

Coexisting with Robots: *School of Moon* (2016), by Shonen

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Abstract:

Contemporary theatre had redefined the concept of performance by distancing itself from the psychological identification between actor and character. The presence of new technologies and their intermedial nature have contributed to the growing protagonism of non-actors in today's theatre and dance. Robots are an example of this. Robots displace the traditional role of the human actor as the only bearer of meaning on stage through programming and their intermedial potential. In this article, we will focus on *School of Moon* (2016), by the French company Shonen, in which six NAO humanoid robots, ten boys and girls, and two adult dancers coexist and interact until making up a "disturbing community" on stage.

Keywords: NAO robot, interactivity, posthumanism, coexistence, robotic performance

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Introduction

This article looks at the possibility of reflecting on the presence of new bodies on stage, humanoid robots, coherent with the posthuman postulates, taking as a reference the thinking of the Italian-Australian philosopher Rosi Braidotti and her research on posthuman aspects more related to historical humanism, but without overlooking the impact of new technologies on our current thinking.

Braidotti suggests the existence of the other as an extension of our own individual self in relation to the natural and cultural world (including the technological). Scenarios of dystopian imaginaries are frequent in contemporary theatre productions, in which new subjectivities (cyborgs, robots, avatars, AI...) pose numerous questions.

Background

From a historical perspective, we outline the influence of Descartes and his metaphysical dualism, in which the body is understood as physical matter, different from the non-physicality of thought or the soul. The body was soon equated to an organic machine that housed the soul, this abstract identity traditionally considered the intangible part of the human being. Based on those Cartesian principles, the modern sense of the supernatural was linked to what is scientific and to the supremacy of human intelligence over other living beings. However, science fiction also endowed the machine with a soul, this intangible reality that science is unable to study. The humanoid robot would, therefore, be the double of the human as a machine.

That Cartesian concept of body as machine applied to the robot has been researched by the American professor Jennifer Parker-Starbuck (2014: 55), who coined a particular terminology regarding this. For her, the humanoid robot is an “abject body”¹ which emerged in an era of anxiety, in the early

1. The focus is on “abject” bodies in society and their transforming counterparts in cyborg-performance; these are bodies that are in process, bodies that, as Judith Butler writes, are excluded in the process of “subject” formation. But the abject bodies of this chapter, disabled, disembodied, mechanical, and relegated to the outskirts, are all in their own ways already subjects.

20th century, in which there was an increasing human dependence on technological control and the oppression of the workers through new labour methods, such as the production chain. We should recall that the word robot comes from the Czech *robot*, taken from the play *R.U.R. Rossum's Universal Robots* (1920), by Karel Čapek, in which humanoid robots were played by actors. The last line in the play calls the robot a “shadow of the human being”.

In the last decades, as a result of the advance in robotics, theatre creators have gradually included robots in their productions, especially those which are interactive and articulated. Notable since 1990 are the productions by Stelarc, Artemis Moroni or Marcel·lí Antúnez Roca, and, since 2000, by Richard Maxwell and Mirja Fiorentino, among others. In this article, however, we will focus on robots used in theatre that have a humanoid form, which contribute to the interaction with actors on stage. At present, these robots are not just instruments operated by performers, computer engineers, choreographers, theatre directors, and so on. Humanoid robots take on a magic dimension on stage, beyond their instrumentality and also influence how our behaviour as spectators is shaped.

The British specialist in robotic performance Steve Dixon notes that:

Although robots are not yet aware of themselves, they are quintessential “conscious” entities, which calculate all their movements. When a humanoid robot moves, as when someone human does, it is a self-aware action; its codification, artificiality and difference with the norm are underlined. (Dixon, 2007: 2).

The Japanese theatre director Oriza Hirata is one of the pioneers in the use of robots on stage. Hirata worked with the roboticist Hiroshi Ishiguro at the Intelligent Robotics Library of Osaka University. They staged classical plays such as *The Three Sisters, Android Version* (2012), based on Anton



Figure 1. *The Three Sisters, Android Version*. Photograph by Josep Aznar (MAE collection).

Chekhov, with actors and humanoid robots, an emblematic production (Fig. 1) performed in Barcelona (Festival Grec 2013), which created both a distancing and fascination effect among the audience.

