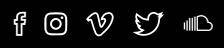
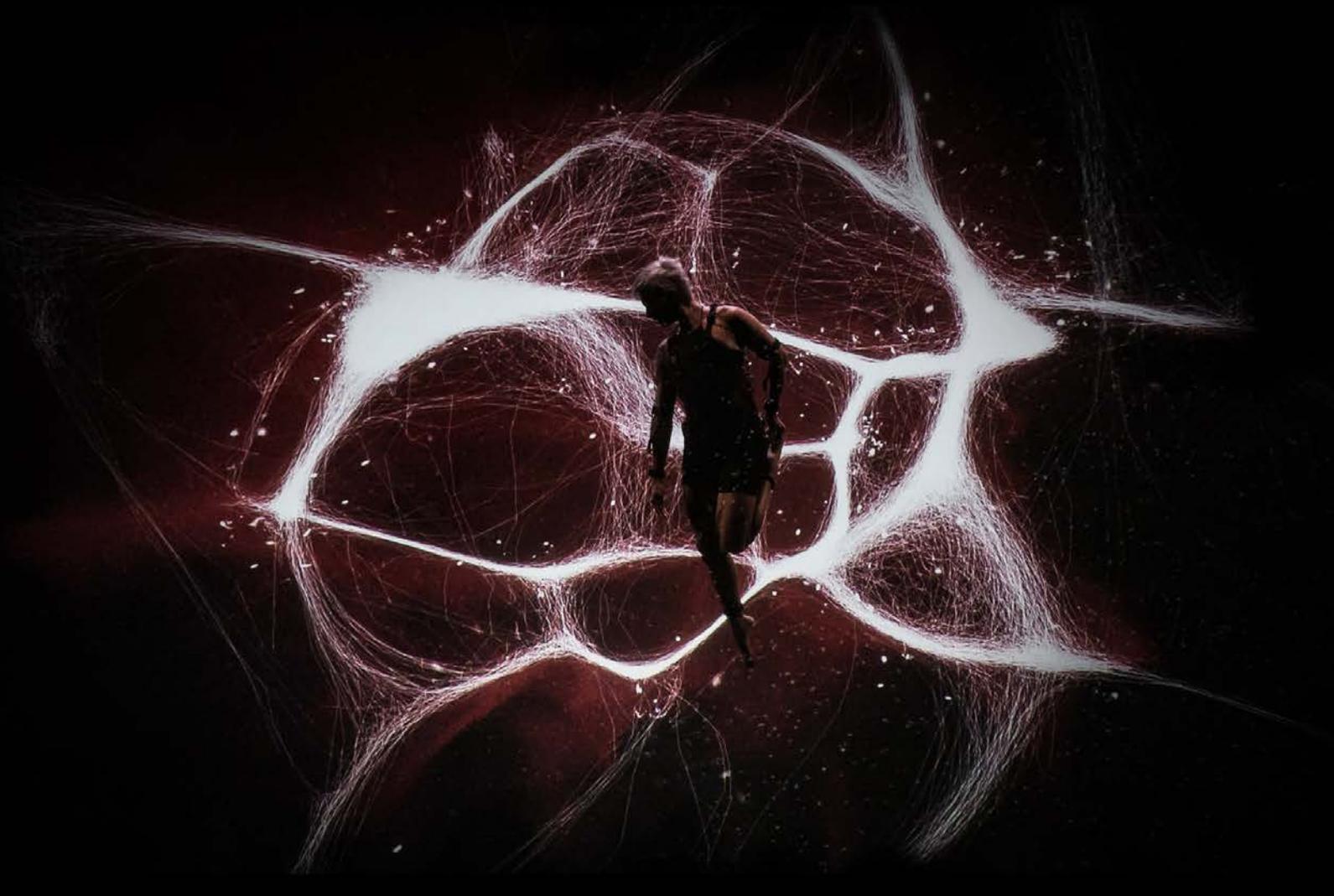


| Dökk |



info@fusefactory.it ~ fuseworks.it
[Dökk Video Trailer on Vimeo](#)

fuse* is a studio and a production company founded in 2007 that operates at the intersection between art and science, with the aim of exploring the expressive potential offered by the creative use of emerging digital technologies.

