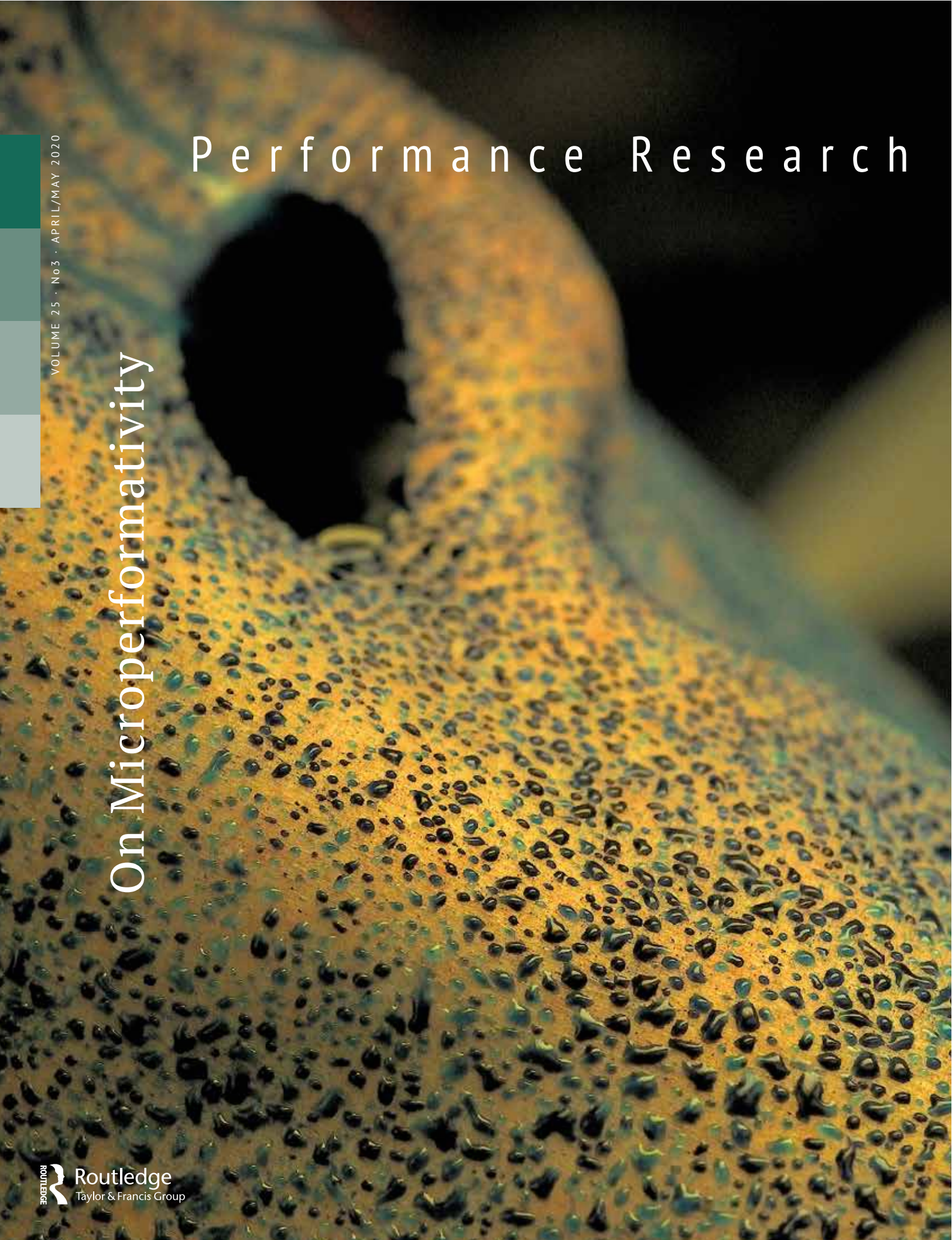


A high-magnification microscopic image of a textured surface, possibly a metal or ceramic. The surface is covered in numerous small, dark, irregular pits or droplets, giving it a rough, granular appearance. A prominent dark, circular feature is visible in the upper left quadrant. The background is dark and out of focus.