It was not the first attempt. RoboThespian was the first robot actor, produced in 2005 by Engineered Arts, an artifact endowed with facial expressivity. They are ultra-realistic robots that, beyond entertainment and surprise, also disturb the spectator. Their metallic bodies do not decline due to illness or old age, in contrast to ours. In this respect, in 2006 the British artist Giles Walker began his project on the series of artifacts Robotic Burlesque (*Robot Peep Show*), with the staging of dummy robots dressed and transformed as strippers and pole-dancers, a parody of the emerging industry of sexualised robots.

The fable of science fiction has taken on fresh nuances in our time, in which automation, algorithms and artificial intelligence are no longer distant theoretical approaches but are now part of our lives.

The example of the company Shonen

In this article we will focus on *School of Moon* (2016) by the company Shonen. Shonen was founded in Paris in 2007 and, since then, has made fifteen creations, including shows, installations, performances and films. Shonen links dance to new technologies (humanoid robots, drones or augmented reality). Its director is Eric Minh Cuong Castaing (born in 1979 in Seine-Saint-Denis to a Vietnamese father and French mother). For years, he worked in the world of animation cinema, before becoming interested in choreography through hip hop, *butoh* dance and contemporary dance when he trained with the German choreographer Va Wölfl. With his company Shonen, Cuong Castaing creates projects related to the body and movement, while using new technologies and being interested in the new visual perception structures. Shonen conceives “in socius” projects, created in specific sociocultural realities, often in partnership with non-artistic institutions such as the CNRS in Paris and its national research programme Robotics, motor education institutes, and palliative care centres.

Cross-disciplinarity also results in choreographies, installations, films or performance along with the visual art circuits such as the Centre Pompidou and Villa Kujoyama, and live art circuits such as the Festival de Charleroi and Edinburgh Festival. Their productions often include working with children, teenagers and seniors. The name of the company, Shonen, relates it to the Japanese word with an identical sound, *Shonen* (boy), a category of manga and anime, a genre mainly aimed at preadolescents. Between 2016 and 2019, Eric Minh Cuong Castaing was associate artist at the Ballet National de Marseille, a period in which he researched this particular interrelationship between humans and robots that led to *School of Moon* (2016).

What we are interested in highlighting in this article is the coexistence between carnal bodies and synthetic bodies on stages, how they establish relations and provoke questions in the spectator regarding automation, trust and dependence on our present and future contact in terms of the role that

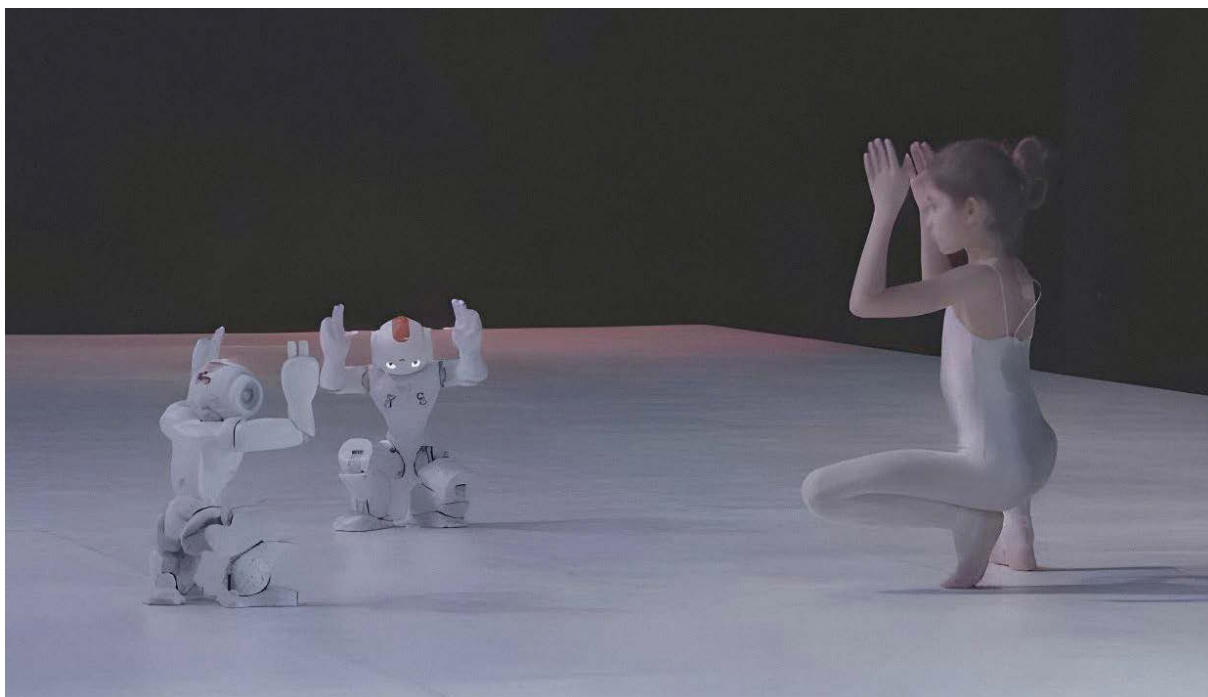


Figure 2. *School of Moon*. Photograph by Marc Da Cunha Lopes.

