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ROBOTIC PERFORMANCE: AN ECOLOGY OF RESPONSE

ZORNITSA DIMITROVA

This article looks into regions of inter-robotic and human-robotic relations in performance. It defines robotic performance as a staged robotic interaction witnessed by a human audience or taking place irrespective of human presence. Works presenting such robotic creatures and their worlds address recent concerns with the crisis of 'the obsolete body' (as diagnosed by Stelarc).[1] Yet they also attest to a certain level of participation that involves not so much 'human' entities than the intricate intra-cosmos of robotic artifacts. Rather than resorting to negativity ('the body should be overcome'), robotic performance simultaneously reinstates the status of automata as counterparts to 'humans' and invites biological bodies to reassess their place in a world wherein entities formerly known as 'human' become part of an incessant exercise in inter-translational and co-determinative practices.

For this purpose, attention is paid to performances whereby mobile automata are involved in a variety of doings seemingly irrespective of human intervention. Such performances invite us to think of new, not restrictively human, models of participation. According to the present article, robotic performance drafts out an immersive ontology of interlacing bodies. This immersive ontology becomes a starting point for a revision of knowledge production patterns related to notions of participation as a human communal activity, as something inextricably related to concepts such as 'life' and 'the living'. Rather than thinking in terms of 'participation' or 'interaction', here we can begin to think in terms of a practice that could be best described as 'response'.

The ontological portrait of robotic performance can be said to revolve around recent interest in the generative force of matter itself and the clearing of a space of radical relationality within this genesis that allows levels of being to realign and open to one another. In the performances we

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witness an encounter between degrees of matter across the organic-artifactual divide, cutting across notions such as consciousness and intentionality to appeal to the very ontological processes that organise the given. Here nonorganic matter is perceived as an active participant in an ongoing ontogenesis, capable of altering its surroundings and bringing forth change in a world. In this way, artifactual entities open to one another and to a world of relations as they co-create a space of togetherness. This, however, is not achieved by putting on display an appealing and harmoniously constructed artifactual world. Rather, we are exposed to artifactual beings that mimetically render some most unsettling human features.

The present article dedicates a short excursus to each of these points. It aims to demarcate a field of vision and a set of lenses through which robotic performance can be encountered. These pages continually switch back and forth from the 'reality' of performance to the reality of what we have been accustomed to call 'life'. By doing so, I show how performance can inform our ways of perceiving automata afresh and invest these interactions with onto-ecological value. Finally, the aim of this article is to propose an ecological vantage point that does justice to non-organic artifactual existence yet also looks at the concept of the human to allow for a positive refiguration of the term.

When Do We Speak of Robotic Performance?

This article defines robotic performance as a staging that foregrounds the primacy of robotic agency over that of humans. A 'robot' is understood broadly to mean an artifactual creature designed in such a way as to become capable of complex automated performance with a minimum of human intervention. Further still, such creatures perform in such a way as to co-create an 'atmosphere' or a 'world'. Interaction takes place between seemingly autonomous robotic agents absorbed in the doings of their 'worlds'. The robotic art culture of the San Francisco Bay Area offers some examples in this respect; the hobo robots of Frank Garvey's OmniCircus Theatre and the military animalesque creatures of Survival Research Labs (SRL) come to mind. Further still, the definition of robotic performance can incorporate kinetic sculptures that generate their own performance space when in a regime of responsive immersion within an environment or with a spectatorship.

In these cases we witness automata entering various states of what we would habitually describe as participatory practice, of partaking in a world. That is to say, the perceived suspension of human primacy within a theatrically enhanced show space carries with it a perceived capacity of artifactual agents to rearrange worlds on their own terms. In this way, robotic performance is shown to stage quasi-autonomous machine worlds and to offer extra-human ways of organising space and time. Whereas one cannot claim that the dramaturgy of the robotic shows is entirely non-human (a certain 'suspension of disbelief' is invariably called for), we are immersed in a scenic environment that invites us to open a door toward an artifactual universe. The robotic spectacles remain anthropomorphic, and this subdued anthropomorphism is witnessed even in the way the robotic agents are constructed—as organisms operating within an environment and in perpetual clash with it, mimetically enacting the survival effort of organic beings. At the same time, robotic

performance works with forms of organisation that follow a logic not immediately available to human understanding. For instance, the performance sequences are not necessarily narrational, reminding us of the quasi-causal and gestural character of postdramatic theatre. Most of the time, robotic performances present us with non-narrative sequences that are not actional but evental; that is, they do not adhere to a plot and do not tell a story. Also, the robotic spectacles do not offer much help when it comes to our human effort to glean meaning or attribute some larger significance to the landscapes of machine exuberance they so laboriously construct.

