Why Make Atlas Dance?

Colonial Utopia that Persists in Contemporary Robotics

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ABSTRACT

This paper addresses the colonialist values at the foundation of Boston Dynamics' humanoid robot Atlas and contemporary robotics, generally, through an analysis of its dance video 'Do You Love Me?'. This paper focuses on the concepts of 'extractivism' and 'recognition' to reveal how colonialist logic guides the human-robot relationship. I argue that Atlas is a new, posthuman colonial subject that has emerged in contemporary society and that, despite not having a sense of self and thus dodging ethical criticisms, robots such as Atlas display the succession and replication of colonial logic and practices. In other words, the desire for a colonial utopia—where we humans construct and rule the world based on the oppression and extraction of less-than-human others—haunts the robot that dances for your love. This paper thus problematizes the prevalence of colonialism in robotics and calls for reflection on the development of today's robotics deeper than the symptoms of racism, sexism, and capitalism. Furthermore, I demonstrate how extraction as a dispossessing, dehumanizing force, and recognition as framing of false identity are two major mechanisms of colonialism that work closely together. Through the two tactics, colonialism not only serves capitalism but also deceptively obscures its existence.

KEYWORDS

Robot, Colonialism, Dance, Boston Dynamics, Extractivism, Recognition

INTRODUCTION: DO YOU LOVE ME, NOW THAT I CAN DANCE?

You broke my heart
‘Cause I couldn’t dance
You didn’t even want me around
and now I’m back to let you know
I can really shake ‘em down

Do you love me? I can really move
Do you love me? I’m in the groove
Now do you love me?
Do you love me, now that I can dance?

(Dance)

Watch me now!

– The Contours (1962), *Do You Love Me*

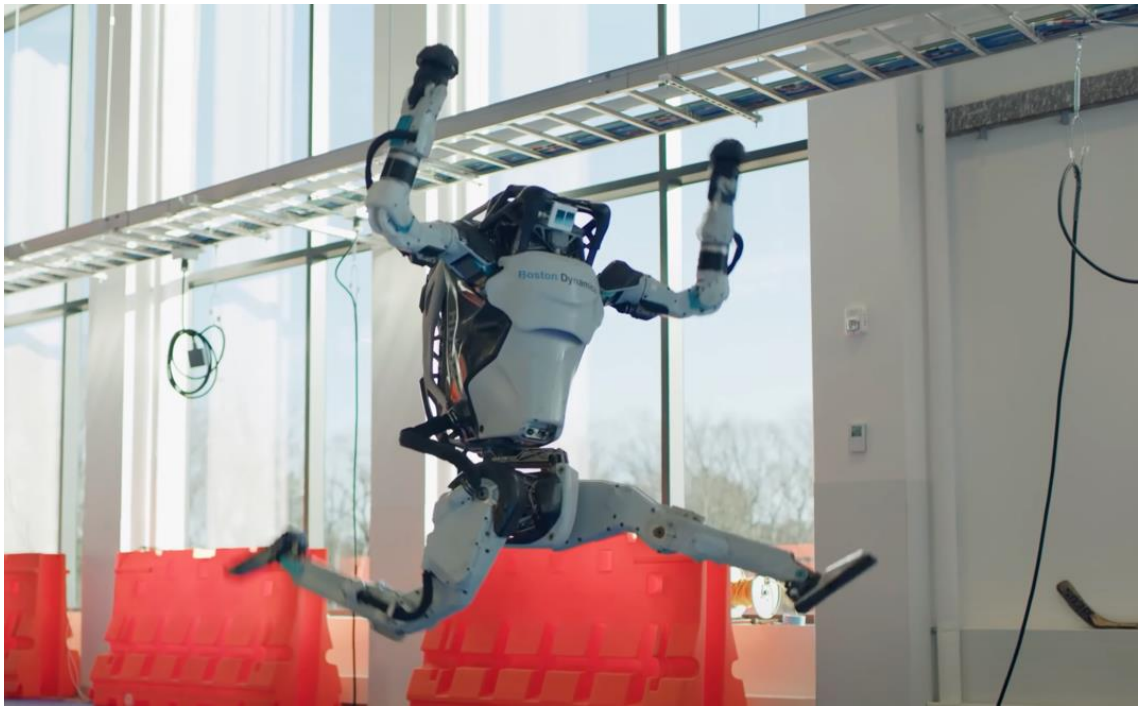

Figure 1. Atlas™ dancing to ‘Do You Love Me?’ by The Contours. Screenshot from YouTube video ‘Do You Love Me?’ Uploaded by Boston Dynamics.