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On Microperformativity

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Introduction *On Microperformativity*

Jens Hauser & Lucie Strecker

When post-anthropocentrism reaches the realm of contemporary performative practices in the arts, is the emergence of a concept like ‘microperformativity’ a logical consequence? Given the increasing technical manipulation of and impact on biological and ecological systems with ever more tangible consequences at all levels, do the arts and the humanities tackle realworld problems by questioning what we may call the ‘mesoscopic bubble’ within which our human perception and phenomenological considerations are still enclosed? Performance theorist Richard Schechner’s provocative dictum that ‘humanism is a very arrogant, anthropocentric, expansionist, and high-energy ideology’ (1979) is echoed today by an evergrowing body of works that, on the one hand, purposefully decentre the human performer and, on the other, emphasize the performativity of other-than-human agencies, biological and technical ones alike.

The concept of microperformativity denotes a current trend in theories of performativity and performative artistic practices to destabilize human scales (both spatial and temporal) as the dominant plane of reference and to emphasize biological and technological micro- agencies that, beyond the mesoscopic human body, relate the invisibility of the microscopic to the incomprehensibility of the macroscopic. Microperformative positions enquire how artistic methods can engage critically with technologies that exploit life on a microscopic and molecular level to merge bio- and digital media.

Jens Hauser is a Paris and Copenhagen based media studies scholar, writer and art curator focusing on the interactions between art and technology. He currently is a professor in art history at the Karlsruhe Institute of Technology (KIT), and an affiliated researcher at the University of Copenhagen’s Medical Museion, following a dual post-doctoral position at the Faculty of Humanities and the Faculty of Health and Medical Sciences. He is also a distinguished affiliated faculty at Michigan State University where he co-directs the BRIDGE artist-in-residency programme. Hauser has curated about thirty international exhibitions and festivals.

Lucie Strecker, a Vienna and Berlin based artist, performer and researcher, works across various media, exploring experimental systems in art and science. Performing and exhibiting internationally, she has taught Performance Art and Experience Design at the Free University of Bozen-Bolzano. A Fellow of the Berlin University of the Arts, she holds a senior postdoc position at the Art & Science department of the University of Applied Arts Vienna, conducting the Elise-Richter-PEEK project *The Performative Biofact*, funded by the Austrian Science Fund. She is a Senior Artist at the Angewandte Performance Laboratory (APL).

Microperformativity and Biomediality

Jens Hauser

The neologism *microperformativity* denotes a concept that cross-fertilizes aesthetics, media and performance theory, as well as science and technology studies, to contextualize the recent attention paid to other-than-human agencies, biological and technical ones alike, which challenge and subvert the mesoscopic tradition within which human phenomenological considerations are, still, rooted. Given the contemporary artistic interest in biotechnology and ecology alike, and the progressive convergence of hard, soft and wetware, *microperformativity* is intertwined with the notion of *biomediality*: While art since the 1990s has appropriated a large variety of increasingly available biotechnologies as performative media in order to literally, and materially, stage ‘aliveness’, including at microscopic scales *in vivo* and *in vitro*, *biomediality* denotes the ensemble of all *enabling factors* that arise as a result of technical manipulation or appropriation of living organisms or organic biological entities, elements and processes.

In times when *performance art*—which until recently involved mainly human bodies—shifts towards the more general pattern of *performativity in art*, artists and performers profoundly redefine what actually is considered a *body*, human or nonhuman, consequently displacing the focus from its mesoscopic *actions* to its microscopic *functions*, from physical gestures to physiological processes, and from staged diegetic time to real performative time. *Microperformativity*, understood as a technical-cultural hybrid phenomenon, questions the human scale (both with regards to space and time)—philosophically, politically and aesthetically—as a crucial point of reference.

Artists who choose microperformative tactics and material instances of biomediality, from microbiome research and synthetic biology to concerns about anthropogenic effects on ecosystems, are indicative of the shift from performance to performativity, from human actions to non-human agency, including its progressive acceptance by audiences, and develop strategies of how the retreat of human performers can be compensated by inventive aesthetic solutions to create encounters with, and experiences for perceivers.