Perhaps because of this evocation of the human-nonhuman, theatrical-nontheatrical divide, and ongoing fascination with the anthropomorphic, one could side with Lehmann in stating that robotic performance is more of an engagement with the postanthropocentric stage:

> postanthropocentric theatre would be a suitable name for an important (though not the only) form that postdramatic theatre can take. Under this heading one could assemble the theatre of objects entirely without human actors, theatre of technology and machinery (e.g. in the mechanized presentations by Survival Research Laboratories), and theatre that integrates the human form mostly as an element in landscape-like spatial structures. [...] When human bodies join with objects, animals and energy lines into a single reality [...] theatre makes it possible to imagine a reality other than that of man dominating nature. (Lehmann 2006, 81)

And rather than engaging in classificatory zeal—asking to what extent robotic performances can be said to be postdramatic, and what their relationship to object theatre would be—we can look at these robotic spectacles as practices of openness. The immersive ontology they draft out allows us to look at models of participation that are extra-human. Also, this model is tied to a concept of ecological attunement that does not have a particular (human) species at its centre but rather is entirely composed of co-determinative networks that co-create entities in an ongoing ontogenesis.

Apart from a focus on immersive participation in nonhuman worlds, robotic performances display a prevalence of non-organic materials. Most robotic creatures are synthetic or metallic, crafted out of found industrial objects. When exposed to the site of performance, organic human flesh encounters a creaturely form that is non-biological and yet capable of altering the ontological texture of its surroundings. Human beings only feature as audience within these artifactual worlds. Complex machines respond to them at times with empathetic gestures, as is the case with ARW's *Chrysalis* and Theo Jansen's *Strandbeest*; jokingly, as is the case with OmniCircus Theatre's robot beggar *Humper* and *One-legged Man*; or threateningly, as in the case of Survival Research Labs' metallic beasts. Most of the time, they may not respond at all. Robotic performance does not necessarily need its human spectatorship.

The beginnings of robotic performance can be traced to the group Survival Research Labs (SRL). SRL is an organisation that took shape in 1979 as what they alternately call 'mechanised presentations', 'full robotic shows', or 'robotic spectacles' were first staged in the San Francisco Bay Area. Set against the larger backdrop of urban environments, the shows feature a concoction of mechanical creatures and artifacts. These enhanced quasi-military machines are installed on open

grounds within residential areas. The only humans to be seen during the shows are audience members. The performance space is taken by the quasi-ritualised interactions of machines and special effects equipment.

Most of the mechanical creatures are of gigantic proportions; they are constructed out of industrial and military debris. Hence the arbitrary shape of SRL's creatures—their form is dictated by the materials that could be found and scrambled together at a time. Here the materials disentangle themselves from their status as objects to be used in military operations or in industrial settings. They are, instead, crafted into animated mobile automata with names and personalities. Some of the robots start off as discarded industrial machinery to assume the shape of animalesque creatures. Others end up as bird-like cranes such as Big Arm, Little Arm, and Inchworm.

ARW's *Robotic Church* with its computer-operated pneumatic sculptures and Frank Garvey's troupe of outcast robots come closer to SRL's ideal of a non-artistic presentation of artifactual life. Their mechanical creatures are similarly constructed out of used objects; some metallic parts appear rusty. Cables and pneumatic tubes remind us of the messiness of internal organs. The robotic performers uniformly address notions of embodied participation, that is, the possibility of relating to an environment or to other beings, and the question of artifactual autonomy. At the same time, we also witness a critique of these very same notions and their investment in anthropomorphic complacency. They spell out the very problem of being 'alive' and constituting an 'organism'. SRL's shows achieve this by displaying the cost of this 'aliveness' in the variety of beings destroyed in a battle for resources.

SRL's artifactual creatures are uniformly anthropomorphic and organismic. They are fed fuel in order to function and find themselves in continual strife to remain intact while warding off other machines. The mechanical creatures adhere to the notion of an organism with a digestive system, in need to persevere in its being, and preserve a territory. Almost all of the mechanical creations feature—and are at times entirely defined by the presence of—a defense system. One could mention Big Arm's gripping capacity, Hovercraft's loudness of sound (at 150 dB), and Large Flame Blower's fire-throwing power. SRL's machines are very much true to their name—they have been best equipped for survival.

These machines can perhaps be best described as robotic. Their movements are somewhat convoluted; their constructedness—mobile giants crafted out of random body parts—is very much palpable. The metallic bodies are deliberately inelegant and do not conform to notions of physical appeal. This extremity is underlined by the machines' seeming self-sufficiency. SRL members working with remote controls behind the scenes make the creatures appear fully autonomous, residing in a non-human world of perpetual war that they define on their own terms. The robots present themselves as menacing, not necessarily agreeable, and willfully contradicting all effort to be seen as 'art' or as 'artistic objects'. The stretch of reality that they inhabit—the temporary enclosure of the show space—is very different from the show's urban surroundings. One is engulfed by a cacophony of sound, fire, vibration, events taking place without seeming organisation, and at an extreme speed. Within this spectacle, audience members approach a zone

belonging to a creaturely form to which one can barely relate. At the same time, the war zones that the machines draft out in their interactions are pointedly 'human'. Despite the multi-layered formation of a human co-habitat called 'society' and the various safety nets of affection it produces, the shows remind us that the underlying tone of one's *conditio humana* appears to be one of strife.

Within these spectacles, humans are led to discover that they have never been exactly human and that their resemblance with the mechanical creations is more than a coincidence. Self-preservation, perseverance, the securing of territory, the handling of others in a competition for resources, and the protection of these resources are all sketchily present in the robotic shows. If one chose to be optimistic, one could say that in these interactions with mobile automata in a temporarily conjured world human bodies are exposed to the most grotesque dimensions of what constitutes 'a human' in order to re-organise the concept itself and ultimately define their condition positively. The present article, however, departs from one such possible optimism to address something else: the ecological critique staged in these extra-human encounters. Let us look at a number of shows and see how this is fleshed out in them.

