

# THOMAS RYCKEWAERT

## Move 37

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THEATRE | 80 MIN | IN ENGLISH

# KAAI THEATER

**NL** 'Move 37' verwijst naar een historische wedstrijd Go, het oudste bordspel ter wereld. In de 37ste zet wint het door Google ontwikkelde neurale netwerk AlphaGO van de Go-wereldkampioen Lee Sedol. Niemand had verwacht dat een machine de mens kon verslaan.

Voor zijn lecture-performance *Move 37* verdiept Thomas Ryckewaert zich in artificiële intelligentie en kosmologie. Samen met kosmoloog Thomas Hertog (KU Leuven) zoekt hij naar manieren om het radicaal vreemde bloot te leggen. 'We stoten op de grenzen van onze kennis bij het horen van Hertogs kosmologische inzichten en dat is een bevreemdende maar ook nederige ervaring', aldus Ryckewaert. Alles komt op losse schroeven te staan: het menselijke wordt alien, de computer intuïtief, de zintuigen bedriegen en de robot... droomt.

- Thomas Ryckewaert studeerde zowel biologie, filosofie als theater. In zijn voorstellingen komen al die interesses samen. In 2017 stond hij in het Kaaitheater met *Golem*.

**FR** 'Move 37' fait référence à une partie historique de jeu de go, le plus ancien jeu de plateau au monde. Au 37e coup, le réseau neuronal artificiel AlphaGo développé par Google l'emporte sur le champion du monde de la discipline, Lee Sedol. Personne ne s'attendait à ce qu'une machine puisse battre un humain à ce jeu.

Pour sa lecture performance *Move 37*, Thomas Ryckewaert se penche sur l'intelligence artificielle et la cosmologie. Avec le cosmologue Thomas Hertog (KU Leuven), il cherche des moyens de révéler l'étrangeté extrême. « Nous nous heurtons aux limites de notre connaissance en entendant les notions cosmologiques de Hertog, ce qui constitue une expérience qui touche à l'étrangeté, mais à l'humilité aussi », explique Ryckewaert. Tout est remis en question : l'humain devient extraterrestre, l'ordinateur devient intuitif, les sens nous trompent et le robot rêve.

- Thomas Ryckewaert a étudié la biologie, la philosophie et le théâtre. Des centres d'intérêt qui se rejoignent dans ses œuvres théâtrales. En 2017, il a présenté *Golem* au Kaaitheater.

**EN** 'Move 37' refers to a historic match of Go, the oldest board game in the world. In the 37th move, the Google-developed neural network AlphaGO beats the Go world champion Lee Sedol. Nobody had expected that a machine could beat a human.

For his lecture-performance *Move 37*, Thomas Ryckewaert researched artificial intelligence and cosmology. Along with cosmologist Thomas Hertog (KU Leuven), he explores ways of uncovering the radically strange. 'We run up against the boundaries of our knowledge when we hear Hertog's cosmological insights and that is an alienating but also humbling experience', Ryckewaert says. Everything becomes unhinged: the human becomes alien, the computer becomes intuitive, your senses deceive you, and the robot... dreams.

- Thomas Ryckewaert studied biology, philosophy and theatre. All of these interests converge in his work for the theatre. In 2017, he presented *Golem* at Kaaitheater.

### WHEN CTHULHU CALLS

excerpts from the essay by Thomas Ryckewaert (Etcetera, 13/09/2018).

**0.** 'While the Baroque rules of chess could only have been created by humans, the rules of Go are so elegant, organic and rigorously logical that if intelligent life forms exist elsewhere in the universe, they almost certainly play Go.' – Edward Lasker, chess grandmaster

**1.** September 5, 1977. The unmanned space probe Voyager 1 is launched from Cape Canaveral. Its mission? To study the outer solar system: Jupiter and beyond. Apart from all the scientific equipment, there's a phonograph record aboard the spacecraft, meant as a message for intelligent extra-terrestrial life. The *Voyager Golden Record* was a project of astronomer and cosmologist Carl Sagan, whom NASA asked to collect a wide range of images and sounds representing earth and its inhabitants. The alien capable of playing the record will be able to study the structure of DNA and hydrogen atoms, listen to the

sound of thunder, wind and chimpanzees, or shake to Chuck Berry's *Johnny B. Goode*. If the alien also happens to read English, it will be able to decipher the accompanying letter by former U.S. president Jimmy Carter: *'This is a present from a small and distant world, a token of our sounds, our science, our images, our music, our thoughts, and our feelings. We are attempting to survive our time so we may live into yours. We hope someday, having solved the problems we face, to join a community of galactic civilizations. This record represents our hope and our determination, and our good will in a vast and awesome universe.'*

This universe houses approximately 150 billion galaxies, of which our Milky Way alone contains about 200 billion stars and 100 billion planets. If only a small fraction of those planets harboured life, and if only a small fraction of that life were highly developed, our galaxy should be swarming with intelligent life. Some of it would be looking for other extra-terrestrials, just like us, or at least come into our radar. Exobiologists estimate that our cosmic backyard should be harbouring at least twenty alien civilisations. But the cosmos remains silent.

