On Microperformativity

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Published in:
Performance Research: a journal of the performing arts

DOI:
10.1080/13528165.2020.1807739

Publication date:
2020

Citation for published version (APA):
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 real-world problems by questioning what we may call the 'mesoscopic bubble' within which our human perception and phenomenological considerations are still enclosed? And might such a concept even help to provide alternative readings of the currently raging microperformativity of the coronavirus? Performance theorist Richard Schechner's provocative dictum that 'humanism is a very arrogant, anthropocentric, expansionist, and high-energy ideology' (1982 [1979]: 96) is echoed today by an ever-growing body of works that, on the one hand, purposefully decenter the human performer and, on the other, emphasize the performativity of a large panoply 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.

Such investigations redefine what art, philosophy and the techno-sciences actually consider a 'body' today, in times when the genre of performance art is increasingly being enriched by a shift towards generalized and pervasive performativity in art. As such, the inclusion of 'aliveness' enlarges the scope of the evolving field of the 'live arts'. Non-human agencies are being staged in relation to performative techno-scientific or algorithmic systems, thus addressing contemporary dynamics linking the organic and the machinic. 'Bacteria perform processes. Scientists perform experiments. Algorithms perform actions. Humans perform gender and sex. The question is who or what nowadays doesn't perform?' asks Chris Salter in his theoretical foray into the epistemes of performativity and all these levels actually become...
entangled in this issue ‘on microperformativity’. From our perspective, the concept has emerged in and over time through lectures, tentatively theoretical text work, performances, artistic research projects, exhibitions and festivals curated roughly since the year 2000.1 The aim is to broadly open up the term as a discursive tool and interdisciplinary – albeit slippery – ‘travelling concept’ (Bal 2002): it synchronically crosses disciplinary and cultural boundaries, as well as artistic genres and formats, and diachronically links a given context to earlier epistemological contexts, while paying ‘increased attention to its material and medial foundations’ (Neumann and Nünning 2012: 9). In the process of foregrounding and backgrounding the most diverse instances of microperformativity, the contributing authors address a large variety of epistemic and ontological challenges inherent in who or what microperforms:

- extra-terrestrial organic matter (ETOM); protocells – precursors of cells formed by innate, complex chemistry, created live on stage; ‘psilamine’, an artistically created psychotropic molecule; volatile organic compounds and aerosols; DNA sequences, manipulated by processes such as electroporation, lipofection or biolistics via genetic guns; protective organic compounds and aerosols; DNA sequences, serving as identity proxies than the virus as a bare code that resists ontologization.

And how many of us have watched movie classics during the lockdown with its accompanying discourses of the ‘war on the virus’ or the ‘fight against the invisible enemy’, like Steven Soderbergh’s anticipatory Contagion (2011)? Tellingly, the thriller’s plot, staging a worldwide pandemic of a deadly virus in times of global interconnectedness, space-time travel and technological acceleration, also raised questions about the representability of viral agencies, beyond human action, which cinema typically deals with. Because, to speak with Jean Baudrillard about the abstract nature of both digitality and virality, the ‘pathology of the body is now beyond the reach of conventional medicine, since it affects the body not as form, but as formula’ (2002: 1). It is more than just an anecdote to remember that literally living billboards were produced to advertise the movie’s launch in 2011, with outsized, rectangular Petri dishes in which pigmented Serratia marcescens bacterial cultures were grown to form the letters of the film’s title – living images not of but out of single-celled organisms, intended to ‘upgrade’ the representative medium that is cinema.