Illusions of Shameless Abundance

Illusions of Shameless Abundance, subtitled *Degenerating into an Uninterrupted Sequence of Hostile Encounters,* is part of a machine-performance triptych. The three shows took place in San Francisco in 1989–90 and bear the joint name *The Pleasures of Uninhibited Excess*. *Illusions* is similar to SLR full robotic shows such as *The Wall* (2009), *The Fish Boy's Dream* (2006), *A Million Inconsiderate Experiments* (1996), *The Deliberate Evolution of a War Zone* (1993), *Infestation of Peculiar Irregularities* (1992), and *Careless Abuse of Premediated Uncertainty* (1991). What they have in common is the exposure of human audiences to extremely agile robotic entities and extremely inert organic matter. *Illusions* begins at about 4 pm on May 28, 1989. It is an open-air performance that includes four mobile machines engineered by SRL: Big Arm, Big Walker, Inspector, Inchworm with a mechanical Finger attached, as well as a tower of pianos. Big Arm moves in slow motion, almost as if self-propelled. Its front ends in a jaw-like metallic structure. With the help of this sole hydraulic limb, the creature moves forward and grasps objects. The show's other machine giant, Inchworm, is a wheeled structure that has a jaw installed on the front. With this, it gropes at organic materials in various stages of decomposition. Another fixture is an enormous coil of biological domestic waste. Pianos and organic waste are to be incinerated in the course of the performance—each machine circles around the piano pile, the Finger ploughs into the decomposing matter, and SRL's six-barrel shockwave cannon with a pan-tilt system emits a glowing substance that looks very much like fire. This open-air performance takes place in a blue-lit space. Black smoke and industrial sounds supplement what looks like pyrotechnical effects.

Nothing but machines occupies the show space; SRL members with sound-proof headphones have moved to the background. Audience members press hands to their heads and wipe sweat off. It seems uncomfortable to be where they are. Footages of SRL shows invariably reveal this loss of comfort as some audience members on the front rows are seen to protect their heads with pieces of clothing. This is not the voyeuristic sensationalism of performances whereby an artist puts

herself in danger yet audiences can choose to react, walk away or intervene—yet all the while remaining inertly uninvolved. This performance puts its spectatorship at physical risk. One is aware that a flying object or any sort of a temporary technical glitch may result in an injury. The shows do not play an abstract game with one's sense of safety but disturb it in actual fact. Here a space of encounter for two fundamentally divergent modes of existence is cleared within what appears to be nothing but a war zone. Within this extreme space, living human organisms and mechanical artifacts become exposed to one another. This exposure drafts out a stage wherein 'vulnerability is at its most palpable' and no safety net protects one against the profound ontological discomfort the show space engenders: 'The stage is no longer a surface of representation, of epistemological perspective, of dispassionate analysis, but one of ontological brutality: this is it' (Philippopoulos-Mihalopoulos 2011, 6).

The theme of war continues to take shape in other SRL shows. *A Bitter Message of Hopeless Grief* premiered in 1988 in LA and resulted in a thirteen-minute short film by the same name directed by Jon Reiss. The film was first shown at the LA Contemporary Exhibitions on February 26, 1988, and is a joint project of Reiss, Mark Pauline, SRL's director, and sound artist Matt Heckert. The machines featured here are Inchworm and Inspector. The mechanical creatures are shown to inhabit a cavern-like world where they are involved in a perpetual struggle for dominance. Plaster casts of smallish animals cover the walls. Other fixtures are the so-called 'panimals'—mechanised structures composed of what seem to be bone fossils and organic remains. In the sequences that the short film offers, the 'panimals' guard their cave nervously as Inchworm breaks through a wall and invades their territory. The Inspector intervenes, getting hold of some of the mechanised 'organic' beings and thrusting their spine-like bodies under a metallic steamroller. A well brimming with an indefinite liquid is seen in another cavern—one could evoke the image of a 'well of life', a generative source out of which biological existence comes to be. Inchworm is shown to extract a mobile skeletal structure out of that well, and to destroy it. The thirst for unmotivated demolition enacted in *Illusions* teams with a certain exhibition of supremacy: here the most robust machines prevail, and yet it is unclear as to why the razing takes place. The cavern collapses, the panimals find their end under the steamroller, and the only thing to be gleaned out of the spectacle is the gesture of superiority as such. The display of 'ontological vulnerability' (Philippopoulos-Mihalopoulos 2011) in this case invites a closer look at the divide between the 'living' and the 'nonliving', making us question that border and grope for other ways of conceptualising it.

Such scenarios pervade SRL's work. These 'electronic playgrounds with military pedigrees' (Dery 1994, 58) put on display a certain withdrawal of the organic. Biological matter within the show space is almost exclusively reduced to piles of undifferentiated debris. Organic materials are either inert or incapable of resistance as they are consumed by advancing mechanical creatures. Human presence is suspended as here it is only machines that move and act. One begins to question one's place in the world as a 'living' aggregate of biological features. The question here, however, is not whether one should turn to a scenario wherein hostility toward biological existence is the norm. Nor are we invited to celebrate an imagined machine domination over an all-too-primitive and insufficiently agile organic form. Rather, as one shifts between the vignettes mimetically reenacting 'human' activity within nonhuman worlds, one becomes exposed to something that can be called

'response'. This response can be found in the co-alignment of thresholds of matter that jointly partake in the creation of a form not necessarily 'human' and not necessarily 'lively'.