From a scientific point of view, this Great Silence is nothing less than shocking. Given the vastness of the universe, the idea that our planet is the only speck of dust where intelligent life emerged is simply ludicrous. We've been searching our cosmic backyard for decades now and we've been sending out radio-signals for over a hundred years; our traces should be detectable in a radius of a hundred lightyears. But all we hear is silence.

There are dozens of hypotheses trying to explain this Silence: the conditions on earth are much rarer than we think, the difficulties for life to originate are underestimated, the emergence of intelligence is the bottleneck. A darker theory states that highly developed civilisations are self-destructive by nature and thus short-lived: the silence we hear is a post-apocalyptic silence. Yet another theory claims that the silence is a result of every civilisation holding its breath: the Dark Forest Theory. SF writer Liu Cixin: *'The universe is a dark forest. Every civilization is an armed hunter stalking through the trees like a ghost, gently pushing aside branches that block the path and trying to tread without sound. Even breathing is done with care. The hunter has to be careful, because everywhere in the forest are stealthy hunters like him. If he finds another life - another hunter, an angel or a demon, a delicate infant or a tottering old man, a fairy or a demigod - there's only one thing he can do: open fire and eliminate them.'*

These and many other theories assume that life out there would manifest itself in similar ways, would be subject to the same laws and would be using the same

communication channels as we do: if it does exist, it emerged more or less in the same way, with the help of water and carbon compounds, and sooner or later it will pick up our radio signals or vice versa. Unless it has annihilated itself or is hiding in the jungle of a Darwinian cosmos.

There is an alternative for these anthropomorphic hypotheses: intelligent alien life does exist and might even be all around us, but it is so alien that we aren't capable of registering, let alone comprehending it. Maybe these alien entities are so fundamentally different that our brains, bred in the local four-dimensional atmospheric conditions of a blue planet at the outskirts of the universe, are simply not equipped to perceive the fundamentally other. It's a hypothesis that is not falsifiable; it defies scientific explanation. But the brains of the upright ape that named itself have another, less strict method at their disposal: the imagination.

2. Horror author Howard Philips Lovecraft died on March 15, 1937, as an anonymous and underfed oddity in the town where he was born: Providence, New England. But by the end of the last century his work was rediscovered, thanks, in part, to an essay by the emerging author Michel Houellebecq: *H.P. Lovecraft: Contre la monde, contre la vie* (1991). Authors such as Stephen King, William S. Burroughs and Jorge Luis Borges also spoke out in favour of Lovecraft. By 2005 he was canonised with the publication of his stories in the prestigious *Library of America*. A steep climb for an obscure pulp writer. One of his best-known tales is *The Call of Cthulhu* (1926). The first paragraph goes like this: *'The most merciful thing in the world, I think, is the inability of the human mind to correlate all its contents. We live on a placid island of ignorance in the midst of black seas of infinity, and it was not meant that we should voyage far. The sciences, each straining in its own direction, have hitherto harmed us little; but some day the piecing together of dissociated knowledge will open up such terrifying vistas of reality, and of our frightful position therein, that we shall either go mad from the revelation or flee from the deadly light into the peace and safety of a new dark age.'*

Lovecraft's stories are devoid of bloodthirsty zombies and hollow-eyed aliens. He considers these kinds of creatures as projections of all-too-human fears. Lovecraft describes the entities he imagines in abstract, elementary, almost primordial terms: *The Colour Out of Space*, *The Shadow Out of Time*. He's not afraid of describing an entity as 'indescribable' – an adjective that is often followed by a detailed description of the creature. Take Cthulhu: a clawed and winged cephalopod deity that has been hiding

## CREDITS

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for millions of years in the submerged city of R'lyeh, an other-dimensional underwater tomb with an impossibly-shaped geometry. *'In his house at R'lyeh, dead Cthulhu waits dreaming.'* Imagine that. When Lovecraft's human characters stand face to face with a creature like Cthulhu, they don't react in the ways we know from classic horror stories. 'Fear' or 'terror' are inadequate descriptions of what they feel. They seem to freeze. Their pupils go blank. Their thoughts break. They simply can't get their heads around whatever it is they are confronted with. What they 'feel' is this *'inability of the human mind to correlate all its contents.'* Forget my fear of death, I've just discovered an indescribable creature in a primordial, non-Euclidean, slime-ridden necropolis that throws into question all human knowledge on this futile planet. I can either go mad or flee into darkness.