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1 The following exhibitions, festivals and artistic research projects have served as a testing ground for the concept of microperformativity: L’Art biotech (Le lieu unique, Nantes, 2003), sk-interfaces: Exploding borders – Creating membranes in art, technology and society (FACT Liverpool 2008/ Casino Luxembourg – Forum d’art contemporain, 2009), May the horse live in me/Art Orienté objet (Kapelica Gallery, Ljubljana, 2011), SO2 (three tender significant others) (Espace Multimédia Gantner, Bourgogne, 2015), CLICK Festival ‘On Microperformativity’ (Helsinki, 2016), Devenir Immobiele/Yann Maraussich (Le lieu unique, Nantes, 2018), [un]split Micro Performance & Macro Matters (Muffathalle, Munich, 2018), Applied Microperformativity: Live arts for a radical socio-economic turn (Angewandte Innovation Lab [AIL], Vienna, 2018), in connection with the Elise-Richter-PEEK project ‘The Performative Biofact’ funded by the Austrian Science Fund (FWF), OU./ERT. Phytophilia - Chlorophoria - Situated Knowledges (Emmetrop-Antre Peaux, Bourges, 2019).
Nevertheless, this desire to find instances of biomediality able to materially give the viral performativity a visual form completely failed conceptually: the incoherence inherent in the fact that viral and bacterial contamination spread in totally different ways, thus debunking the advert, pairs with the movie industry’s underhandedness to blatantly copy performative biomaia art practices, for example by the Critical Art Ensemble or Eduardo Kac (debated in this issue).

While even within a few months, Corona discourses changed from the early martial lockdown ‘war on the virus’ talk to ‘let’s see how to live with the virus’, the distributed agency of virality and its lack of materialized representability seem to pose a number of challenges. In this issue, art itself may even be symbolically evoked as a contagious virus, or the infectious agent is described as something against which masked dance performances may be employed to keep away bird flu. But Covid-19 has also already profoundly changed the way many other performance practices portrayed in this issue are being read. For example, the new awareness about the role of aerosols in airborne virus transmission allows ‘speech acts’ to appear in terms of J. L. Austin’s (1962: 6) concept that ‘performative utterances’ do not just represent an action in language but materially enact changes in a fully new dimension of ‘spit acts’: to sputter and to splutter now refers to material explosiveness, implying the physical ejection of particles, evoking the danger of infection, more than just the discomfort of choking sounds, becoming literally performative in a very biological sense.

It is for these reasons that we have included a provocative essay by Tagny Duff, who has worked ‘hands-on’ with viruses in laboratories throughout her career. Duff refuses to speak about viruses, but speaks with viruses, insisting on giving ‘the’ virus, in its distributed plurality, a voice, as a choir instead of ‘a singular subject, one that is our natural enemy that we are at war with’. Duff not only considers how human expansion, such as deforestation or other forms of destruction of natural environments, is linked to the appearance of contemporary zoonoses, but addresses how humans have a tendency to anthropomorphize viruses ‘as vicious and secretive enemies of war, zombies, aliens and criminals that steal human lives’. She rather sees viruses as evolutionary companions, as a ‘library of the living’ that impacts on ‘evolution across species on the planet’.2

While such positions converge with the concept of microperformativity, viruses are nowadays not only considered as evil enemies but have also been rediscovered as an efficient means of fighting bacterial infections. Therapies with bacteriophages – viruses attacking bacterial cells but not mammalian ones – were first practised in the 1920s, but then neglected after the massive advent of antibiotics. Now, with the problem of multiple antimicrobial resistance in pathogenic bacteria, researchers are looking afresh at those curing viruses.

In the light of Duff’s essay, it is tempting to imagine that the epistemological career of such post-digital viruses may follow that of bacteria: from Robert Koch to Louis Pasteur, bacteria were traditionally described as ‘invading animals’ and notorious pathological agents in the age of science’s discovery, in the nineteenth century, of the causality between disease and bacteria. It was the epoch of dominant hygiene vocabulary and its cultural metaphors led to biased preconceptions of bacterial presence. Addressed as ‘colonization’, ‘immigration’, ‘infiltration’ or ‘intrusion’, these threatening ‘enemies’ were opposed to primary human body cells labelled, in turn, as ‘good republicans, peaceful, sedentary, with legitimate kinship and safe loyalties within the body’ (Sarasin 2007: 445, 450, 454). Today, role models of bacteria, and of the microbiome, have dramatically changed, as many contributions by artists and theoreticians to this issue demonstrate – be it a faecal transplantation from a Pygmy community or an artistically produced probiotic drug conceived to enhance the art consumer’s anti-capitalistic mindset ... Within an ecological account of natural agency, bacteria are even said to partake in a ‘cognitive turn in microbiology’ considering that ‘bacteria are purposive agents, and purposive agency is the mark of cognition’ (Fulda 2017: 70–71). Microorganisms are, moreover, seen as ‘analogous to complex human-made cybernetic systems’ (Ben-Jacob et al. 2011: 57).3

