A Disembodied Language: Lisp and the Fictions of AI Research

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The crystallization of the scientific efforts that were to gave rise to artificial intelligence (AI) took place in the decades following the second world war, and involved a select group of people, closely interacting with each other[1]. While rooted in mathematics, biology and a burgeoning computer science, the "fathers" of AI, as they came to be known, relied on a range of ideas taken from both a history of scientific thought as well as from a history of accounts of autonomous, machine-like beings. So, while not explicitly referencing fictional works, those involved in the early stages of AI research (e.g. Turing, McCarthy, McCullough, and Wiener) have implicitly based their work on assumptions resulting from an entanglement of beliefs around the brain, language and inanimate matter. These beliefs, straddling the line between fiction and scientific hypotheses, offer a new perspective on the linguistic implications of AI research and production.

By examining the scientific and fictional concepts that those individuals engaged with in the 1940-1970 period in the United States, this contribution aims at expliciting the thin line between the scientific work of AI pioneers and fictional accounts of all-powerful languages and symbol manipulation. Particularly, I will focus on the connection between the myth of the Golem in Jewish folklore[2], Freud's narrative accounts of human psychology[3], as well as Leibniz's *characteristica universalis*, a fantasized universal formal language[4]. The interplay of these different fictions provides a backdrop for the contemporary approach of AI methodologies, in which a certain power of language is considered foundational. The result, I will argue, is a paradigm through which form can be entirely separated from content, in which meaning no longer has anything to do with its vehicle.

Developing this point further, this contribution will examine the nature and discourses surrounding Lisp, a programming language designed by McCarthy for the specific purposes of AI development, and still in use today. A semantic analysis of Lisp itself, as well as a discussion of the social contexts in which Lisp is evoked or referred to (sometimes as "*God's language*"[5]), will reveal a technical object whose perceived power is based on flexibility and abstraction. This contribution will, through the analysis of the different metaphors of religion, wizardry[6] and perfection in popular programming culture, highlight how Lisp has, throughout the years, acted as a technical vehicle for the assumptions of AI pioneers.

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1 McCarthy, John; Minsky, Marvin; Rochester, Nathan; Shannon, Claude, *A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence*, Stanford, 1955. Retrieved from: http://www-formal.stanford.edu/jmc/history/dartmouth/dartmouth.html on 27/09/2020.
2 Wiener, Norbert, *God & Golem, Inc: A Comment on Certain Points where Cybernetics Impinges on Religion*, MIT Press, 1964.
3 McCullogh, Warren S., *The Past of a Delusion*, Chicago Literary Club, 1953.
4 McCorduck, Pamela, *Machines Who Think* (2nd ed.), A. K. Peters, Ltd, 2004.
5 Kanefsky, Robert, *Eternal Flame (Song parody)*, GNU email list, 1996, retrieved from: https://www.gnu.org/fun/jokes/eternal-flame.en.html on 26/09/2020.
6 Abelson, Harold; Sussman, Gerald Jay; Sussman, Julie, Strucutre and Interpretation of Computer Programs, MIT Press, 1996.

Through close readings of source texts, I intend to shed new light on those fiction-infused assumptions behind early AI research, and how those assumptions have, through the technical development of an AI-oriented language like Lisp, informed the current production of AI-generated works; ultimately, this perspective will allow us to better understand the nature of those contemporary productions.

Indicative Bibliography

- Cramer, Florian, *Words Made Flesh: Code, Culture, Imagination*, Media Design Research programme, Piet Zwart Institute, Willem de Kooning Academy Hogeschool, 2005.
- Graham, Paul, *On Lisp*, Prentice Hall, 1993.
- McCarthy, John; Minsky, Marvin; Rochester, Nathan; Shannon, Claude, *A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence*, Stanford, 1955.
- Turing, Alan, *Computing Machinery and Intelligence,* in *Mind,* vol. 49, issue 236, 1950.
- Weizenbaum, Joseph, *Computer Power and Human Reason: From Judgment to Calculation*, W.H Freeman and Company, 1976.
- Wiener, Norbert, *The Human Use of Human Beings*, Da Capo Press (2nd ed.), 1954.

Biography

Pierre Depaz is an academic, developer and artist. He is currently lecturing at NYU Berlin and Sciences Po Paris, while completing his doctoral thesis on the aesthetics of code at Paris-3 Sorbonne-Nouvelle, under the direction of Alexandre Gefen and Nick Montfort. His academic research revolves around how software systems create representational frameworks for inter- and intra-personal organization, while his artistic practice includes digital games, computer simulations, interactive installations, networked performances and experimental web projects, and has been exhibited in NYC, Paris, Cairo, Abu Dhabi, Brussels and Berlin.