



Denial Sage



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Denial Sage is a sound art piece, which speculatively engages with history, bias and conflict through the mediated perception of machine intelligence. It creates this abstract fiction to examine non-human cognition, to create a stranger with which to confront us with a flattened past and to let the vagaries and specters of its perception haunt us. The audio material of *Denial Sage* was created by a generative machine learning model trained on highly biased datasets comprised of .wav files from such sources as conflict reporting and emergency service scanner recordings, which were post-processed and shaped into a multi-channel pseudo-generative installation. While the sounds are often divorced from familiarity, glimpses of something eerily known does come through, questioning what pasts form our future, when even algorithms can hear it.

Sage denial or a sage in denial

Denial Sage is conceived equally as a piece of speculative fiction as a sound art piece. It imagines a history of society perceived through the lens of machine intelligence, creating a metaphor through which to hypothesize the strangeness that a non-human cognition suggests (Khan 2015) when fed back to our own perceptions. When the piece uses the fiction of the omniscient artificial intelligence, thinking of the black box conundrum as a something that denies insight and understanding from the outside, it proposes the algorithm as a form of Sage that possess-

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1. I write pseudo-generative as the sounds themselves are not being generated in real-time; the Max patch only determines the combinations and durations of the files previously generated by the WaveNet algorithm.

es knowledge or perceptions outside the purview of what the human might be able to. Equally though, knowledge as data itself is questioned – whether the knowledge gleaned from these algorithms should indeed be followed, admired, feared – or perhaps it is denied or in denial of the implications that result from its sublimation into models of prediction.

The fiction of *Denial Sage* emphasizes a breakdown of the referential and an insertion of distance between input and output. Rather than allowing a clear delineation of source versus presentation, the sound piece presents as an abstract flow of sounds, which only hints at the familiar. While occasional voices are heard or the staticky noise of a radio scanner, the listener is by and large left to wonder what exactly is extrapolated from the bulk of data on which the algorithm has fed.

The sage installed

Denial Sage is a 3-channel sound installation without visual accompaniment, which was originally produced in 2019 for exhibition at Bozar Lab in Brussels, Belgium. In the context of the xCoAx conference it has been recontextualized as a stereo piece to be listened to in headphones. It is a pseudo-generative piece that randomizes the playback of pre-generated audio distributed to the 3 audio channels via the Max visual programming language¹. Due to the size of the library of sounds it is highly unlikely to hear the same configuration of sound diffused several times. The piece was an experiment in homebrewing a sound library using the auto-regressive generative WaveNets (van den Oord et al. 2016) machine learning model trained on custom datasets for the generation of raw audio .wav files. The model essentially predicts the next sample in the audio to generate new configurations of sound based on its training data. Some of these audio files were subsequently manually post-processed.

Fig. 1. Installation view at Bozar Lab, Brussels, BE.





In the same way as we are witnessing this all-too-common practice, the datasets were comprised primarily of audio scraped from publicly available online sources, such as emergency and law enforcement scanner recordings, news reports, voice sets as well as field recordings of sirens, emergency vehicles. As is readily apparent, this is an immensely biased training set, which implicitly poses questions about the ways in which training data is employed in machine learning by entertaining the common sci-fi trope of just what might happen should an artificial superintelligence focus solely on the destructive impulses of humanity. It questions which narratives are enhanced or indeed discriminated against based on the data and how it is framed. Simultaneously, I wanted to question the narratives that are created from these datasets, how they become reality and how our own perceptions are shaped and affected by them.

The training set included a large amount of war reporting and documentation on several global conflicts at the time including Israel-Palestine, Libya, Iraq and Russia-Ukraine – from these files only environmental sound and snippets of reporter narration was used, consciously avoiding other singularly identifiable voices. This was motivated by both an ethical consideration of avoiding an exploitative mode of production, but simultaneously also out of interest in focusing on the environmental effects of conflict and the narratives told about them (to allude to the historian analogy presented below). The files were all extensively pre-processed to make them somewhat useable for training the model. This very inhomogeneous corpus yielded wildly differing results of varying quality and consistency.

Fig. 2. New York Times video from which small sections of audio were extracted for training data. Uploaded Dec 30, 2018. <https://youtu.be/w0inm3oS71c?si=SsFzQBRqDrK8YpXV>.



It is worth noting that the piece was originally realized at a time when machine learning technologies looked quite different from their current state in 2024. Large Language Models were still not publicly available, not to mention LLMs which could leverage the power of audio generation, necessitating a homebrewed approach. Regardless, the relevance of discussing the themes of machine cognition, bias and AI's role in the context of conflict has certainly not lessened with the mass adoption and incorporation, we are currently witnessing.

Machines perceiving

Inspired by Manuel DeLanda's "robot historians" (DeLanda 1991) but reimagined less as part of the war machine and more as perplexed stranger, the sage algorithm listens in on our recent past, an age no less rife with strife than many before it. Unfortunately, it seems, much of history is written in conflict.

The algorithm is interested in finding patterns, predicting likelihoods. It wants data to find interconnections that help it make these predictions. In a way the algorithm hears what it wants to hear, perceiving not just what was expected, but a wishful approximation of "non-standard aesthetics [...] refusing [...] the ontology of the sensible, for which machines are determined to perform what they are programmed to perceive" (Parisi 2023, 89), before telling it in the language of synthesized raw .wav audio files. The algorithm does not need to distinguish in time and space, it views the whole of the data, ahistoricized and decontextualized in its single instantiations. In its engagement with its training data, the algorithm enters its strangeness, it is then that its cognition becomes apparent as not "an intelligence for us" (Bratton 2015, 70) with the dataset as a corpus with organs – a training corpus that is outside of time, a mass of perceptions which would not be accessible to us without the additional baggage of contextualization twisted to justification.

Denial Sage emphasizes the strangeness of the non-human cognition by focusing on the incompleteness of information, the broken representations, and failed impressions that it gives voice to. It does not try

2. Referencing that undefinable non-origin of the almost-present-ghost of hauntology as discussed by Jacques Derrida (2006) and Mark Fisher (2014).

to find equivalency between the human and non-human cognition, but lets it be strange, all the better to remind us of just how much past is in our present. The algorithm stands outside of human history as it relays back a collapsological narrative that is stripped of its contexts and temporalities and although the sound confronting the listener is oftentimes abstracted, intermittently an uncanny fragmented familiarity breaks through². It tells the stories of broken lives and broken environments, but denies the listener a full understanding, it excludes them from its conclusions, the algorithm finding a voice that is haunting us.

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