1 Her position is inspired by and in line with Gilles Deleuze and Félix Guattari’s praise of viruses as crucial vectors of an ‘aparallel evolution’ (1987: 10): biomediality is considered responsible for life’s diversity, comparable to the culturally transformative power of books as stored information to be activated, and that can ‘move into the cells of an entirely different species, but not without bringing with its “genetic information” from the first host ... Transversal communications between different lines scramble the genealogical trees. Always look for the molecular, or even submolecular, particle with which we are allied’ (Deleuze and Guattari 1987: 10–11).

2 The main argument here is that ‘the colony of individuals, the social group, gleans information from the environment. They “talk” with one another, distribute tasks, and convert their collective into a huge “brain” that processes information, learns from past experience, and, we suspect, creates new genes to better cope with novel challenges’ (Ben-Jacob et al. 2011: 56–7).

3 We thank Chris Salter and Klaus Spiess for their additional editorial support in providing feedback to a number of papers.
From such a perspective the ample presence of bacteria in this issue becomes plausible, despite the conceptually broad scope of microperformativity ranging from living matter (Bennett 2009), various biological actants, natural-cultural hybrids such as experimental systems, ‘epistemic things’ (Rheinberger 1997) or neuronal networks, to micro-gestures in performances, and to machinic and algorithmic agency. What unites the manifold contributions is not only challenging the preponderance of human agency but a desire to deconstruct ontologies and their related representations ‘in the making’.4

Before diving into the five sub-sections – Biological agency, Opening up experimentation, Staging multi-scaled agency, (Micro)gestures, The other and the pathological – we therefore begin with a map proposed by Chris Salter that shows interconnected registers and scales, key concepts, writers and artists, attempting to show how the notion of the performative engenders ‘boundary objects’ across the arts, social, natural and human sciences that help to link ‘disparate disciplines and people together who, because of disciplinary affiliation, might not realize the connections to other disciplines’.

In the first part, we concentrate on how the neologism microperformativity first emerged in the context of post-digital artistic work since the late 1990s. Employing biological agency in performative ways, biotmedia art increasingly indicates a more general ‘shift from performance to performativity, from human actions to nonhuman agency, including its progressive acceptance by audiences’, prompting ‘strategies of how the retreat of human performers can be compensated by inventive aesthetic solutions to create encounters with, and experiences for perceivers’ (see Jens Hauser, ‘Microperformativity and biomediality’). In their auto-ethnographic account of their live performance to synthesize protocells, Ramirez-Figueroa, Hernan and Lin give us a first example of how performers can ‘destabilize assumptions of what is alive, and what counts as performer on stage’. Paul Vanouse’s installation Labor, a post-anthropocentric scientific theatre, is also of this kind: here, skin microbes ‘fulfil a highly cultural role in non-verbal cueing and signification’ by creating the scent of human sweat without any human body or labour, thus critiquing how ‘we’ seem to define ourselves by work, while microorganisms as collaborative, symbiotic agents shape the olfactory profiles of ‘our’ human identities. In their contribution on the Winogradsky column, Pérez Bobadilla and Guzmán Serrano likewise explore how this scientific tool favours a more ecological, interdependent and multi-species interpretation of life than the Petri dish, thus boosting its current use as medium for artists, who sometimes even deliberately credit microorganisms as collaborators. In Thomas Feuerstein’s large biotechnological installation conceived as a fabrica, Prometheus delivered, chemolithoautotrophic bacteria that can metabolize a marble sculpture of the Greek hero are performers originating from stone, enacting a metabolic transformation of inorganic material in order to finally generate a growing liver sculpture of hepatic cells. By expanding the language of art beyond the iconic and linguistic levels by chemical and biological ones, literally ‘the works are working’. Similarly at the threshold of non-living and living systems, turning non-terrestrial material assemblages into lively, kinetic and active agents is at the core of Castro’s and Kubota’s art-science practice with extraterrestrial organic matter (ETOM); they confront audiences with new degrees of aliveness, with the intention to question the geocentric and
anthropocentric mind-set in our understanding of matter as passive, inactive or neutral substance, which they feel ‘is disturbingly linked with the destruction of ecosystems, the depletion of resources and the extinction of wildlife’.