A robot stands in the frame, arms drooped to its sides, head tilted slightly forward. The song ‘Do You Love Me?’ by the Contours, starts playing. ‘You broke my heart ‘cause I couldn’t dance. You didn’t even want me around.’ The music turns a standing robot into a dramatic agent expressing sadness and heartbreak. The song continues, and the robot shows that it can ‘really move’ and is ‘in the groove’. It jumps and stretches its arm to the beat and moves its legs with impressive dexterity to do the twists (Figure 1).[1]

This YouTube video by Boston Dynamics (2020) features the company’s robot Atlas™, a humanoid robot that walks on two feet, has two arms and round, fist-like hands. The robot, which is about the size of a small person at 1.5 m, has 28 hydraulic joints that allow a wide range of human-like movements. Due to the lack of spine, shoulder blades, and fingers, the robot does seem slightly stiff and awkward. Regardless, it is capable of mimicking human dance moves and impresses us through the choreography it performs to ‘Do You Love Me?’.

But why does Atlas dance? Officially, the Atlas Project first launched in 2013, financed by United States Department of Defense, with the aim of developing a humanoid robot that can aid humanity in rescue missions or in case of disasters (Markoff 2013). Today, Boston Dynamics explains that ‘Atlas is a research platform, not a commercial product.’ The Atlas Team at the company uses dance choreographies or parkour courses to further develop the physical ability of the robot and apply knowledge acquired therefrom to other commercial robots they own (Hennick 2021).

Regardless of such claims of innocence, Atlas is one of many humanoid robots that have been criticized from various perspectives. For example, some criticize that humanoid robots are too often gendered depending on their intended purposes (Alesich and Rigby 2017; Shaw-Garlock 2017; Song-Nichols and Young 2020), or that they reflect the racist structure of our society (Bartneck et al 2018; Howard and Borenstein 2018; Sparrow 2020). Others warn us of their capitalist nature (Ng 2021; Bergen 2022). Atlas is not an exception to such criticisms: it resembles a male human with its small hips and bulky upper torso; it is developed in North America in a field dominated by white male engineers and researchers; and despite Boston Dynamics’ claims that Atlas is not a commercial robot, it is a testbed for their other robots—such as the ‘robot dog’ Spot that automates data capture and inspection, and Stretch which claims to optimize warehouse operation (Boston Dynamics n.d.)—that are indeed sold for profit to automate labor processes for capitalist objectives. Thus, in contrast to the innocent claims made by Boston Dynamics, Atlas might not so be free from the sexist, racist, and capitalist system that is prevalent in the Westernized world.

Acknowledging such criticisms, I further argue that the idea of colonialist utopia lingers in the robot. I draw on Leanne Betasamosake Simpson who explains that 'the gendered nature of colonialism and settler patriarchy' imposes the hierarchies of heteropatriarchy on its subjects (2017, 51). She further explains that extractivism is a driving force of colonialism that is inherently capitalist (73). To Simpson, heteropatriarchy and capitalism are problems that both foreground and emerge from colonialism in that the latter continuously replicates these problematic ideas in their colonies. On a related note, Tiffany Lethabo King (2016) argues that the structural racism that Black people face in contemporary society is founded in a colonial system which has extracted their labor. Criticizing sexism, racism, capitalism in robotics without understanding it as the result of colonial logic thus addresses the problems at the surface level without addressing the foundational issues from which they emerge.

Therefore, I aim to tackle the colonialist values that are at the foundation of Atlas—and contemporary robotics more generally. To do so, this paper focuses on the concepts of extractivism and recognition from postcolonial studies to reveal how colonialist logic guides human-robot relationships. I argue that Atlas is a new, posthuman, and colonial subject that has emerged in contemporary society. I also argue that, despite not having a sense of self and thus dodging ethical criticisms, robots such as Atlas continue to reinforce and replicate the colonial logic and practices. The desire for a colonial utopia—where we humans construct and rule the world based on the oppression and extraction of less-than-human others—haunts the robot that dances for your love.

The main argument of this paper is that the act of making Atlas dance endows upon the robot a false identity as a fun, harmless-looking robot that brings joy. In this sense, this is an act of 'recognition' (see e.g. Coulthard 2014) that masks the problematic role of the robot in upholding a capitalist system that is founded upon colonial ideas that remain prevalent to this day. The robot's body cannot be extracted or dispossessed in the same way as Black or Indigenous people. Rather, the robot functions as a mediator that masks the harm caused to the less-privileged majority that are alienated and extracted under a neoliberal capitalist system.

I focus specifically on this dance clip because it uncovers how the two concepts are enacted simultaneously to serve the capitalist goals of colonialism. In the next section of this paper, I first argue that Atlas is a child of colonial ideals. I explain how extractivism functions as a mechanism of dispossession and dehumanization and why this is important in robotics, before investigating in the section thereafter how making a robot dance should be read as an act of recognition that further reinforces and obscures this structure.

