

Visualizing Occult Algorithms Divination, Predictive Systems, and Artificial Intelligence in Contemporary Art

Ángel Azamar, Radboud University

In *Artificial Incantations* (28.01.2023 - 26.03.2023 POST Arnhem), artificial intelligence is viewed from the language and aesthetics of the occult, to make sense of the impact of these technologies, such as self-driving cars, self-learning algorithms and smart voice assistants named Siri or Alexa. The present article will explore one of the topics addressed during the exhibition: the act of predicting the future in order to “enhance” human decisions.

Divination (from Latin *divinare*, 'to foresee, to foretell, to predict, to prophesy') is the skill or act of foretelling the past, present and future employing supernatural or magical methods. According to ethnographic and historical record it is a potentially universal practice which has played an important role in decision making, nevertheless currently holds the title of pseudoscience or superstition. Machine learning is a technology used to make predictions about likely outcomes based on the processing of a large amount of collected data. This type of predictive technology has been largely adopted by corporations and institutions in contemporary societies to optimize processes, outcomes and profits, in an alleged attempt to improve human life from health care to law enforcement and policing.

The exploration of three artistic projects will show how this two separate fields merge in an attempt to question the role of artificial intelligence-driven technology in the cultural need to forecast the future, and what are the implications of this use to society.



Figure 1. Kieran Browne, *The Other Side*, 2018, Séance; prayer beads, wood, candles. Source: YouTube, <https://youtu.be/1Y8MqnXYLQU>

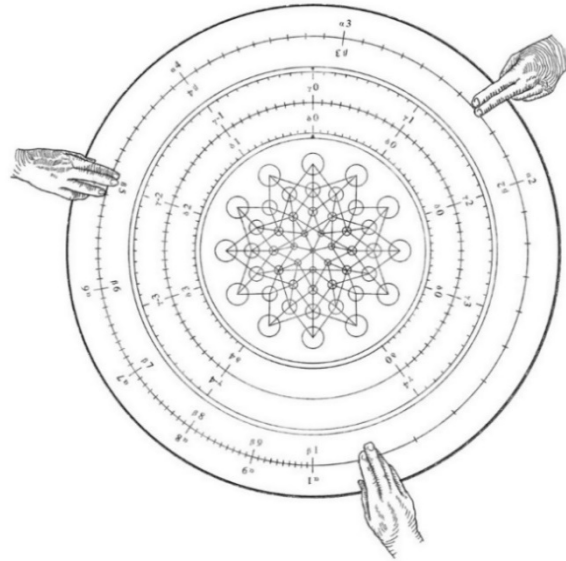


Figure 2. Kieran Browne, *The Other Side*, Detail: Séance apparatus design, 2018.

Inside an obscure apartment, a man dressed in black kneels down towards a circle-shaped wooden artifact surrounded by candles. He kisses a string of wooden beads, writes a symbol in a paper using a blood-looking paint, and begins a series of repetitive and careful actions: he rotates the multiple concentric circles inside the artifact, pauses and then crosses himself using the wooden beads. After fifty minutes of diligent work, the man stops and acknowledges that the artifact “perceives” the symbol written in the paper: the number seven.

This scene belongs not to a magical ceremony but to *The Other Side* (2018) a mathematic performance of a *feed-forward neural network*¹, in which a handwritten digit is foreseen using pre-digital technology (figure 1). Australian artist Kieran Browne conceptualized the network to function by aligning the discs of the apparatus in specific increments that represent the multiplication, summation, and activation of values (figure 2), while using the beads to count back and forth to keep the track of the floating point. The performance references the modern spiritualist movement, in which people gathered in séances to receive messages from spirits of the dead, according to the belief that these spirits are capable of providing useful insight regarding moral and ethical issues.

¹ A Feed Forward Neural Network is an artificial neural network in which the connections between nodes does not form a cycle. The feed forward model is the simplest form of neural network as information is only processed in one direction. While the data may pass through multiple hidden nodes, it always moves in one direction and never backwards. Source: DeepAI, <https://deepai.org/machine-learning-glossary-and-terms/feed-forward-neural-network>

The mathematics of neural networks are well-defined, and their deep learning uses are widely adopted in multiple fields. Nevertheless, the models they produce are invariably complex and indecipherable. Thus, by manually performing the neural network, and using the language of a spiritualist séance, the performance frames deep learning as communion with an emergent intelligence, presenting black-box neural networks as divination and questioning contemporary narratives of machine learning as artificial intelligence. The divination function is a critical tool to demystify a complex technological process in itself, following the idea that if we can communicate by sight, hear, and touch with *something*, we cannot fear it anymore but use them in our favor, similar to the Spiritualist's belief logic.

In the middle of a desk of a corporative office accompanied by a chair, plant, and books about technology and entrepreneurship we encounter an unusual object: a glowing crystal ball. When getting close to it, a floating head of a blue elf appears and invites us to ask him questions regarding the future of prediction: "The most common reaction of the human mind to achievement is not satisfaction but craving for more. Ask me your questions about the future..." Depending on the question, the elf answers with a British accent and a deep machine-generated voice articulating sentences which sometimes are clear, but most of the times crumble and sound more like ironic and broken delirious jargon.