robots will play in our daily life in the next few decades. And how these artifacts appeal to our vulnerability, to our vulnerable bodies, in what the American philosopher Eric C. Mullis calls “the quasi-otherness of the robot” (2015: 42-53).

This “alter ego” manifests on stage in an almost specular manner. Robots are increasingly more sophisticated and, although they cannot understand the vulnerability of the human being, precisely for this reason, the relation of trust established between them and us is not bidirectional. Undoubtedly, their fiction and interrelation in the *mise en scène* awaken our empathy. We should not forget that technology enables the development of robots that are increasingly more capable of interacting with their environment and that have a more humanoid appearance. In a near future, their exchanges with humans will evolve and perfect, and they will become more similar to the person-to-person interaction insofar as the voice and gesture recognition software and hardware are developed, to the extent that robots begin to see themselves and move as fluidly as humans. When this happens, the ontological difference between carnal body and synthetic body will increasingly blur and, consequently, it will be easier to make robots “experience” as equals. The Belgian philosopher Mark Coeckelbergh, currently professor at the University of Vienna, specialist in robotic ethics and artificial intelligence, even speaks of a certain degree of intimacy between them and us (which already exists, for instance, between elderly or dependent people and their robot carers in highly technologized societies such as Japan).

In this article, we will focus on the theatrical use of a given typology of humanoid robot, already very present in the healthcare and education world. We are referring to the NAO robot, made in Europe. In 2004, the French robotics engineer Bruno Maisonnier founded Aldebaran Robotics,

based in Paris, where he manufactured the prototype of the robot assistant NAO whose patent passed to SoftBank Robotics in 2006, and now has centres in France, Japan, the United States and China. This friendly technological creature measuring 58 centimetres high is equipped with seven tactile sensors that allow it to perceive and locate itself in its environment, with the voice recognition and generation program, and two 2D cameras to recognise objects and people. Their bodies, with rounded shapes, without edges and friendly features, quickly create bonds of empathy. Moreover, their applications in the field of education have yielded very promising results, particularly with autistic children. Undoubtedly, one of the aims is to provide support education, and many academic institutions worldwide already use them.

NAO robots on stage

We will speak of one of the first examples of NAO robots on stage, previous to *School of Moon: Robot*, by the Spanish choreographer Blanca Li. Premiered at the 2013 Montpellier Danse festival, its success led to a major international tour, with a great repercussion in New York (and, among other places, it could be seen at Teatros del Canal in Madrid or at the Festival TNT [Teatre Nous Territoris] in Terrassa, also in 2013). In the show, eight adult dancers shared the stage with five NAO nanorobots that danced in synchrony to the rhythm of live music made by cybernetic robots produced by the Japanese dance collective Maywa Denki. Some features that appear in Shonen can already be seen in *Robot*, such as the mimetic learning of the gesture between humans and robots, although, on this occasion, from a more spectacular perspective because the interaction takes place with dance professionals. Among other similarities, a scene without people led exclusively by small robots, without dancers or musicians; and the scene in Figure 3, in which the synchronised duet between a dancer and an NAO stands out.



Figura 3. *Robot*. Photograph from the TNT archive.

But the spectacular and humoristic dimension (like the cabaret entertainer-robot singing the bolero *Bésame mucho*) clearly differentiate the use and meaning of NAO minirobots in *Robot* by Blanca Li in comparison to the stage narrative of Shonen.

Coexistence between humans and non-humans in *School of Moon*

We return to *School of Moon* again. The coexistence on stage between children and minirobots in a kind of mutual learning process is very interesting. It is a choreography for ten children, six NAO humanoid minirobots, four Poppy minirobots, and two dancers. The children (little people) and the minirobots create an inter-corporeal relationship in which the machines seem to imitate the children's movements and vice versa, or even help by transporting objects together. The human and machine bodies are physically linked throughout the piece, alluding to a common world in which their small dimensions contrast with those of the adult dancers.