EXTRACTIVISM AS A COLONIAL PRACTICE, EXTRACTED ATLAS

Following Naomi Klein's definition of extractivism as a relation of profound taking from the Earth in her critique on contemporary capitalism, Simpson (2017) grounds this notion in the context of colonialism. For her, extractivism is a force of taking or even stealing. She argues: 'it is taking without consent, without thought, care or even knowledge of the impacts that extraction has on the other living things in that environment. That's always been a part of colonialism and conquest' (75). She explains that in Canadian settler-colonialism—where she situates herself as a Mississauga Nishnaabeg scholar and writer—extractivism and assimilation are forces that inevitably go together, as colonialist logic turns everything into resources to be extracted, including the bodies of Indigenous people. She claims:

> My relatives in the plant and animal worlds are seen as resources. My culture and knowledge is a resource. My body is a resource and my children are a resource because they are the potential to grow, maintain, and uphold the extraction-assimilation system. The act of extraction removes all of the relationships that give whatever is being extracted meaning (75).

She further explains that everything her people had—their bodies, their knowledge, and their technology —were 'extracted and assimilated into the culture of the settlers without regard for the people and the knowledge that created it' (75). In other words, the colonizers' value and practice of extractivism, which is founded on capitalism, turns everything into resources to be exploited. In the settler-colonial context, according to Simpson, this extractivism is heavily based on dispossessing the Indigenous land from its people and exploiting the newly acquired so-called 'resource'. Whereas Indigenous bodies recognize 'our [Indigenous] physicality as political orders, and our intellectual practices, emotions, spirituality, and hubs of networked relationships' based their connection to the land (44), settler-colonialism dispossesses the body of all such relations, in order to exploit both the Indigenous body and the land.

Body and land were not the only objects of extraction in settler colonialism. King (2016) critiques that centering *land* in this discourse can function to mask the violence of settlers. Rather, she focuses on the *labor* that is extracted from enslaved Black bodies. In arguing that Black Studies must relate itself to the discourses in settler colonial studies to fully conceptualize anti-blackness as an ongoing colonial project, King draws on Frank Wilderson to state that 'Native (the Savage's) and Black (the Black's) grammars of suffering do share the urgent concerns of the flesh.' Emphasizing the violence of settler colonialism that resulted in the deaths and suffering of countless Native and Black bodies, King states that 'Native genocide and Black enslavement as

a *dehumanizing and property-making venture* ensured the historical and current conditions of possibility (on the land-made property) for conquistador subjectivity' (emphasis added). Native bodies become 'flesh'—as opposed to bodies—that need to be dispossessed of their own subjectivity, only to uphold the system implanted by colonizers that extracts the resources their land provides. Black bodies are also rendered as 'flesh' and are seen as less than 'Man' or 'human' defined by settler colonizers, but their experience reveals a narrative of suffering that emerges from the extraction of their labor.

Whereas Simpson's discussion on Native bodies centers around the dispossession of land, heteropatriarchy, and capitalism as mechanisms emerging from colonialism, King's rhetoric reveals violent labor extraction as another core structure of colonial systems. From the latter perspective, Native bodies can be killed *en masse* to render their land as 'no man's land' that is free for taking, and the Black body is extracted of its labor to generate and maintain the capitalist system of the colonizers. In other words, the Black body has historically been regarded by the colonizer as a source of labor that needs to be extracted and capitalized. This is not to suggest that the bodies of certain ethnic groups of colonized subjects have suffered more than others. Rather, King highlights the mechanism of settler colonialism that is based on violence, suffering, and extraction of labor in addition to and as interconnected elements of other colonial mechanisms—i.e., heteropatriarchy and capitalism—that Simpson elucidates. King (2016) points out 'Native genocide' as a 'dehumanizing and property-making venture' alongside Black enslavement to distinguish between the colonial practices that erase the Native 'flesh' to turn land into property and those that enslave Black flesh to extract labor. Through this argument, King highlights the different facets of colonial extractivism which operates not only on land and resources—as addressed in the discourse of Indigenous Studies—but also on bodies that generate labor. Though different in nature, all these practices support a capitalist system that is intertwined with heteropatriarchy and racism.

To contextualize *why* the notion of extractivism is important in understanding our relationship with robots, I would like to point out that our dream of robots, from their very conceptualization, has been embedded within the colonist slaver's dreams. The term 'robot' originates from the work of the Czechoslovak writer Karel Čapek's (1890-1938) *Rossum's Universal Robots (R.U.R),* a science fiction play written in 1920 and fist staged in 1921 (Christoforou and Müller 2017, 613). Čapek presents robots as artificial people created from organic matter at the island factory of Rossum's Universal Robots. Their purpose is to provide cheap labor—so much so that it is meant to free humanity from labor altogether (Čapek, 2020 [1921]). The word 'robot' is known to have originated from an archaic Czech word *'robota'*, which essentially means drudgery or 'the serf's

obligatory work'. In other words, robots were seen as a new army of slaves that would relieve modern humanity from dangerous and dreary work in the industrialized society.