STILLEBEN with Symbionts

Irini Athanassakis & David Berry

‘STILLEBEN. Becoming Symbionts’ proposes to value milk and its microbial constituents as primordial assets and currencies - along with cells, sperm, blood, water, and oxygen. The latest scientific research, which has suggested that there is an intimate unseen interplay between mothers and their babies via the transfer of breast milk and microbes, which actually increases the value of the currency with each exchange. The co-operation of Irini Athanassakis and David Berry is an invitation to perceive the transfer of milk not only as an interaction visible to the naked eye, but also on the microscopic level of cells and bacteria. In order to challenge us with this unseen perspective, Athanassakis encourages us to step forward and take a performative and procreative role in expanding our perception. As we are home to billions of microscopic entities, we continuously cast this part of ourselves into our surroundings, impacting and interacting with everything around us. We leave a microbial trace, a lingering residue of cells on the objects, rooms, and people that we encounter. Breast milk and formula

are part of such an exchange process. If we look at the logic of microbial exchange in nursing as ‘giving’ and knowledge about symbionts for a future holo-economy based on co-operation and mutualism for collective survival.

Irini Athanassakis lives and works in France and Greece. Trained in Sculpture, Transmedia Arts, Transfer of Science, Art History and Philosophy (Doctor of Philosophy: *Die Aktie als Bild* (The Share as Picture), Vienna and New York: Springer, 2008), she co-operates with artists and scientists. Considering milk as material, she also reflects on milk as a system of inclusive economics. She is the editor of the book *MILK. Gabe, Lust und Verlust* (Milk: Gift, lust and loss) (Vienna: Passagen Editors), which won the Austrian Award for the most beautiful art book in 2018. www.iriniathanassakis.eu

David Berry is a Professor at the University of Vienna and Director of the Joint Microbiome Facility of the Medical University of Vienna and the University of Vienna. He holds a PhD in Environmental Engineering from the University of Michigan, USA. His research focuses on the function of the gut microbiota in health and disease and he employs an ecological and evolutionary perspective as well as an organismal view in his work. <https://bit.ly/2Dq6HZZ>

Contingent Claims. The performativity of finance, or how the future materializes in technocapitalism

Gerald Nestler

Technocapitalism acts through micro-performative mechanisms which escape human cognition and sense perception but at the same time influence individual behaviour and social conduct. Automated finance and corporate surveillance are both leveraged by proprietary tools operating in the invisible realm of microseconds. While its immediate agency colonizes the future at present, it escapes our phenomenological scope. In fact, technocapitalism operates on a new level of exercising power by shifting its language from representative to performative speech. Hence, data-driven performativity has very material consequences on our real biological and social lives – we are losing our senses in more than one way. How can we move and see through the maze of finance and other data-driven performativity?

This essay argues that the performative arts are well situated to create participative situations and alliances that allow for embodied awareness to reveal and resist these infrastructures. However, such art needs to translate technocapitalism beyond cognition, speech and rationality. And such counter-performative aesthetics are to be situated in the field of consequences and take performance outside the metaphoric spaces of the (live) arts. The essay therefore proposes a new reading of the term ‘resolution’ and its semantic field – ranging from perception and visualization to knowledge production and (joint) decision making – to counter the non-transparency of black box exploitation. But there is an urgency to go a step further and transgress the realm of critique and representation towards performative engagements in insurrection if we want to claim an agency in which all the senses of resolution come to bear. Activating the potential of resolution as an alternative to the rather passive notion of transparency calls for ‘renegade activism’ as a strategy of resistance that makes the black box speak from inside.

Gerald Nestler is an artist and writer who has exhibited, published and lectured widely on art, finance and technology. He combines theory and conversation with video, installation, performance, intervention, sound and speech. His research focuses on the *derivative condition* of technocapitalism and its models, operations and narratives. A member of the Technopolitics research group, Vienna, he holds a PhD from the Centre for Research Architecture, Goldsmiths, University of London where he was a researcher at Forensic Architecture. www.geraldnestler.net