Lovecraft would never be taken seriously by any respectable publisher or literary magazine. Even publishers from obscure SF magazines considered his stories too farfetched. When he submitted *The Call of Cthulhu* to the horror pulp magazine *Weird Tales* in 1925, it was rejected. Lovecraft, not one to give up easily, resubmitted the manuscript with an accompanying letter to the editor: *'To achieve the essence of real externality, whether of time or space or dimensions, one must forget that such things as organic life, good and evil, love and hate, and all such local attributes of a negligible and temporary race called mankind have any existence at all. When we cross the line to the boundless and hideous unknown – the shadow-haunted Outside – we must remember to leave our humanity – and terrestrialism at the threshold.'* Lovecraft's horror is often referred to as 'cosmic horror', as opposed to the supernatural horror of, say, vampires or 'white walkers'. Lovecraft sketches a scientific, cosmic arena of deep space and deep time to reflect on the contingent non-event of human civilisation. The world he describes doesn't escape the laws of nature but is, oddly enough, part of it. And because it is part of it, our definition of 'natural' must be wrong. *Weird* is not so much the strange entity I'm confronted with; it's my perception of reality that must be wrong. Herein lies the horror.

3. On March 9, 2016, eighteen-time world Go champion Lee Sedol takes on his non-human opponent AlphaGo. The deep neural network AlphaGo was developed by Google's DeepMind, one of the global leaders in Artificial Intelligence. Sedol isn't known for making strong claims, but in interviews leading up to the event he cannot imagine losing even one of the five games against AlphaGo. This may sound strange some twenty years after Kasparov was beaten by IBM's DeepBlue, but Go is different from chess. Even the most optimistic A.I.-engineers predict that AlphaGo has no chance against Sedol. Beating a Go professional has long been seen as the holy grail of Artificial Intelligence, and in March 2016 it is thought to be many decades away, maybe never. How come? The game of Go, with its 3000 years the oldest board game in the world, is very simple and incredibly

complex at the same time: the rules are much simpler than those of chess but the number of possible positions in a game tends towards infinity. For thousands of years, mathematicians have been trying to calculate the exact number of possible positions. Only in 2016, the year of the Sedol vs AlphaGo game, two mathematicians managed to crack the code: there are  $2.08 \times 10^{170}$  possible positions in a Go game, far more than the estimated number of atoms in the observable universe (ca. 1080). That's why pure computing power is useless in Go; intuition and creativity are far more important qualities for a Go player. Therefore, nobody expected the computer to beat the human champion. But in March 2016, something strange happens: AlphaGo beats Sedol 4 games to 1. This sends a shock wave, not only through the Go community, but also through the scientific world. AlphaGo even hits the front page of *Nature*. There is one specific move in the five-day game that has been subject to research and discussion to this day: AlphaGo's 37th move in the second game. The two live commentators triple-take after Move 37, first thinking it's a mistake. They stare at the board, in silence. Then: "That's a very strange move. - I thought it was a mistake. (pause) - It's not a human move. I've never seen a human play this move. (pause, then the other gets a message through his earpiece) - Oooh well that's interesting... Sedol has left the room! (The camera cuts to a wider angle of the game arena and indeed: Sedol's chair is empty.) - He left the room after that move? - He left the room after that move." After fifteen minutes Sedol reappears, pale as snow. He goes back to his chair only to lose the game and later, the tournament. In a press conference later on he calls Move 37 'a move of great beauty and genius.' How did AlphaGo do it? How did it beat us in a domain we considered exclusively ours: the vaunted human creativity, intuition and imagination? Truth is, we don't exactly know. Even the DeepMind engineers are left in the dark. What we do know is that AlphaGo is a deep neural network that, on the one hand, got fed 30 million human world class moves. On the other hand it used a technique called 'reinforcement learning', where it basically played millions of games against itself. In this self-learning process it came up with new moves and tactics we could not imagine for thousands of years. Somewhere in its own realm of bits and algorithms, independently from the human mind, it came up with Move 37. Sedol's empty chair is a compelling image. Man has left the arena, baffled. Beaten. Opposite that chair there's another chair. In it is a man. He seems frozen. Next to him is a computer screen, the interface through which AlphaGo gives him the instructions to make its moves on the board. Perplexed he stares at the Go-board, just like the puzzled commentators. As if they've seen Cthulhu.

4. On January 13, 2017, 48-year old Mark Fisher takes his own life. The British writer and cultural theorist was a lecturer at the department of Visual Cultures at Goldsmiths, University of London. He received some acclaim for his contributions to *The Wire*, *New Statesman* and *The Guardian*, his

blogging as K-Punk and his books *Capitalist Realism* (2009) and *Ghosts of my Life: Writings on Depression, Hauntology and Lost Futures* (2014). Fisher's writings are an unusual mix of popular culture, complex theoretical insight and personal political engagement. From Joy Division to Jacques Derrida, from Kanye West to Karl Marx, from the amphetamine-drenched post-rave culture to the metaphysics of depression: Mark Fisher's pen unites them in an accessible and incisive style.