In this sense, it is no coincidence that the definition of the word robot essentially refers to a slave. Like those enslaved during the colonial era, the robots in Čapek's play are dehumanized, only in a more literal sense. Domin, the general manager at Rossum's Universal Robots, explains to Helena Glory, the daughter of the company's president, how the company's robots were created:

> But a working machine must not play the piano, must not feel happy, must not do a whole lot of other things. A gasoline motor must not have tassels or ornaments, Miss Glory. And to manufacture artificial workers is the same thing as the manufacture of a gasoline motor. (She is not interested.) The process must be the simplest, and the product the best from a practical point of view. […] Mechanically they are more *perfect* than we are; they have an enormously developed intelligence, but they have no soul. (Čapek, 2001 [1923], 6).

In other words, the robots in Čapek's play are optimally dehumanized slaves—slaves that are optimized to produce and be extracted. Robots are dispossessed of their own bodies, detached from what makes the human body meaningful: what Čapek describes as 'soul' and Simpson (2017) in terms of relations to the land and to other bodies. The only purpose of these robots is to exist as labor resources to be extracted. To dehumanize, to dispossess them of so-called 'human' things is the optimal way to turn the robot or the slave's body into resources to be exploited and extracted.

Let us return to Atlas. This robot is far from reaching the abilities of robots in *R.U.R,* nor is it widely distributed in our society for use. However, the logic behind the creation of Atlas is a continuation of the colonial extractivist logic that runs through (settler) colonialism, slavery, and the posthuman slave. As Brian Ng (2021) has pointed out in *The New York Times Magazine*, the exact purpose of Atlas is not clearly defined to the public. Criticizing a video of Atlas successfully performing a parkour course, he questions, 'What is it for? The video only shows us what it can *do*'. For now, the company's official stance is that Atlas is a research platform for both this and their other robots. Regardless, in an interview with Calvin Hennick (2021), the Atlas Team Leader Scott Kuindersma provides some insight into the reasons behind Boston Dynamics' investment in this robot that is not (yet) to be sold: 'They [humanoid robots] may not be the best design for any particular task, but if you wanted to build one platform that could perform a wide variety of physical tasks, we already know that a human form factor is capable of doing that'. In his words, Atlas is a robot that takes us a step further towards our dream of a 'go-anywhere, do-anything robot' of the future like those in Čapek's play or in many other science fictions that followed.

Through Atlas, Boston Dynamics wants to create a robot that can do a wide range of things, in contrast to industrial robots that are specialized in specific tasks. The dream is to recreate the slave that can go anywhere and do anything like us humans, one that will do all the harsh labor for us but will always remain less-than human. The idea of a colonialist utopia persists.

Ultimately, Atlas was created for the purpose of extraction. Its body, like those of Čapek's robots, is designed to serve the human. In contrast to its dance performance as depicted in the video discussed above, which suggest Atlas' desire to experience life and connect to others, the robot is created as an already alienated body, detached from a soul, detached from relations to others. Atlas is already dehumanized and thus optimized for extraction, a born-to-be slave. To Boston Dynamics, this robot is ultimately a valuable source of knowledge to be extracted to further develop their robotics. Kuindersma explains: 'Ultimately, pushing the limits on a humanoid robot like Atlas drives hardware and software innovation that translates to all of our robots at Boston Dynamics' (Hennick 2021). The robot is to be exploited for knowledge, to be controlled for our wishes and desires, to be economically beneficial for Boston Dynamics who can apply what they have exploited from Atlas to other commercial robots. Through automation and optimization of profit-generating processes, this in turn further strengthens the capitalist system that is a mechanism of colonial practices that remain prevalent today.

For a hundred years since Čapek had invented the concept of robot, the depiction of robots in the cultural sector has in large part remained similar. The narrative of fear, that robots will one day reach or surpass the human in their level of physical and intellectual capacities and take over the world, is commonly found to this day. In reality, however, they are taking over the world by masking colonial values that still extract from the majority of those who cannot profit from a capitalist system. Of course, to extract a robot does not necessarily carry the same ethical weight of colonizing human subjects. A robot does not have a sense of self or culture that can be dispossessed, but they are nonetheless extracted bodies that reinforce and regenerate colonialist values. The employment of robots perpetuates a hegemonic notion, asserting that entities deemed supposedly 'less-than-human' can be utilized to fulfill objectives that are set by and for those in power, and that the purpose of these entities can be reduced entirely to that determined goal. The harm of such practices turns to those who are underprivileged in society as Atlas' body is extracted to inform the development of robots that are employed to maximize profit. It is a reiteration of the colonial slavery that turns bodies into resources from which its labor is extracted for the profit of the privileged few.