Ever since the outset, the studio's research has focused primarily on the production of installations and live-media performances capable of profound audience engagement amplifying the emotional impact of the narration.

Over the course of the years, the studio has evolved, thereby allowing for an ever more holistic approach to the creation of new projects.

Adopting a *modus operandi* which valorizes pure experimentation, the goal is to create works that inspire people, push back the limits and seek out new interplay between light, space, sound, and movement.

fuse* has always linked its activity and development to that of the community in which it operates, supporting, promoting and developing projects aimed at spreading culture and knowledge. For this purpose, it co-produces **NODE** since 2016, an electronic music and digital arts festival.



The background of the page is a dark, abstract image. It features a central vertical beam of light, primarily red and white, that illuminates a person in a dark, possibly black, outfit. The person is positioned in the lower half of the frame, appearing to be in a crouched or low-to-the-ground pose. The overall atmosphere is mysterious and artistic, with a heavy use of shadow and selective lighting.

Everything that surrounds us is nothing but a collection of atoms, particles and electromagnetic fields, vibrating without any apparent meaning. When these impulses are interpreted by our mind, they become colours, tastes, music, memories and emotions: the foundations of what each one of us perceives as reality.

Dökk is a journey through the subconscious mind, where reality is represented by worlds and universes that take form and dissolve within the mind, as it constantly seeks a balance between light and darkness.

Concept

Dökk is an Icelandic word that means darkness. In some cultures, the absence of light may be interpreted as a metaphor for life on Earth and of the perception of reality represented as a shadow cast by a light that cannot be seen yet the existence of which may only be sensed. Starting out from this concept, the narrative was developed through the creation of ten rooms that make up a circular path in which the end coincides with a new beginning.

The Italian term stanza ('room') may reflect a variety of meanings: it could be a well-defined physical space that isolates us from the outside world, but it could also be imagined as a mental space inside which to construct our own vision of reality, or in the literary field, it refers to a verse of a longer poem.

The rooms of Dökk are the result of the coming together of these meanings in a single form of symbolism that accompanies the whole narrative. Inside these places of the mind, universes are constructed that evoke the various stages of life.

The stage becomes a space in which it is possible to lose one's perception of space and time: a place of the mind in which reality is reconstructed as the result of one's own actions, and in which every gesture has its own particular consequence.



Fig.3 Dökk during the prototyping phase.

Making of

SET UP

The idea of creating a deep connection between the performer and the digital landscapes has been experimented within Dökk. A special setup has been developed consisting of a double frontal projection on a holographic screen and a rear projection on the back of the stage. Real-time landscapes and 3D objects are then mapped on the two projective surfaces, increasing the depth and dynamism of the visual solutions used. The front screen is semi-transparent enabling a good viewing of digital content without concealing the figure of the dancer. The scenes are then built taking advantage of this technological system to achieve a great level of immersion.

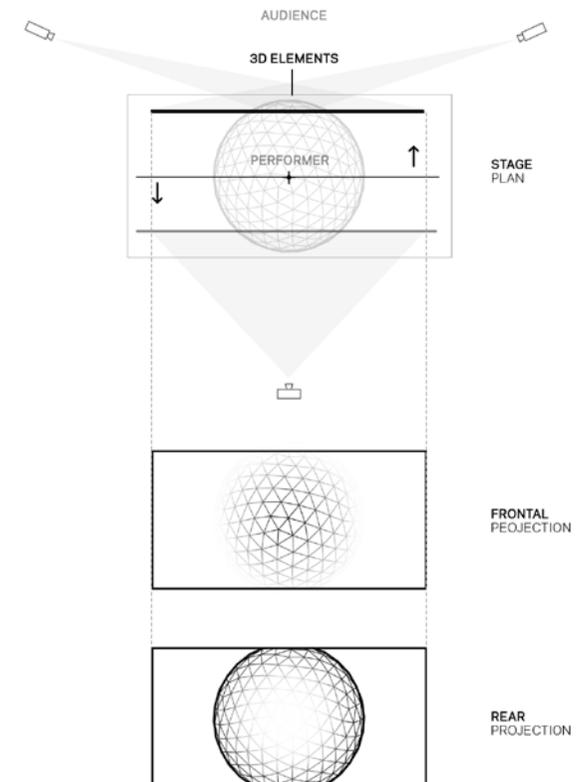


Fig.4 Dökk projection scheme.