Fisher eventually loses the struggle against his life-long nemesis: depression. Shortly after his death, a small book comes out: *The Weird and the Eerie* (2017). Taking these terms apart, Fisher delves into the work of, among others, J.G. Ballard, Philip K. Dick, Daphne Du Maurier, Brian Eno and Margaret Atwood. What the weird and the eerie have in common, according to Fisher, is a preoccupation with the strange. 'It has to do with a fascination for the outside, for that which lies beyond standard perception, cognition and experience.'

Fisher subsequently focuses on the differences: 'The weird implies a sensation of wrongness: a weird entity or object is so strange that it makes us feel it should not exist, or at least it should not exist here. Yet if the entity or object is here, then the categories which we have up until now used to make sense of the world cannot be valid. The weird thing is not wrong, after all: it is our conceptions that must be inadequate.' Lovecrafts Cthulhu, for example. Or the Black Lodge in *Twin Peaks*. But non-fiction by say, Stephen Hawking, also poses a problem. Fisher: 'In many ways, a black hole is more weird than a vampire. The bizarre ways in which it bends space and time are completely outside our common experience, and yet a black hole belongs to the natural-material cosmos – a cosmos which must therefore be much stranger than our ordinary experience can comprehend.'

While Fisher connects the weird with a presence of something that does not belong, he ties up the eerie with questions of agency. Abandoned ruins, empty landscapes, Easter Islands. 'What kind of agent is acting here? Is there an agent at all? (...) The eerie is constituted by a failure of absence or by a failure of presence.' In the HBO series *WestWorld* we find examples of both types of 'failures': robots that turn out to have self-consciousness, and the main character Bernard who – after seven episodes - turns out to be a robot (he looks at his own blueprint and says: 'This doesn't look like anything to me.') There is something where there should be nothing, or there is nothing where there should be something.

As with the weird, we can encounter eerie situations outside the world of fiction: the presence of creativity in a neural network, for example, or the absence of extra-terrestrial life in an immeasurable universe. Another example of eerie non-fiction comes from consciousness studies. In collaboration with neuroscientists, philosopher of mind Thomas Metzinger studied neurological data from a wide

range of subjects: meditating Zen Buddhists, patients with locked-in syndrome, phantom pains, lucid dreams, hallucinogenic drug experiences, etc. Metzinger concludes that there is no such thing as a 'self'. In his monograph *Being No One* (2004) he compares our brains to a flight simulator without pilot, or to an empty Plato's cave. According to Metzinger our brains project an avatar with which 'we' identify. Like *WestWorld's* robot Bernard we hallucinate an 'I.' But in fact, there's nobody home. These weird and eerie stories that come to us in fiction as well as science, question the limits of human knowledge in an ungraspable world. Human emotions are answered with silence, with the indifferent shrug of an amoral cosmos. A cold, crawling chaos lurks just beneath the fragile fabric of humanity. We, the characters in these stories, come across something (or nothing) that leaves us trembling with humility. The human brain discovers its own limits. You know nothing, Jon Snow.

If a computer turns out to be more creative than man, my definition of what is human must be altered. If every object consists of elementary particles whose status is uncertain, my conception of everything that surrounds me must be wrong. If my own brain is an empty cave, then where am I? Reality manifests itself as unimaginable and I am defenceless. My pupils go blank. My thoughts break.

(...)

This article is the first part of Ryckewaert's multidisciplinary project revolving around the unimaginable. Find the entire article (in Dutch) on [e-tcetera.be/wanneer-cthulhu-roept](http://e-tcetera.be/wanneer-cthulhu-roept). The second part of the project is the lecture performance *Move 37*. The third part is called *The Post-Human Museum*.

### References:

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- Lovecraft, H.P. *The Classic Horror Stories*. (Oxford University Press, 2016)
- Metzinger, Thomas. *Being No One. The Self-Model Theory of Subjectivity*. (MIT Press, 2004)
- You can follow **Voyager 1** here: <https://voyager.jpl.nasa.gov/>
- You can check the **Voyager Golden Record** here: [www.youtube.com/watch?v=ROMKbthmyOU](http://www.youtube.com/watch?v=ROMKbthmyOU)
- The first two seasons of **WestWorld** are available on HBO.
- More on **AlphaGo**: <https://www.quantamagazine.org/artificial-intelligence-learns-to-learn-entirely-on-its-own-20171018/>
- There's a Netflix documentary about the AlphaGo vs. Sedol game: *AlphaGo*.

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