One of the key aspects of the show appeals to the notion of learning and transmission. But also, to aesthetic aspects, since the digital connective devices reassert the importance of the poetics of light and image throughout the show.

School of Moon, 48 minutes long, emerged from the collaboration between Minh Cuong Castaing and roboticist Thomas Peyruse, who works with the Poppy robotic platform at the INRIA laboratory in Bordeaux. Peyruse has been researching humanoid robots since 2012 and, in particular, the development of their capacity to imitate and create human movement.



Figure 4. *School of Moon*. Photograph by Marc Da Cunha Lopes.



Figure 5. *School of Moon*. Photograph by Marc Da Cunha Lopes.

It should be noted that Poppy, which appears in Figure 2, is an open-source robot that can be built at home with a 3D printer, far from the exclusivity of patents. And although it does not have the sophistication of the NAO, it is a highly versatile minirobot.

School of Moon is a choreographic show for ten children, aged between 5 and 7, recruited on site in each city where it is performed after a period of rehearsals and familiarisation between children and machines, NAO robots, Poppy robots and two adult dancers, who together form a “disturbing community”. The narrative of the piece is divided into three parts or periods that develop as *tableaux vivants*: the human era (a community of children interacts with robots), the posthuman era (robots, two adult dancers and a group of children perform coded ballet steps mixed with mimetic movements between human gestures and the robots’ responses), and the non-human era (the end where only the robots, now autonomous, are presented on stage).

We will now focus in particular on the first part of the show in which the robots, due to their humanoid form and behaviour, are closer to becoming characters and, as the show progresses, the coexistence between children and robots almost becomes normal. On stage, the children compose postures, figures that are sometimes static (as we noted, like *tableaux vivants*) and others in motion (running, playing, imitating each other, although they denote a movement subject to syncopated rhythms – robotic, one could say – and, at the same time, they record and imitate the effect that the technological objects, the robots, produce on the performativity of their own body). While the robots seem to be looking for their place on stage, the performers, both children and adults, perform movements that create open, porous choreographies, so that the others, the robots, can be integrated into them.

Throughout the performance, a disturbing community is gradually established that mixes children’s and robotic bodies and questions the perception of the human being and its representation. In this inter-corporeal



Figure 6. *School of Moon*. Photograph by Marc Da Cunha Lopes.

relationship, mimesis, repetition and contact between different bodies are put into play (children and robots, adults and children, NAO robots and Poppy robots, bodies and objects, presence and representation). Whether they draw or dance, this double choreography of the community and its image is shown on stage, which disrupts the perception of what is or is not human.

Throughout the performance, images of human figures are projected at the back of the stage, from Palaeolithic to 21st-century paintings, while children and robots dance, play and evoke this creative gesture: representing the human being.

In the final scene, it is the robots themselves that are presented, no longer as mediated objects, but as subjects. With this, Shonen challenges us and elicits old fears, linked to the myths of science fiction, already present in the aforementioned foundational play *R.U.R.*: robots, more perfect and immortal, will eliminate humans.

Throughout the staging, the electronic objects do not play a subsidiary role with respect to human bodies, but rather intertwine with each other and jointly develop the poetics of the piece. And with this, *School of Moon* achieves an artistic, disturbing dimension, far beyond being a scientific demonstration or pedagogical endeavour.

But, on the other hand, this staging shows us different bodies in a collaborative situation and in dialogue within the framework of a technological environment, and this allows us to address the issue of what is common, in the sense that the Catalan philosopher Marina Garcés points out in her book *Un món comú*, in which she reflects on the multiple meanings of the concept “us” through the question “what unites us?” and its tireless aporias, to venture into its opposite formulation “what separates us?” (Garcés, 2013: 15).

Conclusions

We quote Braidotti: “But the posthuman does not really mean the end of humanity. It signals instead the end of a certain conception of the human” (2013: 101). In this way, the playful and creative relationship between human bodies and electronic objects, the minirobots, which is presented in the three parts of the piece, allows the spectator to reflect on the artistic experience that sets in motion a process of questioning about what links us to these “other” bodies in a field of uncertainties and relationships of interdependence.

In short, the machine, the artifact, the robot, is historically presented as something radically strange, a machine that does not possess that precious and distinctive thing that human beings possess and that distinguishes them: life. In this respect, the question that remains from Shonen’s show concerns how to construct a story of technological protagonism on stage that is not based solely on surprise and wondrous or terrifying innovation, but on the possibility of coexisting, bonding and dealing with technological creatures.



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