A Somewhat Troubled Body: Robotic Performance and Ecology

The proposed concept of response has its theoretical basis in twentieth-century critiques of hylemorphism, that is, the recent revision of the relationship between form and matter, and a certain interest in the generative force of matter itself taken on in new materialist debates. Aristotle's theory of hylemorphism breaks down to the proposition that the universe is composed of finite beings, and that each such being itself is composed of matter, *hyle*- and form, *morphē*. Matter in Aristotle's *De Anima* is defined in the following terms: 'matter is potentiality', 'that which is changeable', and 'that which underlies' (412a9). At the same time, there is an underlying statement that matter is not infinitely alterable and that not anything can turn into anything else. Matter is an inert receptacle that becomes 'lively' because of the organising principle of form. Hylemorphism sustains that changes in substance—that is to say, the conversion from one state into another—can be defined in terms of the intermingling of form and matter. Here we have a type of cosmology which suggests that a being that has undergone a transformation has only changed its form, whereas the matter has remained unaltered. It is form that defines the being of existent entities as well as their qualia, and form operates on matter to shape individuals. When it comes to determining how one being can become another, hylemorphism relies on the active principle of form and maintains that matter as such does not possess an active force of its own and cannot generate a being out of its own resources. Matter can be transformed but this can only take place because of the determining function of form.

The restoration of the generative zest of matter can be traced back to debates in the twentieth century and specifically to the work of Gilbert Simondon. Simondon's theory of individuation refigures hylemorphism in stating that matter in and for itself is not incabable of genesis. In a way, matter is already formed and form has already been made indeterminate, can itself be seen as matter that undergoes a variety of transmorphoses. Simondon does not gloss over the fact that we cannot know that which takes place in the co-mingling of matter and form and what potentials cause things to coagulate and present us with a novel entity. He makes this very encounter the object of his inquiry (Chabot 2013, 75–8). The process offered here can be described as a dynamic individuation. Dynamic individuation involves various practices of co-alignment among disparate systems whereby the very act of relating comes to the fore to the extent that it becomes primary to the systems.

The idea of a radical relationality of things is part of this process and is often described in terms of a 're-ontologised realism' (Scott 2014, 202) of relations because of the stance one adopts here: a shift of focus toward the forming of a relation as such, and the position that the act of relating also engenders a type of being. Relations are 'entities' in their own right and have the status of existents. The act of relating does not coincide with a mechanical connection between two points that have already been established. Nor do we reside within a hylemorphic universe composed of solid finite objects and some sort of relational vacuity between them. Instead, a relation has an operative

function and participates in the very genesis of things. It is not secondary to the substance and is not simply one of the qualities of a substance. According to Simondon, substance cannot acquire any properties without the act of relating to a milieu populated by other substances. A being, with its very positing, already presupposes a fundamental relationality. This stance feeds into a larger agenda: rather than replacing being with becoming, the aim is to seek a productive alignment between two reality regimes, showing the various ways in which the two determine each other and make each other possible. A relation is the articulation of becoming and the entity which carries the process of the individuation of a being, yet relation and being cannot be thought as separate realities. One can speak of a certain co-determination of being and becoming whereby being is informed by a process of ongoing ontological constitution and becoming participates in being. The dynamics of transformation and rest are thus interdependent. And this is what becomes very much palpable when seen through the work of robotic performance. On the one hand, we see an organism perpetuating mimetic scenarios of survival, and on the other hand, we become aware of entire dissipative and co-immersive systems of response interlinked within and without—maximally exposed to one another in their interconnectedness and moulded out of myriad tangible and intangible co-determinative practices.

A similar stance is adopted when we look at the revived definition of matter. Substance or matter is traditionally described as a primordial mush in a more or less amorphous state that requires the ordering function of form. New materialisms take on Simondon's revision of the individuating zest of matter to imbue it with a generative power of its own. And whereas such debates still concentrate on organic matter, one could extend this generative zest toward systems not necessarily capable of organic growth but 'growing' in different ways: through the networks of response that they co-create.

This brings us to another Aristotelian dyad, that of life and the living, *zoē* and *bios* in *De Anima*. This early engagement with the ontology of life thrives on the distinction between the impersonal pervasive living force, a naturalistic principle as such, *zoē*, and concrete living beings confined in temporality (but also confined in the variety of manners of life which they engender), *bios*. Whereas *bios* operates strictly within the domain of the given, *zoē* appears to waver between a naturalistic and an ontological concept of life: 'The *De Anima* thus conceptualizes a life that is at once abstract and real, a life-forming principle that is at once inseparable from the types of life-forms in which it is manifest, while not being reducible to them' (Thacker 2010, 99). Here *zoē*, a principle that operates within living beings, also becomes a concept that allows us to account for a being's self-organising and internally caused capacities for motion and action. *Zoē* stands for a certain auto-generative capacity in beings: Aristotle defines the living as a natural being that has within itself a source (*archē*) of movement and rest (412b15–17).[2] So here we have a restrictive definition of the living being as that which is 'natural' and capable of generating action out of its own resources. At the same time, the concept of *zoē* allows for a certain ontological openness, a maximum of virtuality that can ultimately make the divide between the living and the non-living irrelevant.