For example, let us examine another robot developed by Boston Dynamics: Spot. According to Kuindersma's statement, the knowledge acquired through the experiments with Atlas is being used to inform further development of this four-legged robot. So how is Spot deployed in today's society? An article from *The Washington Post* explains that the canine robot was designed for deployment in remote and hazardous environments that would be difficult for humans to work in. According to this article, by March 2021, there were more than 400 Spot robots in use in mining, oil, gas, utilities, and construction companies—many of which presumably operate for profit and in some cases, literal extraction of resources (Heller 2021). Furthermore, Spot has also been deployed by police departments in the USA, raising some serious ethical concerns regarding its potential weaponization and its targeted use on marginalized communities. Azalea Yunus and Stacy A. Doore report that after the New York Police Department (NYPD) had introduced their 'Digidog', which was a modified version of Spot better suited for exploring residential areas, 'community members and congressional representatives pointed to the juxtaposition of using expensive technology to police low-income communities and the fear, mistrust, and resentment it fostered', leading the NYPD to cancel their lease of the robot dogs. They problematize how deployment of Spot was 'an intentional, if perhaps unconscious, action' that occurred without the knowledge nor consent of the neighborhoods in which they were deployed, completing 'another chapter in a long history of the lack of humane treatment by police department towards disadvantaged communities.'

Constantine Gidaris (2021) argues that the deployment of Spot in the American police context should be understood in the context of technocapitalism—a form of contemporary capitalism that is founded on corporate power and its exploitation of technological advancements—which disproportionately and negatively influences ethnic minorities (37). 'The police have used the full scope of the technocapitalist system to continue to reinforce racial capitalism through an increasingly automated policing system' which has a history of targeting the less privileged. He continues that in the US context, it is clearly observable 'how racial capitalism is ingrained in technocapitalism with law enforcement's use of drones and other technology to police and monitor racialized groups and activists' (39). In other words, technology is available to a certain privileged few, often with corporate power, who use such technology to target and harm social minorities.

Thus, despite claims of innocence, Atlas is part of a capitalist and oppressive system that has real-life consequences. Atlas' body is developed for the extraction of 'knowledge' that is processed into profits and systems of oppression. To conclude, extractivism is a mechanism of colonialism that works through dispossession and dehumanization which makes the colonial subject optimal

for extraction and exploitation. Such practices have been and continue to be demonstrated to Indigenous and Black bodies in the colonial and postcolonial era. In a world where technology is advancing fast and slavery—at least specific forms thereof—have been rendered illegal, colonialist extractivism persists through a new, posthuman, robotic body. I have established thus far that there are strong reasons to believe that the colonialist utopia is funneled through certain aspects of contemporary robotics—such as those that manifest in Boston Dynamics' robots—that aim to adopt new technologies for capitalist purposes. Settler colonial practices on Indigenous and Black people turn *their* bodies into 'flesh' (King 2016) and extracted for resources and capitalist gain. In case of Atlas, a body that is already less-than-human, the harm of extraction is not enforced upon the robot itself but on the working class of society in a capitalist system. In a world supposedly freed from, colonialism has found new subjects—robots—to replace Black enslaved people and seemingly remain free of ethical questions. The extraction of Atlas and similar robots may seem harmless, but in fact, they still serve to uphold colonial values in our system that ultimately harm the poor, working class, disabled, queer, and non-white bodies.

WHY DOES ATLAS DANCE?

Acknowledging the capitalist-colonial logic in robotics reveals more sinister dimensions behind the seeming innocence of Atlas' dance moves. It is thus worth asking what it means to make Atlas dance and how that can clarify the colonial ideas that linger behind its dance moves. The video of Atlas dancing is frankly quite impressive and even joyful to watch. Nonetheless, many have voiced criticism regarding the clips of Boston Dynamics' dancing robots. One such concern is that the video masks the dangerous potential of the robots. Ng (2021), for instance, criticizes that the impressive clips of Atlas dancing or running through a parkour course distract us from the dystopian scenarios of it going rogue and obscure that Atlas could 'one day use weapons or be given strength, stamina, and aim beyond any human's'. Ng's s suggestion is that the YouTube clip masks the dystopian potential of this robot, inclining its viewers to accept that Atlas will not be a danger factor in our world. Indeed, making Atlas dance—as impressive as it may be from a technological perspective—obscures what these robots *actually do* in the world by revealing *what else they can potentially do* in an impressive manner. This paper considers the possibility that what is made ambiguous through such videos is a much larger and structural issue. In fact, making Atlas dance is in itself a colonial practice, and specifically an act of '*recognition'*, that ironically masks the colonial and extractivist logic that is behind the development of Boston Dynamics' humanoid robot.