The second section, *Opening up experimentation*, mobilizes microperformativity as a conceptual tool to analyse entanglements of non-human agencies in experimental systems, such as the artistic intervention ‘Microbial Keywording’ proposed by the interdisciplinary team led by Spiess and Strecker. Here, the linguistic concept of ‘speech acts’ extends towards its ultimate materialization: in analogy to the cell as the smallest biological unit of life, phonemes as the smallest entities of a spoken word, in turn, leave memory traces on single-celled oral microbes sourced from speakers’ mouths, ultimately resulting in ‘phonetic probiotic’ drugs. Another of many potential outcomes is a suppository described by KT Zakravsky/Zak Ray, further exploring the relation between matter and language – between the co-performing pharmacological substance and a literary medical leaflet, while the patient information slip links to the long tradition in Fluxus and performance art to use instructions. Science philosopher Hans-Jörg Rheinberger takes us further into the epistemology of experimental systems, discussing the term ‘microperformativity’ in relation to the way substances and organisms are made to interact with one another in laboratory contexts. He advocates a close look at the agential relationships between the micro-, meso- and macrocosmic dimensions, also with regard to what he sees as a ‘reversion of performance’ in the much-cited term of the ‘Anthropocene’: ‘The globe, the planet is striking back – and it is no longer primarily the people who are acting.’

Two related artistic contributions deal with the deconstruction of scientific and authorial authority. First, the biologist and artist Hideo Iwasaki has paper cut-outs from his own research articles overgrown by cyanobacteria, his very model organism, provoking complex patterns of not yet studied phenomena to appear materially on the remaining scientific paper. Second, artistic ‘microfluidic oracle chips’ are discussed by Meyer-Brandis and Voroprai: these stage the dichotomous and iterative character of knowledge production on the scale of complex microfluidic machinery, thus emphasizing the epistemological indeterminacy and the role of circumstantial factors for the results of experiments. Last, Gómez López discusses the long-standing tradition of self-experimentation in the medical sciences, involving the testing of prototypes, and proposing ocular germination of a seed within her tear duct and extra-corporeal auto-transfusion of blood as experiences to be re-enacted by others via the distribution of ‘how-to’ guides.

The third section explores the staging of multi-scaled agency via various micro–macro relationships entailing bacteria, biological and artificial neurons, as well as algorithms as central agents in global financial networks. With *STILLEBEN*, Athanassakis and Berry address breastfeeding and the accompanying, invisible microbial transfer, and propose valuing breast milk and its microbial constituents as primordial assets and currency, counteracting capitalist economic principles. Political and ethical interrelations of macro and micro scales in the artist Adam Zaretsky’s provocative public workshops are put ‘under the microscope’ in Tratnik’s essay on how processes of genetic engineering can be demystified, using kitchen and household products and sexually connoted metaphors such as ‘penetrating the genome’ or ‘sexing the environment’. Reversing this perspective, Franović and Kirschner start by analysing the ecological ‘glass box theatre’ of Biosphere 2, where a group of humans, alongside other plant and animal species, was
isolated in order to gain an ‘innerview effect’ of ‘metabolic connectedness’ – however challenged by the overlooked, undeniable power of microbes to steer ecosystem processes, identified as central ‘leverage points’ capable of prompting dramatic changes in complex systems.

The interface between biological and machinic agencies is addressed in Salter’s analysis of neuronal acts, first taking the neuron as a point of departure for art making, resulting in cellIF, ‘the world’s first neuronal synthesizer’, and further ‘taking us beyond the arts to neuroscience, artificial intelligence and to the chimerical heart of contemporary microperformativity: economics’. Salter describes the connection between physical–chemical neurons and logic gates that perform in the new economic boom:

J ust like we don’t really know what the spikes produced by cultured neurons used in artworks mean, so too do we also not grasp the increasing mathematization and modelization of contemporary capital flows that are now being made directly possible by the classification properties of hundreds of thousands of artificial neurons making financial decisions.