Microbiospherians. Leveraging microbes in biosphere 2

Karmen Franinović & Roman Kirschner

Researchers and practitioners in the trading zone of art and science have been experimenting with human-made ecosystems involving a variety of biological, chemical, technical and aesthetic aspects. While microorganisms are always a part of such systems, most often they don't attract human attention. And if they are integrated into art and design projects, they are commonly put behind glass for safety or stability of the small ecosystems. However, in Biosphere 2, a large artificial glasshouse ecosystem built in the desert of Arizona, humans and microbes performed together with technical actors within the same environment. In this paper, we focus on Biosphere 2's 'Mission One' (1991–93), an ecological experiment in which eight humans, also called biospherians, together with other plant and animal species, were completely isolated in a large glasshouse from the biosphere of the Earth. Notwithstanding the lack of detailed information on specific microorganisms and their activity, we aim to analyse the environmental phenomena and human experiences in which microorganisms played an important role. Biosphere 2 provides the ideal context for such endeavour since its accelerated metabolic cycles made phenomena appear quickly and showed, just as fast, which interventions generated which effects. As a method of analysis we make use of the notion of 'leverage points' as places for inducing change in systems (Meadows 1999). We outline a range of physical, structural, informational and rule-based changes in systems ordered by efficacy. We discuss different attempts of leveraging Biosphere 2's ecosystem and identify leveraging options on different system levels, revealing the undeniable power of microbes, or microbiospherians, to steer ecosystem processes. Based on interviews we conducted with biospherian Mark Nelson, we discuss the challenges of leveraging from within Biosphere 2's ecosystem and how it led to a strong perception of metabolic connectedness among the human participants. Finally, we propose leveraging from within as an artistic strategy for intervening within ecosystems, and reflect on how microbiospherians challenge the order of leverage points.

Karmen Franinović is Professor of Interaction Design at Zurich University of the Arts, Switzerland and co-founder of Enactive Environments Lab. She is moved to explore dynamic and ephemeral processes, be it a soundscape, a sculpture, an act of creation, a learning experience or an ecosystem. Focused on embodied and spatial interaction, Franinović worked on the design of large-scale public buildings, participatory urban environments, shape-changing and sonic sculptures, haptic floors and rehabilitation wearables.

Roman Kirschner is an artist, designer, researcher, writer, teacher and sometime curator, working across disciplines. His current interests revolve around social metabolisms, ecologies, interactions with environmental microbiomes, transformative materials, spatial strategies, research methods and the mutual influence of material, imagination and epistemology. He was the project leader of the arts-based research project 'Liquid Things' at the University of Applied Arts Vienna (AT), Austria, and the editor of 'Raw Flows: Fluid mattering in arts and research'. He lectures at the Zurich University of the Arts (CH), Switzerland, and his works have appeared in exhibitions in Europe, Asia, North and South America.

My Name is Sculpture. For we are many

Thomas Feuerstein

Metabolic sculptures explore the transformative and generative processes of matter and life. They enable art to enter reality, to link artworks with processes in nature and society and to create visions of possible futures and relationships between our bodies and technology. Data

streams, biological organisms, methods from the sciences and "real" processes are increasingly becoming the material of art. How do the new correspondences between art and science, fact and fiction, construct themselves in contemporary art production? Which conceptual and narrative aesthetics and poetics result from this? By taking the PROMETHEUS DELIVERED project as an example, the artistic method of conceptual narration will be presented, which combines pictorial, literary and molecular ways of speaking and acting. PROMETHEUS DELIVERED performs a story that oscillates between science fiction and horror, utopia and dystopia. The project connects sculptures, drawings and literature with biochemical processes in which, for example, human liver cells are cultivated, fermented and distilled into alcohol. The liver cells refer to the ancient tradition of hepatoscopy. The organ that was once deemed the seat of life becomes the vital point of departure to read humanity's future in the context of a cellular economy. In PROMETHEUS DELIVERED, cannibalism becomes autophagy, which is not derived from amorality or dark evil, but from the principle of autotrophic resource use. Microperformativity as the inclusion of metabolic processes of the living creates a new realism of art. Digital algorithms and biochemical processes turn works of art into autopoietic systems that preserve themselves, change themselves and process reality. Artistic objects are transformed into subjects and agents, into actors acting on different levels: semiotic and molecular, virtual and material. Thus artistic works that were formerly described as pictures and sculptures no longer insist in a unmutable state, but become the starting point for changes that can be described with transformation, transmutation, variability or as processual. Performers are not only of human nature, but artistic objects become agents performing real processes.

Thomas Feuerstein is a Vienna based artist whose work oscillates between the fields of media and bio art. He studied art history and philosophy and has been a regular lecturer and visiting professor at numerous universities and art academies. Feuerstein bridges the interface of applied and theoretical science. His projects combine bodies of knowledge from philosophy, art history and literature, to biotechnology, economics and politics. At the core of his practice is an artistic method he calls 'conceptual narration'.

Microbial Keywording. Towards material speech acts

Klaus Spiess, et.al.