Zoē, postulated as 'mere' life in Aristotle's *De Anima*, is an impersonal, supra-subjective force that 'animates' bodies. Yet it is always a surplus, a plus one—an impassive extra for impassioned

organic existences. In Braidotti's (2013) interpretation, *zoē* is also an absolute singularity poised between structural stability and chaos, extreme speed and extreme slowness, a radical otherness within a body that at the same time constitutes bodies *qua* such. Also, *zoē* is a phenomenon of extreme intensity, closer to the virtual than to the body, a composition of lesser thickness and of enhanced vibration. *Zoē* can be described as the very interface wherein a body becomes the 'living' composition that it is but also where a body reopens toward virtuality, toward the possibility to become afresh.

There seem to be two things that appear fundamentally traumatic to beings: the very fact of this biological given—powered by a supra-subjective force that does not seem to be in our possession—and the realisation that it is a radical practice of perpetual co-immersion that constitutes the living as such. On the one hand, we have a flesh infinitely open to an environment. On the other hand, there is the insistence on a more impersonal constituent, a generative force grounded in *bios* yet of a different ontological texture. Betwixt, there rests the empty middle of what is habitually know as 'a body', a groundlessness continually stretched between these two domains and receiving infusions from both. Herewith a body becomes a disappearing act, 'an abstract machine, which captures, transforms, and produces connections' (Braidotti 2002, 226). Yet even this non-centralist vision remains within the privileged domain of the biological given. It favours a mode of existence that engenders an organism, that which is of a nature. Artifactual entities remain a reality separate from that of the organic body.

If one is to accept this vantage point, robotic entities can only be seen to allude to primitive re-enactments of creation myths. Here automata reside within a mimetic regime. As the recreated resemblance of human activity and thought, they obligingly point back to the activity of humans. Artifactual agents are fundamentally, by definition, derivative. Technology is constitutively inferior to the force of life. A strange imbalance is created with the assertion that there is a certain primacy of 'life' over 'artifact'. Notwithstanding the empty-signifier quality of a category such as 'life', it persists in the cultural imagination as the highest good, a good to be preserved at any cost, and more significantly, as something that necessarily entails organic growth and a certain self-organising capacity that is ultimately biological. Robotic performance puts on display exactly this: the misrecognition of machines as entities merely capable of mimetic re-enactment and enhancement of human behaviour.

Such scenarios involving anthropomorphic artifactual entities appear as early as in Greek mythology—here one is reminded of the bronze giant Talos, Hephaestus' mechanical creations, and Diomedes' mobile statues. Other examples include the curiosity of Pandora, 'the first woman' built by Athena and Hephaestus or the sixteenth-century tale of the Prague Golem constructed by Rabbi Löw. The twentieth century has witnessed the formation of an entire culture surrounding Asimov's *I, Robot* (1950), but also Capek's futuristic play *R.U.R.* (1920) which first introduced the term 'robot' and can even be said to have marked the birth of robots in performance.[3] Such examples attest to an ongoing fascination with anthropomorphic artifacts that manifest a certain level of autonomy and (perceived) sapience yet ultimately serve human convenience. At the same time, there is an emphasis on the constitutive clash between them and biological existence; an inimical

potential almost invariably comes to the fore. As if in response to this anxiety, the cultural imagination has systematically depicted embodied automata as anthropomorphic, yet only sketchily so. Automation sapience is limited, robots are physically unappealing, and very few instrumentalised creatures can speak. Participation is one-way and takes place at human will.

Robotic performance, on the other hand, evokes a scenic landscape that entirely belongs to artifacts. One such robotic world is rendered tangible within the theatrically enhanced show space. Robotic performance invites us to restructure our patterns of what constitutes response to begin to think in terms of a universe of artifacts. Within this shift, the human-artifact dyad does not demarcate a relation of unilateral dependence. Instead, it speaks for the possibility of a companionship of allies. Robotic performance shows us modes of being and becoming that are not only non-organic but also artifactual. We are invited to construct conceptual regions that would enable ontological openness to *zoē*. The challenge here is to incorporate these forms into our habitual field of vision, form productive alliances with them, and co-create an environment that re-creates the concept of the human in positive terms. Robotic performance thus raises questions that are mostly ecological as it allows us to look into practices that put on display the border between organism and environment, but also ultimately invites us to think toward the dissolution of that border into a network of co-determinative systems.