In the light of automated finance operating in the invisible realm of microseconds, ‘how do we move and see through the maze of finance performativity?’ Gerald Nestler consequently asks. Since financial microperformativity ‘has a real impact on bodies, performance art needs to include sensory perception, affect and physical experience’, which is the intention of his experimental performances ‘transferring the abstract complexities of algorithmic finance to the scope of physical experience’ to prepare audiences for the era of techno-capitalist biopower.

The fourth section, (Micro)gestures, takes up this topic of algorithmic agency first by trans-historically analysing weaving as an embodied practice of doing and thinking, as cognitive projections, arguing that ‘properties and algorithms transferred from weaving into early theories of arithmetic [have been] the basis for mathematical laws’ ever since the science of ancient Greece (see Fanfani, Griffiths, Harlizius-Klück, Mamidipudi and Mclean, ‘(Micro-) Performing Ancient Weaving in the PENEL cope)’. Here, the PENELope research group uses the concept of microperformativity to access knowledge otherwise tacit in the production process. In a different vein, Whalley and Miller apply the notion in order to focus on temporal rather than spatial scales, and investigate strategies of slowing down gestures in performance art and their effect on audiences. Especially with regard to non-human performers such as jellyfish and mealworms acting over many days, they ask what kind of co-creative ‘granular engagement is required of the human-animal audience member’ who ‘can never grasp the totality of the non-human performer’s engagement in the work’. However, similar questions transpire in relation to an indeed human performer with regard to Yann Marussich’s seemingly immobile performances, based on somatechnies through which the artist accesses and expresses implicit immobile activities of his body (cardiac frequency, involuntary gestures and so forth). Here, these are studied via the analytical grid of emersiology, ‘explaining how unconscious and uncontrolled activities of the living human body surface’ (see Andrieu, Bernard, Cipoletta, Marussich and da Nobrega, ‘Emersive microperformativity: On physiological mediation in Yann Marussich’s “immobile” performances’).

The fifth section, on the other and the pathological, aims to further create and analyse fissures in rigid concepts of the self and the foreign to unfold as rich artistic material. In Helyer’s sound works, which combine human and biological agency to re-invent musical scores from largely different human cultures, the ‘other’ are E. coli bacteria that not only store but alter and transform genetic information containing musical compositions – an ancient mnemonic system subverted in order to use its physical morphology to re-mix musical structures. In M R Vishnuprasad’s analysis of the Pakshi Kolam trance-dance of a bird in traditional Indian performance, the ‘other’ consists of pathogenic agents spread by birds, responsible via zoonoses for diseases caused by infectious agents. In this ritual performance, he demonstrates how layers of mimetic and enactive dimensions of human performance are supposed to help to become ‘the other’ and part of a healing process. Finally, the Art Orienté Objet duo present two performative works carrying out microbiome-based art
experiences. The first, *May the Rain Forest Live in Me*, consists of grafting the rich microbiota of an inhabitant of the primordial forest onto the artist Marion Laval-Jeantet, speculating on consequent mental states of having the same microbiota as a Pygmy, and to potentially learn to feel the forest environment thanks to the transplant of an internal ecosystem. The second, *Holy Coli*, transforms the microbiota of a mouse with a genetically modified *Escherichia coli* strain that produces a mouse’s faeces’ scent of violet, instead of shit – supposedly matching the smell emitted by holy bodies evoked in anthropology and the history of religion.

At the very end, we encounter the artist Tagny Duff ‘speaking with viruses’, here and now in the current crisis as we know it. Instead of portraying her own years-long artistic practice of materially working with the most biologically diverse viruses, this experimental piece of writing deliberately interlaces the form of trans-historical theatrical dialogues, media-philosophical reflections on ‘the viral’, scientifically informed footnotes and imagery, and the evocation of performative stagecraft. The curtain falls.

**REFERENCES**