The crystal ball is part of *Icosahedron* (2019) by American artist Zach Blas and its elf is trained by machine learning on texts belonging to thinkers that have influenced Silicon Valley's ideology. The software is modeled after the predictive system of a *Magic 8-Ball*, a popular American fortune-telling toy containing an embedded cylinder filled with blue liquid and an icosahedron (20-sided die) with 10 affirmative, 5 non-committal, and 5 negative answers (figure 4). Similarly, the elf is trained to process the contents of 20 selected books according to their attitude towards the futuristic spirit of Silicon Valley, and following the magic 8-ball possibilities: 10 positives, 5 neutral, and 5 negatives. The crystal ball's predictive system combines elements from both the magical and AI epistemologies, a clear parallel which is often used to describe how the tech industry discourse is based on uncertainty, and not solid scientific facts and data as they brand themselves.

Technical predictions of the future have become a major preoccupation of the global tech industry, as evidenced by rapid developments in machine learning, risk assessment software, consumer analytics, and predictive policing. Nevertheless, their technological developments are also supported by thinkers who provide highly effective discursive framings for predicting and influencing the future, which has resulted in the acceleration and fortification of neoliberal techno-utopianism. The divinatory power of the *Icosahedron* allows the viewers to see through the opaque technological surface to identify who is creating the occult algorithms, and what their intentions behind them are. By making those discourses visible, the artwork demystifies an arbitrary ideological vision that is usually not framed as one.



Figure 3. Zach Blas, *Icosahedron*, installation detail, The Body Electric, Walker, 2019.

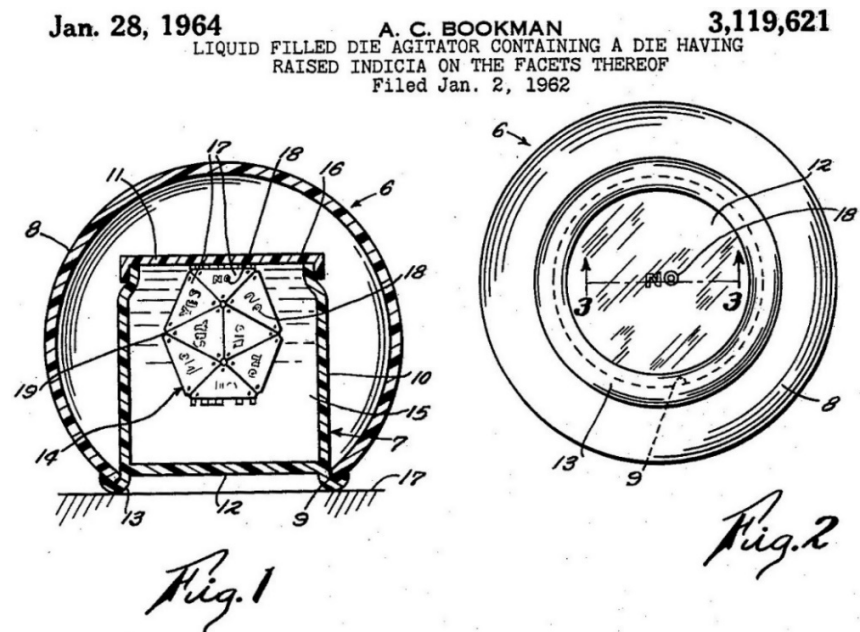


Figure 4. Drawings from Abe Bookman's 1964 patent for a liquid-filled die agitator From the United States Patent and Trademark Office patent database.

Two women face each other from a table covered in blue cloth with the pattern of a Celtic Cross Tarot spread and candles. The fortune-teller instructs the querent to put both of her hands on the table, concentrate, and think about the questions in which she wants answers from the Tarot. However, instead of showing Tarot cards, she asks her to put her smartphone on the table, then asks her what her most used app is, proceeds to open it and asks her to start scrolling until a suggested post or advertising appears. Focusing on her past, present, and future, the young witch reads through images, videos, texts, numbers, memes, and identifies signs, symbols and clues to explain the querent's future.

This techno-magical ritual is performed by Italian artist Ginevra Petrozzi as a part of *To Be a Witch in the Age of Surveillance Capitalism* (2023) in which she interprets predictive algorithms following divinatory knowledge and methods (figure 5). Through this reading, the artist explores how divination tools might be refashioned to reclaim a sense of agency against Big Data, which, in the era of Surveillance Capitalism, has become a quasi-magical entity predicting and programming the future. Tarot reading is a form of divination in which practitioners employ cards to gain insight into questions the querent is interesting in knowing. A common reading pattern is the *Three Card Spread* in which each card represents the past, present, and future respectively (figure 6). This approach is good for personal workings and consultations since it articulates a timeline and a story that connects the three cards and helps to contextualize and analyze the querent's situation. Petrozzi employs the pattern to decode the symbology of the automated predictions that appear in the querent's smartphone.