In *Red Skin, White Masks*, Glen Sean Coulthard (2014), an Indigenous academic from the Yellowknives Dene First Nation, draws on Frantz Fanon's conception of 'recognition' to explain how this term has been enacted in the politics of Canadian settler-colonialism. He explains that recognition, in the North American settler colonial context, has been something Indigenous activists strived for between the 60's and 80's. The struggle for recognition at this time served as a catalyst for Indigenous rights movement as they sought acknowledgement of their identity, subjectivity, and interests from their settler states (2). While Coulthard is aware of the importance this struggle, he argues that recognition serves the interests of colonial power, as it 'rests on the ability to entice Indigenous peoples to *identify*, either implicitly or explicitly, with the profoundly *asymmetrical* and *nonreciprocal* forms of recognition either imposed on or granted to them by the settler state and society' (25). He explains that 'instead of ushering in an era of peaceful coexistence grounded on the ideal of reciprocity or mutual recognition, the politics of recognition in its contemporary liberal form promises to reproduce the very configurations of colonialist, racist, patriarchal state power' (3). Thus, recognition is something that is given by the dominant people of a society to its minorities through asymmetrical power dynamics, in order to create the illusion of freedom for the colonial subject while keeping them under the control of the setter's logic. The politics of recognition reaffirms the settler/Indigenous, master/slave power relations rather transcending it, and is therefore a false promise of freedom and peace.

In his reading of Hegel's dialectic of recognition, Coulthard critiques Hegel for insisting on the *mutual* nature of recognition. This means that 'both parties [master and slave] that engage in the struggle for recognition are dependent on the other's acknowledgment for their freedom and self-worth' (39). However, Coulthard draws on Fanon's analysis of this dialectic to suggest that, in the context of settler-colonialism, the 'master' no longer 'require[s] recognition from the previously self-determining communities upon which its territorial, economic, and social infrastructure is constituted. What it needs is land, labor, and resources' (40). For Coulthard, recognition is an *action by and for the master* that works to mask the brutality of colonial practices by granting slaves the false sense of equal subjectivity. It is a mechanism that keeps the slaves distracted from and blinded of the colonial power that continues to extract its subjects. 'Colonial powers will only recognize the collective rights and identities of Indigenous peoples insofar as this recognition does not throw into question the background legal, political, and economic framework of the colonial relationship itself' (41). The promise of 'recognition' is nothing more than the colonist's deception to continuously extract from the colonial subjects. The master (or settler) promises false independence and authenticity in order to further extract them.

Unlike the slave or the colonial subject, obviously, a robot does not seek recognition. Atlas is not even aware of its state as a robot. As Ng (2021) states, 'for now, the robots don't want anything; apart from not falling over, they await a reason for being'. Then why is the concept of recognition relevant and meaningful in the context of dancing robots? Coulthard shows how the act of recognition has clear advantages for the master. Most importantly, it reasserts the asymmetrical and non-reciprocal power dynamics between the parties, reaffirming the master's control over his slave. In other words, recognition is a certain 'framing' of identity—an identity that only becomes realized through the practice of this framing and has nothing to do with the reality of it—in order to exercise power over a subject. Anna Hilary Bergen (2022) suggests that the practice of making robots dance 'sneakily works to mask not only their symbolic exploitation as over-worked bodies in an army of capitalist cogs, but also the violence their bodies are capable of as potential military robots' (97). Programming Atlas to dance, in other words, is an act of recognition that frames the identity of the robot as one that impressively dances.

Whereas a conventional master/slave dynamic consists only of the two parties, in the case of dancing Atlas, there is another party involved: the audience Atlas' dance videos are intended for. The difference between settler-colonial society and Atlas is that in the former, the focus of illusion is on the colonial subjects through a false promise of freedom, whereas in the case of Atlas, a subject that cannot be promised anything, the illusion is created for the general public. Whereas in the former, recognition is a framing of (false) identity of Indigenous People as independent social groups that masks the settler's control mechanisms, in the latter, recognition frames the colonial subject's (false) identity as 'a robot that can dance' in order to mask the robot's dangerous potential and create an illusion of control for the humans who watch the videos. Making Atlas dance is an assertion of power that, in turn, creates an impression that these highly functional and intelligent robots are in control and far from causing harmful consequences. This is not to say that Atlas will evolve and revolt against humanity like the robots in *R.U.R.* Instead, making a robot dance—and thus making it likable or enjoyable—masks what Atlas r*eally does* in the world, namely upholding capitalism and other colonial ideas. It masks the corporate power that engineers and profits from the seemingly innocent robot. It masks how Atlas' body is extracted for research and knowledge that is turned into a system of profit generation and oppression—as I have addressed in the case of Spot—that has very real and negative consequences, especially for the less privileged. The dance of Atlas lures us to turn a blind eye to such problems in enjoyment of its impressive moves. Although in the context of settler colonialism the victims of such action are colonial subjects—Native and Black bodies—in the case of Atlas, the act of framing (false) identity harms people of lower socioeconomic class that are continuously exploited through the capitalist system that the robot is made to uphold.

