



All the Boys Ate a Fish



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All the Boys Ate a Fish utilises voice cloning, Deep Reinforcement Learning and text prediction NLP in an interactive installation designed to provoke critical consideration of self-expression, anthropomorphism, agency and control in technology mediated communication. An artificial agent interacts with you, prompting you to speak by drawing upon phrases from corporate training in active listening. It then repeats the most recent things it 'heard', stitching together your words with those of previous visitors in a voice that sounds more like you the more original it deems your utterance. In addition to hearing the cloned voice, you feel it as tactile sensation, re-uniting a facsimile of your voice with your body and calling into question what it means to be an embodied mind while evoking a strange mix of empathy, curiosity and frustration with disembodied others.

Description

Our voices come from deep within our bodies, but once out, are they still ours? Detached from our bodies, they are different, transformed by the expectations, perceptions and interpretations of others. Deep fake voice cloning takes this a step further by replacing the very words we speak. This interactive installation brings the human body back into contact with cloned voices to explore how feeling them vibrate through us changes our experience of them and our own subjectivity. An artificial agent interacts with you, prompting you to speak with phrases drawn

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from corporate training in active listening and repeats the most recent things it has ‘heard’. When you speak, it adds what it ‘thinks’ you said and begins cloning your voice, repeating the stitched together phrases in a voice that becomes closer to yours every time you speak. The voice it generates comes from under your feet, completing an uncanny loop as it re-enters your body via 24 tactile transducers installed in the floor tiles. This voice, simultaneously yours and ‘other’, follows you as you move, the artificial agent having been trained with Deep Reinforcement Learning to mimic your motions.

Fig. 1. Installation view, Inspace, Edinburgh Art Festival, 2023.

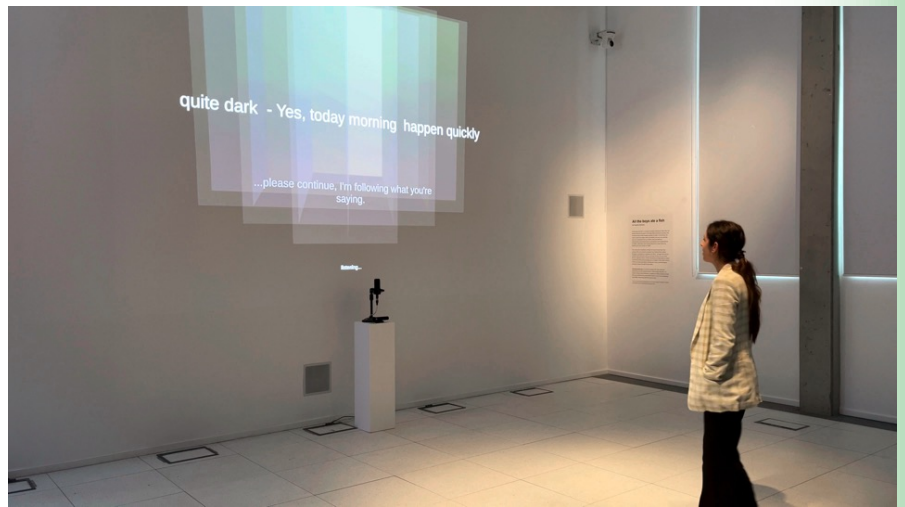
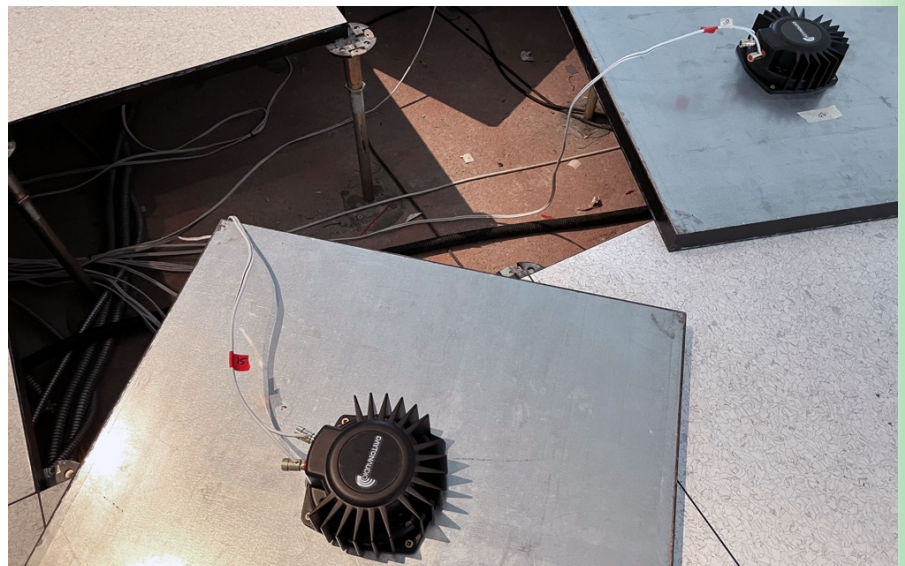


Fig. 2. Tactile audio transducers installed on the underside of the floor tiles.