Artistic, or artisan (SRL members would disagree with any allusion to matters of 'art') practice questions our need to perform and reinstate the accessory character of automata. Robotic performances put on display our capacity to create artifacts and recognise ourselves in these creations, yet also stage an encounter with an impersonal force that is extra-biological and yet projecting the auto-generative zest of organic materials. An inquiry into this take on matter is inseparable from the question of robotic performance. Jane Bennett's *Vibrant Matter* (2009) illustrates some of these concerns when it speaks of nonhuman objects as 'interveners'—partly reminiscent of Latour's 'actants' and of Deleuze's 'quasi-causal operators'—imbued with a 'thing-power' (Bennett 2009, 20). This property aligns with 'an efficacy of objects in excess of the human meanings … they express or serve' (20). Such new materialist debates circulate around the idea of 'liveliness' (even if this is a rhetorical gesture), choosing to attach the notion of the 'lively' to that which is habitually perceived as non-living instead of seeking new ways of looking at these conceptual regions—ways that bypass the mere inclusion of artifacts into the privileged domain of things 'alive'. At the same time, the concept of *zoē* with its emphasis on impersonal zest carries the potential to open toward a virtual zone of ontological constitution entirely indifferent to questions of the living and the nonliving but more attuned to an engagement with the collective entanglements of things. From this vantage point, we could begin to think the artifactual as something that possesses an intrinsic generative capacity regardless of human intervention and regardless of its relation to 'the living'.

It is in this disappearance of discrete organismic bodies that one begins to conceive of a new type of ecology. This new ecology aligns not so much with inter-human or human-habitat relations but incorporates the larger concept of a terrestrial biome. Within this expansive habitat, humans and artifacts co-create their environments and co-alter the established conceptual frames within which

they operate. The artifactual agent is inorganic but correlational with organic beings. The show space in robotic performance dispenses with notions of functionality and productivity. What remains is exactly this—a mechanical creature in its capacity to respond to and leave traces on its surroundings. This is where the concepts of 'life' and 'the living' could also be redefined in terms of response and the formation of a radical relationality. This regime of co-immersion clears a territory for a co-existence of things, be they biological entities or artifacts. Interlacing networks precipitate a transition between thresholds of being. This transition takes place beyond the epistemological given and the frame within which finite objects operate in a world. Within this participatory space, each entity becomes. This, however, is a becoming without entelechy and without intentionality, that is, a becoming that does not become anything in particular. A participatory becoming takes place exclusively in the open togetherness of two networks exposed to one another in such a way that a singular confluence becomes palpable in their co-alignment. It is impossible to speak of entelechy here since nothing is prefigured; becoming takes place in the mutuality of the exposure. There is no striving toward a particular outcome; the particularity derives from each milieu's individual intensities and the very ways in which given systems respond to one another. Ultimately, what was formerly perceived as a 'body' begins to dissolve into aggregates of response.

Robotic performances invite us to construct extended, non-bodily concepts of response within perpetually co-aligning networks. Rather than bodies, we have permeable milieus, and rather than organic-nonorganic, we have thresholds of matter. These networks incorporate a relationality of space, spectatorship, and performing system—one that is not necessarily or strictly human. Particular beings—be they human or artifactual—do not strictly dissolve but undergo an expansion. What was previously (epistemologically speaking) a subject or an object now becomes 'an expanded relational self' (Braidotti 2013, 60). For these expanded selves the notion of species is just as obsolete as the divide between the organic and the non-organic, organism and artifact. Instead of species formations, one turns to a state of creative interdependence. Herein 'life' does not merely designate self-organising organic matter capable of reproduction but shifts across the organic-artifactual divide to encompass whole participatory networks capable of response.

Here one becomes capable of envisioning entities that extend beyond any boundary to become equivalent with a biome in its entirety. Such expansive co-immersive bodies can be conceptualised in terms of what Philippopoulos-Mihalopoulos calls an 'open ecology' (2011, 9), an amalgamation of social, biological, and ecological processes that calls for maximal disciplinary openness. Robotic performance shows this practice of co-alignment in constructing such relational milieus, and in inviting us to think of the possibility of an eco-philosophical infra-body across the continuum of what is nominally present as the 'living' and the 'non-living'. Within this scenario, it is no longer the organism that determines the formation of a biome but one's partaking in practices of perpetual co-alignment of thresholds of matter as well as the responsive potential inherent in such participatory work. This is a type of expansion that first becomes available through the visionary medium of artistic practice. It recasts artifactual utility into newer forms of living. And this is also, it seems, what Guattari envisions with his term 'virtual ecology':

> An ecology of the virtual is just as pressing as ecologies of the visible world. And in this regard, poetry, music, the plastic arts, the cinema—particularly in their performance or performative modalities—have an important role to play, with their specific contribution and as a paradigm of reference in new social and analytical practices … Beyond the relations of actualised forces, virtual ecology will not simply attempt to preserve the endangered species of cultural life but equally to engender conditions for the creation and development of unprecedented formations of subjectivity that have never been seen and never felt. That is to say that generalised ecology—or ecosophy—will work as a science of ecosystems, as a bid for political regeneration, and as an ethical, aesthetic, and analytic engagement. It will tend to create new systems of valorisaion, a new taste for life, a new gentleness … (Guattari 1995, 91–2)

This 'ecology of the virtual' speaks to an infra-bodily and infra-human level of response that operates across individuals and relates us to pre-personal ways of partaking in a world. Here Guattari prompts us to turn to the generative force of the arts so as to envision forms of co-habitation that surpass actual states of affairs. His concept begins as an ontological proposition to bring forth reformed notions of ethics, aesthetics, and politics within an expansive milieu that encompasses 'a mental, a natural, and a cultural ecology' (2000, 20). Something very similar takes place in robotic performance as the space of response that is cleared therein offers ways of refiguring notions of personhood, life, and the human positively and inclusively. Here a 'generalised ecology' works as a system of response-making that incorporates forms of inorganic living, becomes capable of thinking artifactual personhood, and precipitates a positive re-appropriation of 'the human'.