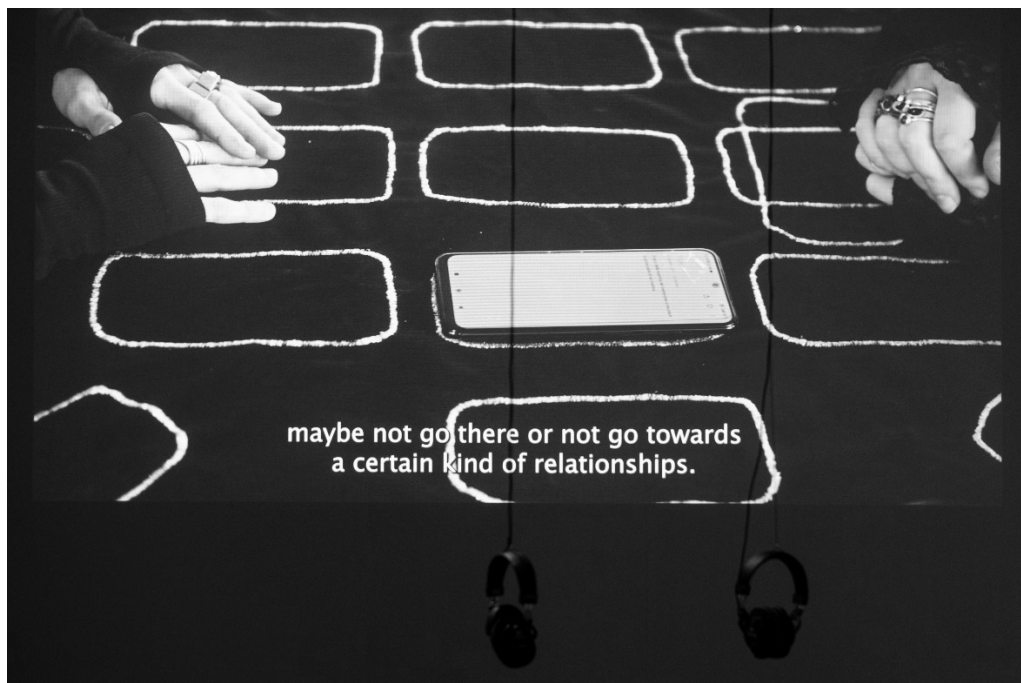


Figure 5. Ginevra Petrozzi, *To Be a Witch in the Age of Surveillance Capitalism*, digital video, 2023, Photo: Koen Kievits.

The 3 card Spread

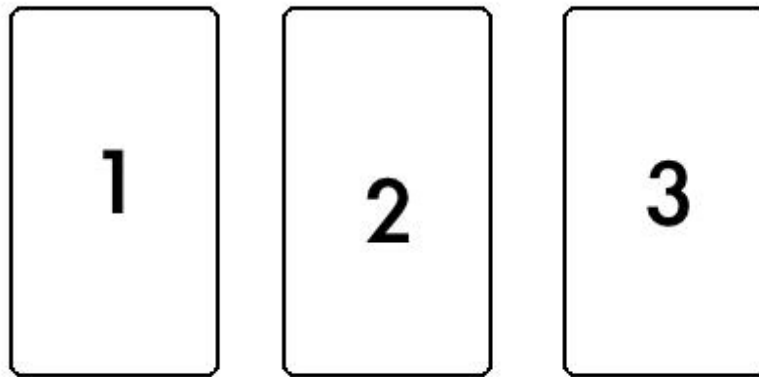


Figure 6. Diagram of the Three Card Tarot Spread. Source: Nadine Roberts, 2013.

Predictive algorithms once belonged to a utopian scenario in which machines collaborate to improve and protect the lives of humans, but in reality, their opaque architecture and uses have proven to become problematic due to the exploitation of the user's data, and the reproduction of racism, classism, sexism, ableism and other structures of oppression. In this case, the fear of the occult algorithms spreads through everyday interactions with electronic devices, and how they unconsciously shape our decisions and future. Through the Digital Esoterism performance, the predictive technology is transformed into a visual tool that provides meaningful insight into the user's digital activity, helping to deal with the fear of algorithmic governance and to become more critical about its powers.

The three projects critically address aspects of digital predictive technology employing images, rituals, methods, and concepts from divination practices. *The Other Side* focuses on the opaque nature and logic of neural networks employed in deep learning, *Icosahedron* reveals the biased, arbitrary, and injustice ideology of the tech-elite developing artificial intelligence, while *To Be A Witch...* uncovers the dangers for users of the predictive systems in everyday interaction with digital technology. Through the artworks, the occult algorithms are made visible in an attempt to know their powers and conceal their negative outcomes, at the same time making them approachable for being used as inputs for the construction of a better-informed future.