“All the boys ate fish” is a phrase involving all the mouth shapes needed to generate a deep fake (Rifkind 2023). The phrase evokes both *Lord of the Flies*, a novel based on the deeply problematic and empirically dubious (Bregman 2020) notion that we are naturally self-interested creatures prone to cruelty and violence, and “the exquisite corpse shall drink the new wine,” the surrealist game in which meaning emerges collectively by piecing together parts of speech through a grammatical formula (Brotchie and Gooding 2001). This installation plays with these ideas about human nature, creativity, manipulation, absurdity and the algorithmic emergence of meaning to provocatively suggest the fraught nature of communication when mediated by systems designed with a

very limited concept of intelligence in mind. It attempts to make an exquisite corpse from living bodies.

An adapted version of the artwork for xCoAx extends the exploration of re-embodied voices and algorithmically mediated communication to consider the valuation of originality as an expression of selfhood and agency. Machine language models determine the next word in a statement probabilistically based on the words that came before it in very large text corpora written by humans. While this probability is often used to conveniently streamline writing and search queries through autocompletion, it may in effect reduce creativity and agency in our use of language (Baron 2023; Selinger 2015). It is possible to invert this, to use the probability of a word after it is uttered to determine how unique that word choice was and by extension how much it might individuate the speaker who chose it from others, human or machine. In this version of *All the Boys Ate a Fish*, instead of gradually cloning your voice the more you speak, the degree to which your voice is cloned (and thus felt through your body) is determined by the (im)probability of your word choice given the words that came before.

Originality in word choice is a crude and problematic measure of selfhood. While ‘to find your voice’ implies the achievement of authenticity and individuality, our words are never only our own: what we say is determined by a myriad of factors, and in fact imitation and conformity are central to language. On a neurophysiological level it’s proposed we acquire language through a process that involves mirror neurons firing in response to others’ vocal gestures and facial movements (Studdard-Kennedy 2002). At the social level we imitate others to fit into groups (Van Swol and Kane 2019; Hopkins and Branigan 2020; Kavanagh and Winkielman 2016) and “the social rules of language often force us into responding in certain ways” (Chaika 1994, 465). Evolutionary views of language claim that eccentricities of expression are either selected against (Harris and Taylor 1989) or, famously, replicated as memes through imitation (Dawkins 2006). Psychologically, language is intersubjective, with the ability to navigate other perspectives crucial to communication, such that those who struggle with perspective-taking can seem incomprehensible (Van Schuppen et al. 2023). Philosophically, “speech is stolen” (Derrida 2001, 224) and “the speaker is subjected to language rather than master of it” (Gallop 1985, 43).

The embodied, psychological, social and cultural determinates of language are reduced if not ignored when algorithmically determining the probability of one word following another, even if one argues they are present in the training material (Birhane 2021). The use of language to connect with others is as important to identity formation as originality. It is however precisely this paradox at play in self-expression and indeed in our attempts to create artificial others: what ‘self’ are we expressing through our voice? What distinguishes it from other ‘selves’? Unique expression is often valued as a product of creativity, protected as intellectual property and monetarily rewarded, but at what point is it so unusual as to be devalued as incoherent, nonsensical or absurd? A product of insanity, even, or a human ‘glitch’? When is a machine’s improbable use of a word not considered a glitch but a sign of creativity or even potential selfhood?

The original version of *All the Boys Ate a Fish*, exhibited during the 2023 Edinburgh Art Festival was site specific, utilising an existing

raised floor of tiles by installing transducers on the underside of each tile, enabling the voice to follow the visitor around the room. For xCoAx the artwork utilises a single transducer installed on the underside of a chair and a bespoke headrest with embedded bone conduction speakers. The visitor feels the vibration through their body, and their inner ear hears the voice through the back of their skull, similar to the way our naturally produced voices resonate in our cranium. To further evoke the dystopian aspect of the artificial agent's automated active listening prompts and to suggest a speculative future in which the bulk of professional communication is with automated colleagues or superiors, an office table is placed between the display and the chair, with a lone microphone on the table facing the viewer. This setting might simultaneously reference a job interview or podcasting, both situations in which one attempts to establish their uniqueness, or an interrogation, in which one feels under suspicion and speaks less freely (Hoogesteyn, Meijer, and Vrij 2020). Perhaps it recalls a 'speakwrite' from Orwell's *1984* with which workers in the Ministry of Truth 'rectify' all records of past pronouncements by Big Brother or 'vaporise' individuals, replacing them with wholly fictitious others more aligned with Party doctrine (Orwell 2018).

All the Boys Ate a Fish utilises voice cloning, deep reinforcement learning and text prediction NLP in a system designed to provoke critical consideration of self-expression, anthropomorphism, agency and control in technology mediated communication. It draws upon surrealist games, cut-up, literary allusions, and corporate managerial speak to create a sinister absurdity that undermines both romantic humanist notions of individuality and extractive capitalist ideas of human-like machine creativity. It calls into question what it means to be an embodied mind while evoking a strange mix of empathy, curiosity and frustration with disembodied others.

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Video documentation:

<https://theodorekoterwas.com/all-the-boys-ate-a-fish>

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