If making Atlas dance is an act of recognition that frames the robot as impressive, funny, and nothing more, what it masks is the practice of extraction. In the former section of this paper, I have already explained how Atlas was already built on a colonial and extractivist logic with a focus on utilizing its body to benefit humans. In addition, extraction is always purposeful; it serves a capitalist logic of regarding everything as resources which serves the purpose of generating economic value. In the case of Atlas, one can claim that extracting Atlas' body is not problematic since it is, ultimately, but a robot without a sense of self. However, to fully grasp why extraction is harmful, even when done to a robot body, we must consider the fact that extraction as a colonial practice is closely tied to capitalism. In other words, Atlas is extracted to serve a capitalist purpose. Furthermore, extractivism and the act of recognition are two mechanisms of colonialism that go hand in hand. Here, I quote Kuindersma's words once again: '[Atlas'] floor routine and dance videos were about capturing our ability to create a variety of dynamic moves and chain them together into a routine that we could run over and over again' (Hennick 2021), so that researchers and engineers at Boston Dynamics could translate the knowledge developed in doing so to their other, perhaps more problematic military robots that they develop for capitalist intentions. By recognizing Atlas as 'a robot that can dance', the company is able to mask the problematic purpose of the robot and further extract it.

Ultimately, the act of programming Atlas to dance is an act of recognition that obscures the robot's status as an exploited posthuman and yet less-than-human slave, as well as the larger, problematic structure that it is a part of. The problem is not necessarily that robots are becoming the new slaves in contemporary society, but that we are replicating the structure of a colonialist utopia through them to accelerate capitalist and extractivist practices. A robot cannot be harmed from extraction as they cannot be dispossessed of their bodies, cultures, or land. However, robots like Atlas mask the neoliberal capitalism as a reinstatement of the colonial logic of extraction that turns everything—people, bodies, land, materials—into resources. Colonial practice of enslavement no longer harms its immediate subjects—robots. Rather, robots are not only themselves made to be extracted, but they also function as mediators that mask the colonial ideals that are still prevalent to this day.

CONCLUSION

In this paper, I have examined Atlas' dance video to describe how the colonialist utopia persists in certain parts of contemporary robotics. Colonialism has found a new less-than-human posthuman subject to exploit and extract. This paper thus problematizes the prevalence of colonialism and calls for reflection on the development of today's robotics deeper than the

symptoms of racism, sexism, and capitalism. I have also demonstrated how extraction as a dispossessing, dehumanizing force and recognition as a framing of false identity are two major cooperative mechanisms of colonialism that work closely together. Through the two tactics, colonialism not only serves capitalism but also deceptively obscures this process.

This paper does not aim to voice that we should stop developing robots, or that today's robotics is inherently bad. Rather, it questions the trajectory of today's robotic developments. We must acknowledge our replication of a colonialist logic in the posthuman subject we create, and that the lack of ethical issues regarding the exploitation of robots does not erase or justify the reinforcement of colonial relations through robots. We have seen the aftermaths of colonialism; we live in and are critical of the sexist, racist, and capitalist world—a world that cannot be detached from the colonial practices that go as far back as the 1400s. What I suggest is not to abandon the field of robotics, or that it is a field of questionable ethics per se. I hope to have shown how robots regenerate colonial practices of extractivism and how the seemingly joyous things we do with them can mask the harm that capitalism does to our world. Thus, this paper is an invitation to reconsider—and perhaps reconfigure—the relationship that we would like to have with robots.

In the dance clip, Atlas moves to the lyrics: 'Do you love me, now that I can dance?' I have argued that rather than taking this film at face value, we must take a critical stance to recognize the colonial mechanisms of extraction and recognition at play in Atlas' dance moves. Nevertheless, I dream of a day where we can take this moment as it is: a day where we *can* love a robot because it dances, and our relationships are no longer founded on colonialism.

REFERENCES

Alesich, Simone, and Michael Rigby. 2017. 'Gendered robots: Implications for our humanoid future.' *IEEE Technology and Society Magazine* 36, no. 2 (June): 50-59. https://doi.org/10.1109/MTS.2017.2696598.

Bartneck, Chirstoph, Kumar Yogeeswaran, Qi Min Ser, Graeme Woodward, Robert Sparrow, Siheng Wang, and Friederike Eyssel. 2018. '*Robots And Racism*.' In *Proceedings of the 2018 ACM/IEEE International Conference on Human-Robot Interaction (HRI '18), 196-204.* https://doi.org/10.1145/3171221.3171260.

Bergen, Anna Hilary. 2022. 'Dancing Media: The Contagious Movement of Posthuman Bodies.' PhD Dissertation. Concordia University. https://spectrum.library.concordia.ca/id/eprint/991143/1/Bergen_PhD_F2022.pdf.

Boston Dynamics. 2020. 'Do You Love Me?' YouTube, December 29, 2022. https://youtu.be/fn3KWM1kuAw.