The Response

In the article "Insensible Worlds: Postrelational Ethics, Indeterminacy and the Knots of Relating" (2013), Kathryn Yussof poses the question of what constitutes a response. In concluding that the question of response takes us to an expanded realm beyond regions of intelligibility, the article forces us to think 'between natures'. Here we reach toward a conceptual region that can be perceived as matter-forming and as allowing for a co-habitation of incongruent worlds. Similar to what Simondon seeks to articulate through the concept of 'individuation', what Merleau-Ponty makes palpable through the metaphysical notion of 'the flesh', and what this article seeks to establish as a practice of co-alignment of thresholds of matter, 'the response' engages the question of relating (be it in terms of nonhuman worlds, artifactual life, or simply in terms of a lack of epistemological access) as a value in and for itself. We do not have a universe composed of solid entities and some sort of vacuity between them, whereby the act of relating would be one possible scenario in which entities can choose to engage. Rather, we have networks that are continually co-constituted through the act of relating itself and the responsive receiving within a relation.

Here one can take up the question of 'enabling responsiveness' (Barad 2010, 256) as an onto-ecological question. The argument here is that the question of artifactual agency needs to be reworked in relation to the virtual and ecological dimensions of matter—if the goal is to be

responsive toward a world: 'To put it another way: there exists an urgent need to find modes of recognition beyond "our" abilities to make nonhuman worlds intelligible' (Yussof 2013, 209). So here we could have the ecology of the virtual as a form of co-habitation that opens up entities not only to their own potentiality but also to the forms of relatedness they co-shape with an expansive environment. The ecology of the virtual becomes a radical 'being toward' which brings new modes of response allowing us peer into regions that were previously unintelligible, and to partake in the very gesture that takes place between definitive states. Just as Guattari states that 'an ecology of the virtual is just as pressing as ecologies of the visible world' (1995, 91), a practice of response recomposes existing ecological arrangements bringing forth new spheres of attention, and a new gentleness toward a same old world. As Guattari notes, 'It is less a questions of having access to novel cognitive spheres than of apprehending and creating, in pathic modes, mutant existential virtualities' (1995, 120). So this attunement toward the response also signals an expansion of modes of ontological and a new orientation toward worlds. This orientation allows us to think not in terms of the intelligible but in terms of that which is 'between natures', 'not just about more-than-human natures, or posthumanist, or material and virtual, or inhuman and organic, alive and dead natures, but rather that we begin to think the space between these sensible entities, as a spacing' (Yussof 2013, 216) where a being becomes gestural as it opens beyond itself to become 'a toward-something' (Nancy 1997, 8). Here we encounter the space of response, and this space becomes the articulation of the very threshold between a body and a world.

This ecological alignment does not strictly entail beings but rather aggregates of response that continually engage in a mutual genesis. The concept of response thus draws together such infra-bodies interwoven with their worlds and perpetually generating even more elaborate worlds. Within robotic performance, this relationality gains an extra dimension. Here it even more forcefully reveals a level of participatory ontogenesis—insofar as the latter designates 'the character of becoming of being' (Simondon 2009, 5)—not necessarily linked to human intervention, indifferent to human presence, and yet having an impact on the entirety of a(n human) environment by altering the texture of the given.

In robotic performance, on the one hand, machines pose as 'figures of complexity, mixture, hybridity and interconnectivity' (Braidotti 2006, 49). On the other hand, there is a countermovement that pulls toward a pre-personal zone wherein one becomes not *this* particular being but *a* being. The pre-formative zone is the domain of *zoē*. 'Life' is inextricable from 'the living' (Aristotle, *De Anima*) yet inherent in and constitutive of living creatures. In providing a ground for the connection of these two forces, interconnected complexity and élan, a body becomes a diffuse intermediary. A 'body' ceases to be something finite, an entity, but is understood broadly to mean an aggregate of responsive features capable of forming relations. This constitutive connectivity allows bodies to become dissipative structures, successions of indefinite states but rarely entities as such. One such state of expansion enables them to participate in a terrestrial biome affirmatively. A body is no longer contained within its provisional outlines but incorporates the entirety of the networks it builds in interaction. Maximally open bodies thus become capable of ecological attunement. Here a body is an imaginary ground that is groundless, a nothing in-between. In this openness, such infra-bodies begin to gesture toward virtuality. Their becoming is

grounded in the mutuality of the very particular 'style of being' (Merleau-Ponty 1969, 139–40) that they co-create with their networks of response. Robotic performance addresses this perceived disappearance of the body whereby a body undergoes an expansion. A body stretches out toward its counterparts to foreground the responsive middle ground occurring amidst the systems that it co-creates.

A new ecology takes shape in these re-appropriations of the living. This re-appropriated being 'implies a new way of combining ethical values with the well-being of an enlarged sense of community, which includes one's territorial and environmental connections. This is an ethical bond of an altogether different sort from the self-interests of an individual subject' (Braidotti 2013, 190). Robotic performance is always transsubjective or, better still, transobjective. It connects us with a timeless virtual present whereby 'life' extends beyond biological determination and stretches toward the realm of the artifactual. But even more so, robotic performance opens up to a conceptual region where both terms become obsolete as one begins to look at the possibility of expansive regions of co-alignment.