REAL TIME DATA

Dökk is the upshot of three years of work aimed at the creation of a work capable of stimulating a sense of profound empathy, transmitting two key concepts: the synchronicity and the unforeseeableness of human existence.

In order to obtain this result, a system has been developed capable of elaborating the result of close interaction between various data generated in real time on the stage: the analysis of sound, the movement of the performer, his/her heartbeat and the sentimental analysis of contents shared on social networks.

The combination of these data thus ensures that every performance takes on ever different and unique connotations as a result of the random, unforeseeable nature of the information analysed.

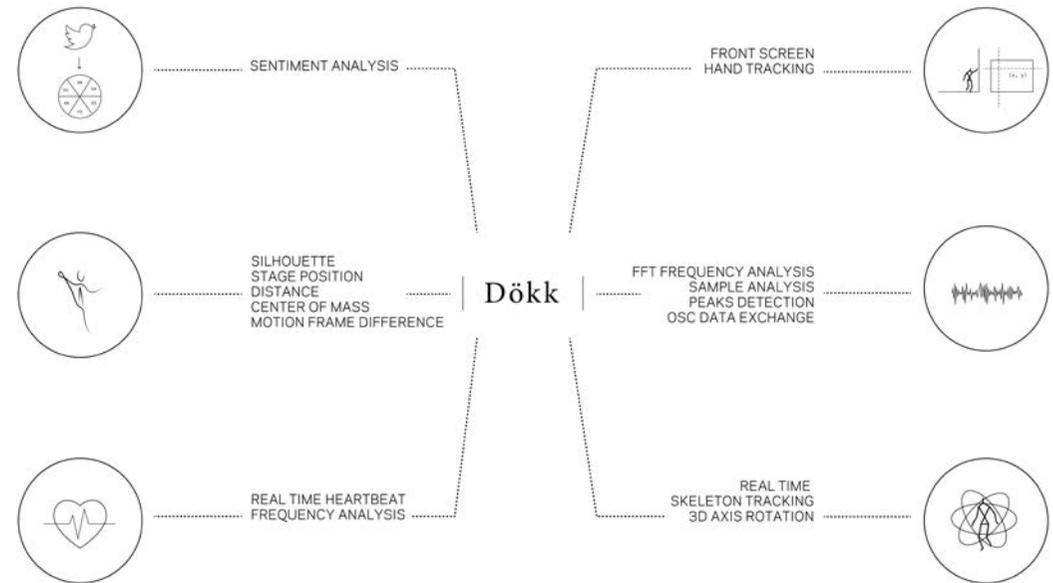


Fig.5 Dökk technological scheme.

SENTIMENT ANALYSIS

Every time the show starts, a stream of tweets filtered through the trending topics of that precise moment is analysed. For every tweet, a sentimental composition is extracted from with a specific algorithm. And so it happens that while Dökk is performed, if a particularly relevant event in the world is going on, the visual and audio landscapes will change, taking on different connotations. In this way, the audience is stimulated to an involvement which goes beyond the physical space where the work is unfolding thanks to thousands of invisible connections with the rest of the world.

The data extracted from the sentimental analysis of the tweets act on the 'warmth' of the scenes, modulating the shade of red in every single moment, as well as altering other graphic details that modify the atmosphere of the single rooms.



Fig.6-7 Sentiment analysis affect the show in different scenes, here a few examples.