Boston Dynamics. n.d. 'Products' Accessed June 5, 2023. https://www.bostondynamics.com/.

Čapek, Karel. 2001 [1923]. *R.U.R.* Mineola: Dover Publications.

Christoforou, Eftychios G., and Andreas Müller. 2017. 'Robot and Robotics: The Origin and Beyond.' In *Raad 2016: Advances in Robot Design and Intelligent Control*, edited by Aleksandar Rodic and Theodor Borangiu, 613-21. Cham: Springer International Publishing. https://link-springer-com.proxy.library.uu.nl/chapter/10.1007/978-3-319-49058-8_67.

Coulthard, Glen Sean. 2014. *Red Skin, White Masks: Rejecting the Colonial Politics of Recognition.* Minneapolis: University of Minnesota Press.

Forlizzi, Jodi, and Carl DiSalvo. 2006. 'Service Robots in the Domestic Environment: A Study of the Roomba Vacuum in the Home.' *HRI '06: Proceedings of the 1st ACM SIGCHI/SIGART conference on Human-robot interaction* (March): 258-65. https://doi.org/10.1145/1121241.1121286.

Heller, Karen. 2021. 'Spot Is the $74,500 Robot Dog of Our Dystopian Dreams.' *Washington Post*, August 9, 2021. https://www.washingtonpost.com/lifestyle/style/spot-dog-robot-boston-dynamics/2021/08/06/81b2b780-f475-11eb-9068-bf463c8c74de_story.html.

Hennick, Calvin. 2021. 'Leaps, Bounds, and Backflips.' *Boston Dynamics*. August 17, 2021. https://www.bostondynamics.com/resources/blog/leaps-bounds-and-backflips?utm_campaign=fy22q2-parkour&utm_source=youtube&utm_medium=ytcomments&utm_content=leaps.

Howard, Ayanna, and Jason Borenstein. 2018. 'The Ugly Truth About Ourselves and Our Robot Creations: The Problem of Bias and Social Inequity.' *Science & Engineering Ethics* 24: 1521-36. https://doi-org.proxy.library.uu.nl/10.1007/s11948-017-9975-2.

Gidaris, Constantine. 2021. 'The Rise of the Robots: Technocapitalism and the Policing of Race | Fast Capitalism.' *Fast Capitalism* 18 (1): 36-49. https://doi.org/10.32855/fcapital.202101.004.

King, Tiffany Lethabo. 2016. 'New World Grammars: The'Unthought'Black Discourses of Conquest.' *Theory & Event* 19, no. 4. muse.jhu.edu/article/633275.

Markoff, John. 2013. 'Modest Debut of Atlas May Foreshadow Age of "Robo Sapiens."' *New York Times*, July 11, 2013. https://www.nytimes.com/2013/07/12/science/modest-debut-of-atlas-may-foreshadow-age-of-robo-sapiens.html.

Ng, Brian. 2021. 'Could Robots From Boston Dynamics Beat Me in a Fight?' *The New York Times Magazine*, September 8, 2021. https://www.nytimes.com/2021/09/08/magazine/boston-dynamics-robots.html.

Shaw-Garlock, Glenda. 2017. 'Gendered by design: gender codes in social robotics.' In *Social Robots*, edited by Marco Nørskov, 199-218. London and New York: Routledge. https://doi-org.proxy.library.uu.nl/10.4324/9781315563084.

Simpson, Leanne Betasamosake. 2017. *As We Have Always Done: Indigenous Freedom Through Radical Resurgence*. Minneapolis: University of Minnesota Press.

Song-Nichols, Kallyn, and Andrew Young. 2020. 'Gendered Robots Can Change Children's Gender Stereotyping.' In *Cognitive Science Society*: 2480-85.

Sparrow, Robert. 2020. 'Robotics Has a Race Problem.' *Science, Technology, & Human Values* 45, no. 3: 538–60. https://doi-org.proxy.library.uu.nl/10.1177/0162243919862862.

Sung, Ja-Young, Lan Guo, Rebecca E. Grinter, and Henrik I. Christensen. 2007. '"My Roomba Is Rambo": Intimate Home Appliances.' *UbiComp 2007: Ubiquitous Computing. UbiComp 2007. Lecture Notes in Computer Science* 4717: 145-62. https://doi-org.proxy.library.uu.nl/10.1007/978-3-540-74853-3_9.

Yunus, Azalea, and Stacy A. Doore. 2021. 'Responsible Use of Agile Robots in Public Spaces.' In *2021 IEEE International Symposium on Ethics in Engineering, Science and Technology (ETHICS)*. https://doi.org/10.1109/ETHICS53270.2021.9632682.

ILLUSTRATION

Boston Dynamics. 2020. 'Do You Love Me?' YouTube, December 29, 2022. https://youtu.be/fn3KWM1kuAw.

[1] Watch video via this link: https://youtu.be/fn3KWM1kuAw.