Conclusion

This article looked at the possibility of an ontology of robotic performance informed by a notion of radical responsiveness as the basic constitutive principle of bodies. It focused on a re-definition of inter-robotic and human-robotic encounters with the help of an extended notion of response that operates across the organic-artifactual divide. Here response was not restricted to empathetic immersion taking place between organic life forms but incorporated involvement with that which is non-animalesque and not even organic—namely, artifactual automata. What was foregrounded here is the relative autonomy of automata and the possibility of self-sufficient environments defined entirely by the presence of nonhuman artifactual agents. At the same time, robotic performance was shown to undermine the static, finite concept of a body and to work in favour of expansive milieus of co-habitation. Robotic performance thus puts on display a withdrawal of the organism as a locale of borders and strife. A body, no longer a solid entity but a virtual bundle of relations, becomes a bundle of diffuse responsive states opening up toward the entirety of an environment.

Notes

[1] The performance artist declared that the human body is obsolete in the early 1980s; an account of the artwork that emerged out of these views can be found in Paffrath (1984), compiled in collaboration with Stelarc.

[2] Aristotle defines living beings by combining two contrasts. Artificial entities have a functional organisation but cannot generate their own functional motions. The inanimate natural beings can determine their motion but have no functional organisation. Only what he sees as 'living' beings have both functional organisation and can generate their own functional motions.

[3] I thank one of my anonymous reviewers for introducing this suggestion.

Works Cited

Footages of SRL shows extracted from http://srl.org/shows/archive (last accessed 16 April 2017).

Aristotle. *De Anima.* 1993. Translated by David W. Hamlyn. Oxford: Clarendon.

Barad, Karen. 2010. "Quantum Entanglements and Hauntological Relations of Inheritance: Dis/continuities, Spacetime Enfoldings, and Justice-to-Come." *Derrida Today* 3: 240–268. https://doi.org/10.3366/drt.2010.0206

Bennett, Jane. 2009. *Vibrant Matter: A Political Ecology of Things.* Durham and London: Duke University Press. https://doi.org/10.1215/9780822391623

Braidotti, Rosi. 2002. *Metamorphoses: Towards a Materialist Theory of Becoming*. Cambridge: Polity.

———. 2006. *Transpositions: On Nomadic Ethics*. Cambridge: Polity Press.

———. 2013. *Posthumanism*. Cambridge: Polity.

Chabot, Pascal. 2013. *The Philosophy of Simondon: Between Technology and Individuation.* Translated by Graeme Kirkpatrick and Aliza Krefetz. London: Bloomsbury.

Dery, Mark. 1994. "Simulator Sickness and Spectacular Destruction: Survival Research Laboratories' Theater of Operations." *Oz* 16: 58–61.

Guattari, Felix. 1995. *Chaosmosis: An Ethico-Aesthetic Paradigm*. Translated by Paul Bains and Julian Pefanis. Bloomington: University of Indiana Press.

———. 2000. *The Three Ecologies*. 1989. Translated by Ian Pindar and Paul Sutton. New Brunswick, NJ: Athlone.

Latour, Bruno. 1999. *Pandora's Hope*: *Essays on the Reality of Science Studies.* Cambridge, MA: Harvard University Press.

Lehmann, Hans-Thies. 2006. *Postdramatic Theatre*. 1999. London: Routledge.

Merleau-Ponty, Maurice. 1969. *The Visible and the Invisible.* 1964. Translated by Alphonso Lingis. Evanston, IL: Northwestern University Press.

Nancy, Jean-Luc. 1997. *The Sense of the World*. Translated by Jeffrey S. Librett. Minneapolis: University of Minnesota Press.

Paffrath, James D., ed. 1984. *Obsolete Body / Suspensions / Stelarc*. Davis, CA: JP Publications.

Philippopoulos-Mihalopoulos, Andreas. 2011. "'...The Sound of a Breaking String' - Critical Environmental Law and Ontological Vulnerability." *Journal of Human Rights and the Environment* 2 (1): 5–22. https://doi.org/10.4337/jhre.2011.01.01

Scott, David. 2014. *Gilbert Simondon's Psychic and Collective Individuation: A Critical Introduction and Guide*. Edinburgh: Edinburgh University Press.

Simondon, Gilbert. 2009. "The Position of the Problem of Ontogenesis." Translated by Gregory Flanders. *Parrhesia* 7: 4–16.

Thacker, Eugene. 2010. *After Life*. Chicago: University of Chicago Press. https://doi.org/10.7208/chicago/9780226793733.001.0001

Yussof, Kathryn. 2013. "Insensible Worlds: Postrelational Ethics, Indeterminacy and the Knots of Relating." *Environment and Planning D: Society and Space* 31 (2): 208–26. https://doi.org/10.1068/d17411

Biography

Zornitsa holds a doctorate in English Literature from the University of Münster. She is the author of *Literary Worlds and Deleuze* (2016); her work on theatre has appeared in *Deleuze Studies*, *New Theatre Quarterly*, *The Journal of Dramatic Theory and Criticism*, and *Skenè*.