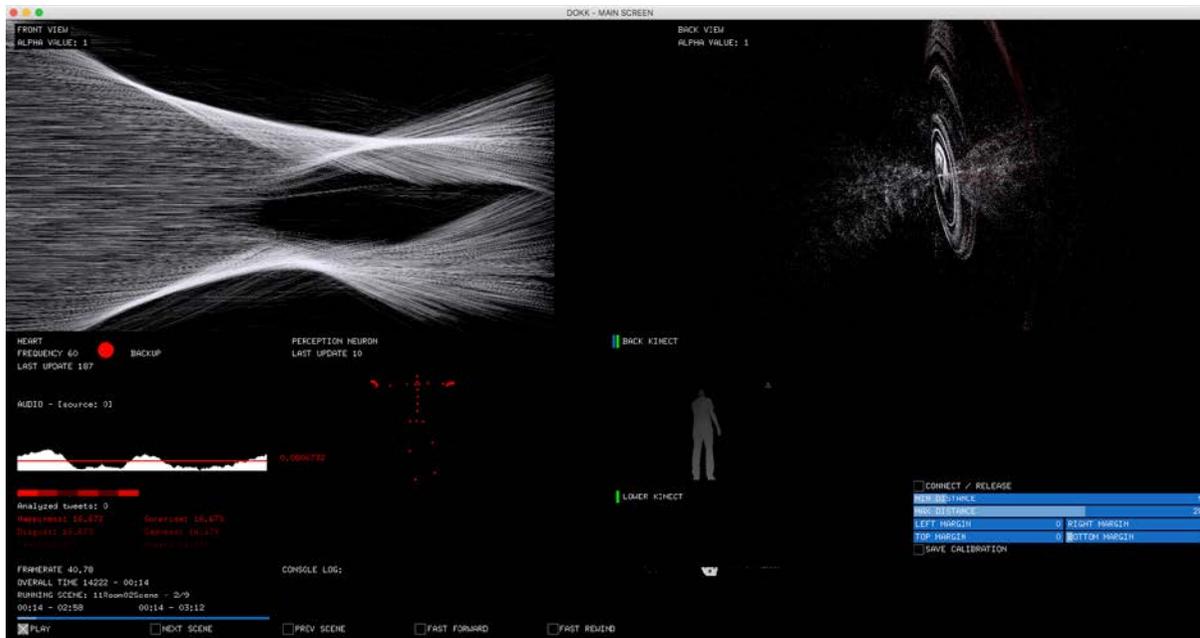


Fig.8 Software interface. It outlines a diverse set of inputs sources used in the project.

MOTION TRACKING AND HEARTBEAT DETECTION

The interaction between choreography and the scene elements represents one of the focal points of the project. The goal set right from the start was to communicate a sense of union and synchronicity between the digital and the bodily components.

In order to do this, we made use of a Perception Neuron: a motion capture system characterised by 18 accelerometers positioned directly on the body of the performer, allowing for the real-time tracking of every single movement. These data are then cross-checked with the two Kinect units placed on the stage in order to monitor her positioning on the scene and provide an even more profound level of interaction.

Another fundamental element that characterises this experience from the beginning to the end is the heartbeat. The heart is the first organ to be formed when a new life is created, and it is the last to stop when it ends. Likewise, the start and the end of Dökk are marked out by the real heartbeat of the performer, acquired through a BLE heart rate sensor, which transmits information via Bluetooth to a special software that in turn elaborates and sends the necessary data via network messaging.

CHOREOGRAPHY

The working scheme has grown from the awareness of the existence of specific structures which must be followed, respected and modified as an example of change of a specific digital environment or the absence of gravity inside a room.

Technology assumes a fundamental role in this journey assuming the role of a real working partner.

The sound and the digital landscape are alive and they react to the movements exactly just as another dancer would do on stage. The interaction brought to such profound levels leads to the body claiming its space to become the sole and true creator of every change that is being acted out.

That is a dance perfecting the perception and the more knowledge of these elements is deep the more it can be eluded and exploited to amplify the gesture. This method researches the essential, the necessary and it required a great rigor during the selection and reduction of the movement. At the same time, the dance is occasionally improvised, without apparent code, unrepeatable.

To achieve the effect of a gradual decrease in gravity, a counterweight system has been used which allows Elena to be suspended in vacuum and to move with reduced gravity. In this way, the physical reality of the body changes, separates and extends itself.



