

An Opinion on Werner Herzog's Film "Theatre of Thought"

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Abstract

The illustrious Werner Herzog's film "Theatre of Thought", released in 2024, was the continuation of the director's previous documentaries on the highest level of human intellectual products. As such, the film effectively introduced to the viewer such highlights of contemporary neuroscience as experimenting with optogenetics, using deep brain stimulation for Parkinson's disease therapy or capturing the mind with innovative brain circulation tests. On the other hand, the film was burdened with a mass of unexplained information and even scientifically questionable experimental demonstrations. As all films by this genius artist, the "Theatre of Thought" was also permeated with a pessimistic outlook on human creative endeavors, be they as mysterious as worthy of our admiration.

Key Words: cosmological neuroscience, optogenetics, deep brain stimulation, consciousness, Jane Goodall

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Introduction

There were 3 reasons why I was excited to learn about Werner Herzog's new film, the documentary titled "Theatre of Thought", and to see it at the Film Forum of Greenwich Village soon after its worldwide release in December 2024. First, as a movie lover, I was aware of Herzog's unique filmmaking genius creating such masterpieces as "Aguirre, the Wrath of God" (1972), "Fitzcarraldo" (1982), "The Wild Blue Yonder" (2005) and others. Second, as someone who has spent 40 years of his life as a neuroscientist from Budapest to New York and other places, I got necessarily fascinated by the unexpected chance of looking into how this artist senses and interprets the world of neuroscience. And third, developing the branch of neurophilosophy I named "cosmological neuroscience", I was particularly interested in whether

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the primary message of this film was similar or different from the views (Ludvig 2024a) and planned products (Ludvig 2024b) of cosmological neuroscience. In fact, I proposed to edit a special *Journal of NeuroPhilosophy* issue on this film. But my present contribution was expanded only by Peter Zuk's – much more sophisticated – article (see next paper). I wasn't able to determine whether this was due to the film's restricted public showing, problematic online availability or difficulty to generate interest in the neuroscientist community.

Analysis

In my opinion, this documentary was indeed a high-quality film, more than a documentary, as it let us see into the depth of such scientific minds as the mind of Dr. Christoph Koch, who obliged Herzog to interview him only when he – Koch – is rowing himself into “a Zen-like serenity”; the minds of the neuroscientist husband and wife, Nobelist Dr. Richard Axel and Dr. Cori Bargmann, who try not to talk about science at home “unless something very fascinating occurred”; or the mind of Dr. Polina Anikeeva, who was born in the Soviet Leningrad, grew up in Russia's St. Petersburg as a student attracted to theoretical physics – and ended up as the head of MIT's Department of Materials Science and Engineering in 2024. As importantly, Herzog's interviews with them and other leaders of current neuroscience and neurotechnology still let the director inserting such segments in the documentary as the unforgettable scene from Alexander Dovzhenko's 1930 silent movie “Earth” where the old Ukrainian peasant Semyon is dying among the members of his family with all deeply in more otherworldly than earthly thoughts.

The film effectively showed the wide range of advances in the frontiers of neuroscience as well as the potential of these advances to revolutionize neurology and psychiatry. Dr. John Donoghue's demonstration of the spectacular efficacy of Deep Brain Stimulation in a patient with severe Parkinson's disease was one of the highlights of the film. Though the scientist mind would have also been interested why this treatment couldn't help Michael J. Fox's Parkinson's. The other highlight was Dr. Karl Deisseroth's demonstration in an experimental mouse how his genius invention, optogenetics, light-induced manipulation of neurons loaded with light-sensitive proteins, could control the behavior of the animal. Neurosurgeon Dr. Edward Chang let us observe the pulsing surface of his treated patient's cerebellum, Dr. Joseph LeDoux played on the guitar before impressing us with his knowledge on emotions and the Self, and Dr. Dario Gil, Director of Research at IBM, showed us the most advanced quantum computer in the world.

But when I placed the “Theater of Thought” into the context of cosmological neuroscience, I couldn't turn my eyes away from the significant differences between the two system's information

processing. The film allowed, what cosmological neuroscience would never allow, the use and presentation of bad experiments, like the experiment when the venture capitalist Bryan Johnson placed his blood-flow monitoring helmet on the head of Herzog's cohort Dr. Rafael Yuste, Professor of Neuroscience at Columbia University. They claimed that when Yuste told Johnson the "outrageous lie" (their words) that $5 + 5 = 11$, then his – Yuste's – neocortical blood-flow was different from the corresponding blood-flow when Yuste told the truth of $5 + 5 = 10$. But they showed only when the professor told the lie once and didn't show the necessary control act when he told the truth in similar conditions, not even bothering with proving that the difference was repeatable, thus significant.

The lost opportunities of the documentary were glaring. With all the cutting edge neurotech recording systems showed in the film neither was used to measure the control and performance-related neocortical activities of Philippe Petit, the high-wire artist who walked between the Twin Towers of the World Trade Center in 1974 and now starred in Herzog's film. Breathtaking results in the fields of quantum computing, brain chip construction and medical neurostimulation were presented in the film – yet nowhere was mentioned that the brain is more than a digital electronic computer as it uses analog molecular signals to shape the electrical signals for creating such marvels as this documentary. I am not just talking about this, but myself tried to build with my team molecular – electrical neurotherapeutic implants (Ludvig et al., 2012). And although Herzog indicated that "with all the people we met none of them could explain... what Consciousness is" – he never asked this specific question, at least it wasn't heard in the film. (By the way, cosmological neuroscience defined Consciousness as a cosmically programmed evolutionary product of the animal brain to house the supercircuitry of Soul that in humans leaped to integrate the Self's interacting domains of Identity, Conscience, Will and Mission [Ludvig, 2024a]).

Conclusion

Werner Herzog's recent memoir came out with this disturbing title: "Every Man for Himself and God Against All". His award-winning film "Nosferatu the Vampyre" was even darker than the original – silent – Nosferatu film by F.W. Murnau in 1922, as Herzog resurrected the dead Nosferatu in the body of an innocent man. I also felt this darkness even at the end of this documentary, when a palace guard is shown as he makes his absurd ceremonial steps as a madman – while Herzog narrates: "*Who was the ghostwriter of this?*". Certainly, cosmological neuroscience would finish a film on neuroscience with a diametrically opposite message, like showing one of the famous photos of Jane Goodall embracing a chimpanzee with this narration: "*Who wrote the program of this love?*"

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