Drawing on object-oriented-ontology we aim for a hybrid language that not only processes formal symbols but interacts with the microbes in the speaker's mouth. We argue that the metaphors historically used to frame the relationship between oral microbiota and speech cannot account for the co-creative material relationship between human speech and microbial, environmental and biotechnological needs. In our performances we harvest oral yeast microbes from the audience. Via a spectrogram, repetitively spoken phonemes drive pattern pumps, which add pheromones to the microbes, the latter which then are faded out. In the microbes, for some replication cycles an ecological adaptation to the individual phonemes persists, affirming – in our definition – some phonemes and deleting others, thereby improving the eco-sphere in the mouth by changing the alphabetical order of the input phonemes. The audience observes the adaptation by respelling words. We propose 'microbial speech' as a category between semantic and phonetic meaning, with a transcorporeal mattering between speech and the body as a new ecolinguistic quality. We aim at a language becoming a biological state in order to protect its own ecology. We consider these collective posthuman forms of relationality, subjectivity and biopolitical praxis as multiple ecologies of belonging and a more ethical mode of microbes existing in-common with language, affirming the transversal relations of all living and non-living matter.

Klaus Spiess directs the Arts, Science and Biomedica programme at the Medical University of Vienna, where he is Associate Professor. Together with Lucie Strecker he has developed transdisciplinary performances and installations on the subject of biopolitics (Bemis Center of Contemporary Art, Omaha; Click Festival, Helsingør; ISEA; Muffatwerk, Munich; Haus der Kulturen der Welt in Berlin; Onassis Cultural Center, Athens; and at the Prix Ars Electronica). He has published on the subject of his work in *Leonardo*, *Performance Research* and *The Lancet*.

One Suppository – A para-medical insertion

K T Zakravsky

This piece constitutes a parody of an actual medical leaflet; it emphasizes the character of the *pharmakon*, the remedy that can – depending on situation, context and precise composition of the ingredients – work both as remedy or as poison. The leaflet needs to be considered both as a set of performative instructions, and as a ‘paratext’ that takes the form of a consumerist disclosure in the real event a young woman would be cured by its purchase. The patient information slip, as a textual instruction, stands in the long tradition in Fluxus and performance art to use instructions to be enacted either by performers or audiences.

KT Zakravsky/ZAK RAY is a Vienna developer of projects on artistic research (hybrid media and knowledge transfer), a writer and theorist (on the social impact of techno-science, bio-politics and general history), and leader of the PEEK project MORPHOPOLY (2021-23), artistic research at the intersection of urban design, urban model making and play design with children aged 7-12 and other groups. Other projects include: being a trained philosopher; collaborating within the Viennese dance and performance scene (‘Wiener Perspektive’); artist-in-residence in Seestadt Aspern; and collaboration with Klaus Spiess and Lucie Strecker on hybrid and performative bio-art. <https://orcid.org/0000-0003-4245-6076>

Manifesto on mOther(ness)

Maja Smrekar

In her K-9 topology the artist explores the co-evolution, coexistence and possible scenarios of cross-species hybridisation of humans and dogs. She creates a mental space imagining a society not based on the subjugation and instrumentalisation of nature for one’s own needs, but on a more balanced coexistence of humans with the (eco)system that surrounds us. Smrekar designs an environment, an utopian projection of the future, in which humans and animals coexist in hybrid families and share a completely equal social status. Her artistic argument is based on biotechnological facts and aims to dispel prejudices and bias against the use of supposedly ‘cold’ and ‘hard’ science. To this end, she refers to myths in which human-animal hybrids appear to be inevitable, and are thus also deeply embedded in our Western social unconscious.

Maja Smrekar’s practice includes cross-conceptual stagings of hybrid art, performance, installations, video and sound, as well as contributions to knowledge exchange through lectures, texts and talks. She has collaborated with institutions such as the Institute of Medical Biochemistry, the Laboratory of Biocybernetics and the Department of Forestry, the Department of Freshwater and Terrestrial Ecosystems (Ljubljana, Slovenia) and with the Department of Zoology in the Life Sciences at Humboldt University Berlin. In 2014, she collaborated with JACANA Wildlife Studios in Saint Montaine, France. Since 2020, she has been working with The Embodied Systems for Robotics and Learning Department at The University of Southern Denmark.