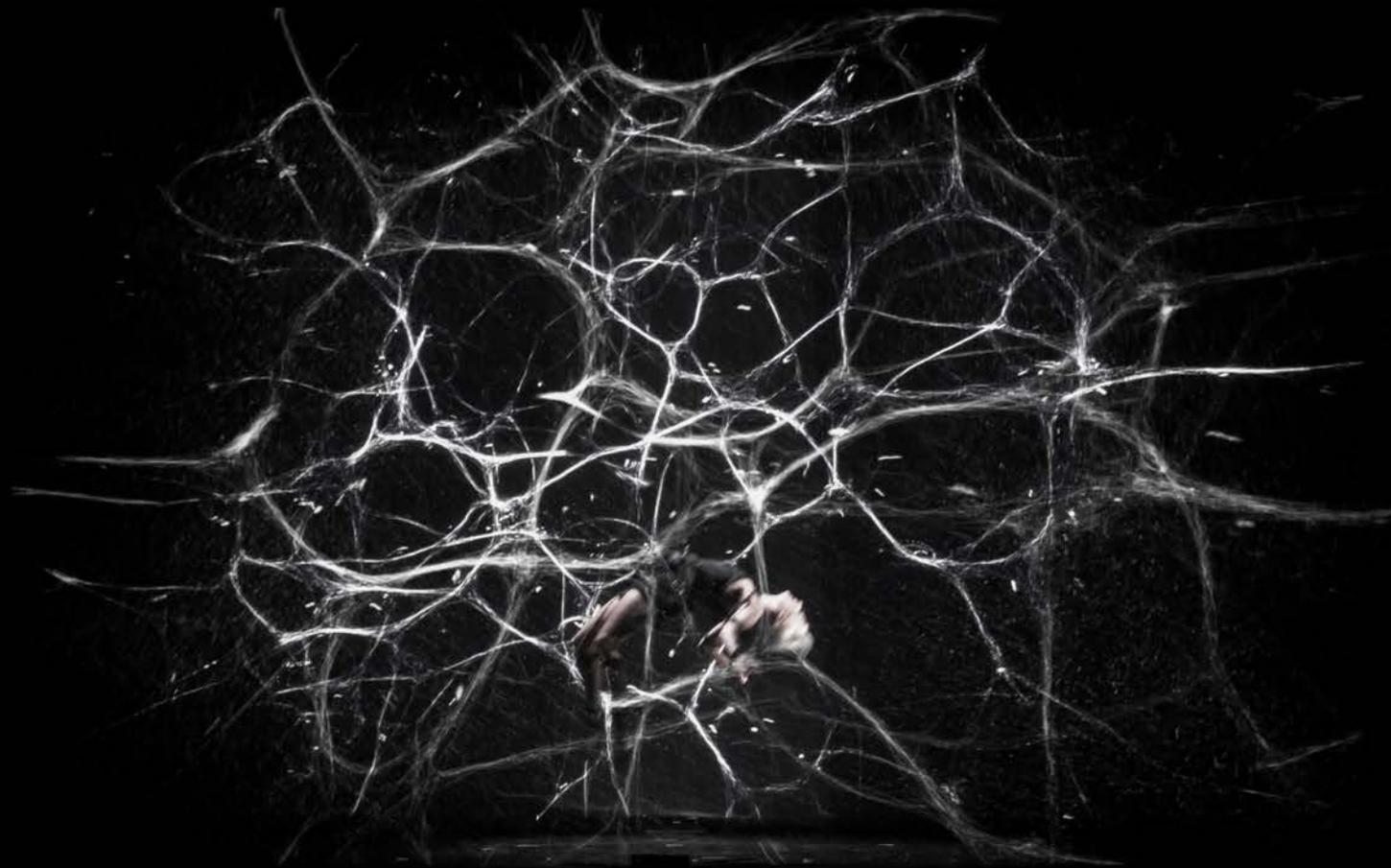
Fig.9 Education in Rebellion.

VISUAL DESIGN

The digital landscapes through which the narrative unfolds are visual metaphors designed to try and portray the perception of reality in the subconscious mind. This representation takes place on the stage, a physical space defined by precise confines which, during the development phase, we felt the need to overcome in order to express the vastness of thought. From here, the need arises to display the universe itself as a symbol of the human spirit.

In Dökk, visualisations alternate of what our universe is, based on a variety of data sources: in some cases the upshot of real observations of space, in others obtained by simulations. Every room is characterised by peculiar behaviours defined by specific physical laws that determine their interaction with the various data analysed in real time.

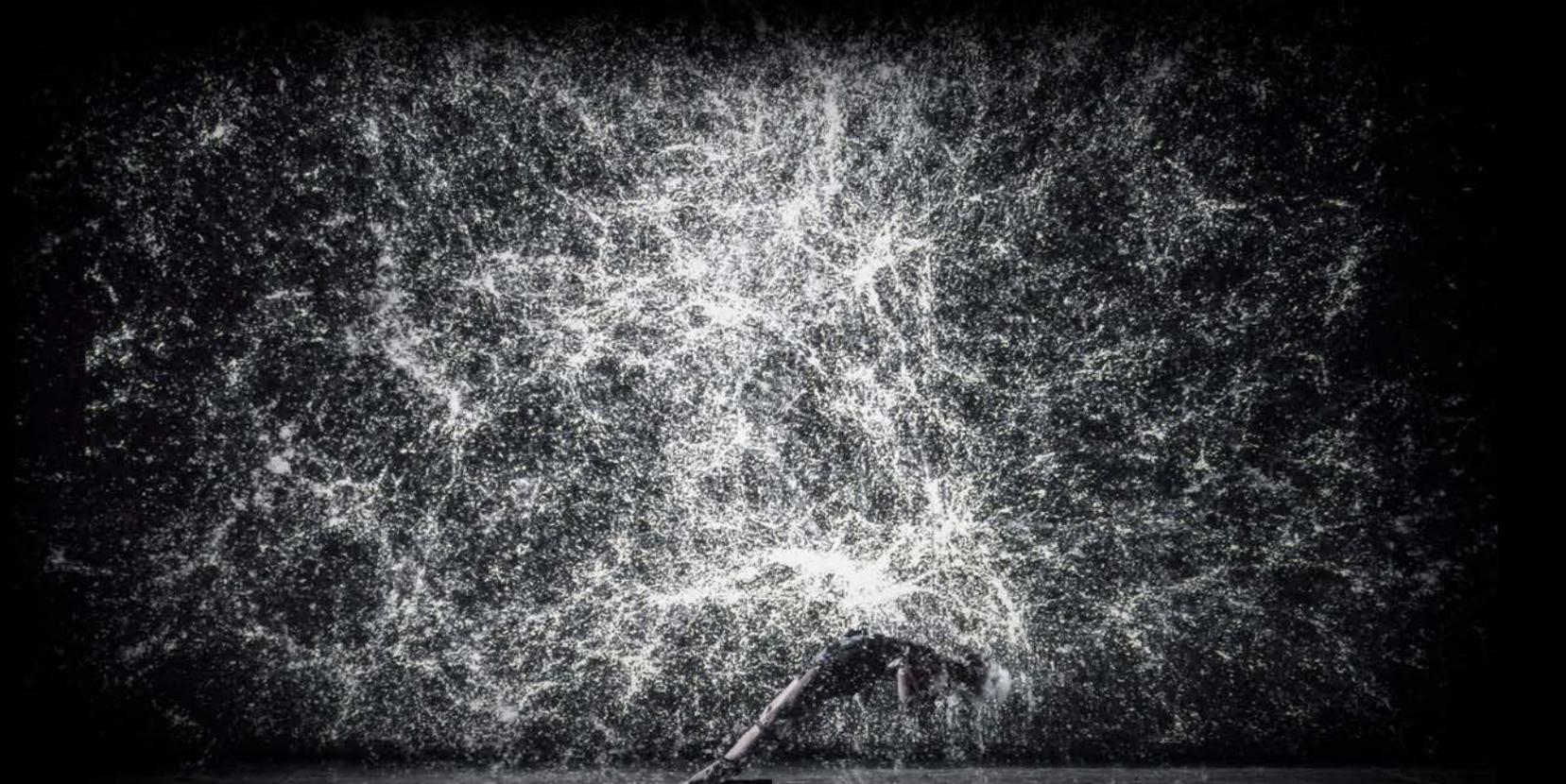




*Fig.11 Stigmergic Network. Dökk, Lights Go Out.
In room six, the filaments that initially described a universe are transformed into axons and dendrites through a construction of a stigmergic nature, in which the particles go on to make up tracks that depend on those paths carried out by other particles.*



Fig.12 Dókk, Celestial Openness.



*Fig.13 Universe simulation during the last room.
The data represent various states in the evolution of the universe, starting from a 'time zero' when the universe was completely uniform, right up to the current age of the universe in which filaments, voids and galaxies can be seen and identified, just like those we may observe ourselves.*

Sound Design

The music of Dökk is designed to provide the narrative voice that accompanies the entire show, making it possible through sound to recount a whole series of emotions and states of mind that it would be hard to describe in words. A major contribution to the creative direction of the sound and structure of a number of pieces was the chance to take part and record during a music therapy session, along with children and kids with special needs and pre-school mental age. Using these recordings as a starting point to create the sonorities of the first rooms, they represent childhood and the joy of the discovery. During the production and mixing of the sounds, various audio synthesis tools and processes were adopted, from the use of semi-modular synths, to sound-design e field-recording techniques, right up to audio programming with the use of Max MSP (a graphic development environment), creating chains of effects for the elaboration of sound and patches of audio synthesis in real time for the interactive parts of the performance. The music for Dökk was designed, composed and mixed to be played through a 4.2 surround system so as to envelop the audience and create a multisensory experience which is as immersive as possible.





Fig.15 Dökk, Point of No Return.



Fig.16 Dökk, Education In Rebellion.

Press quotes

“In ancient cultures, dance has represented a major instrument for contact, dialogue, knowledge of the sacred” — *Creative Applications*

“Those who seek the true origins of dance would tell that it was born at the same time as the Universe” — *Digicult*

“It’s difficult to summarize such a massive piece” — *Cycling ’74*

“A strong underlying concept that has been translated into a live show for theaters with striking and intriguing visuals.” — *German Design Award*

“An unexpected synesthesia of pure cognitive escape” — *Exibart*

Tour

26-27 November - FESTSPIELE 2019 / Ludwigshafen, GERMANY - Dökk

02 November - KIKK Festival / Namur, BELGIUM - Dökk

26 October - Bailar Apantalla Festival / Guadalajara, MEXICO - Dökk

16 October - Digilogue c/o Zorlu Performing Arts Center / Istanbul, TURKEY - Dökk

19 October - Tbilisi International Festival of Theatre / Tbilisi, GEORGIA - Dökk

04 October 2019 - Arts@Tech c/o Georgia Tech Arts / Atlanta, US

20 September 2019 - Today'sArt / Den Haag, NL

24 August 2019 - MUTEK / Montreal, CA

18-19 July - Teatro de la Ciudad / Purísima del Rincón, MX - Dökk

03 May - MUTEK.SF / San Francisco, US - Dökk

03 March - Kopergijetery Festival Digital / Ghent, Belgio - Ljós

07 February 2019 - Nuit Blanche des Chercheurs / Nantes, France

3 November 2018 - IMPACT festival / Hasselt, Belgium

6-7 October 2018 - RomaEuropa / Rome, Italy

27 May 2018 - Week53 / Salford - Manchester, England

24 May 2018 - Athens Digital Arts Festival / Athens, Greece

19 May 2018 - Di palco in palco - Matera 2019 / Matera, Italy

22 March 2018 - L'Avant Scène / Cognac, France

03 February 2018 - Teatro Testoni / Bologna, Italy - as part of DAS CUBO

28 October 2017 - ACT Festival / Gwangju, South Korea

21 October 2017 - TAXT Festival / Taoyuan, Taiwan

07 October 2017 - Biela Noc / Bratislava, Slovakia