How does Esposito's "Artificial Communication" compare with Gygi's Japanese "Emergent Personhood"?

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Abstract

In Esposito's work, *Artificial Communication* (2022), communication can emerge between people and LLMs. In Gygi's work *Robot Companions* (2018), for the Japanese, personhood can emerge in interactions between humans and things. Both of these works use frameworks that do not require intelligence or interiority in an interaction partner for either communication or personhood to emerge. Both of these works also argue that it is the dissimilarities of these artificial interaction partners from humans that allows them to be more effective in certain interactions.

Outline

1. Frameworks
    a. Artificial Communication
    b. Japanese Personhood
2. Comparisons & Synthesis
    a. Interiority & Intelligence are Unnecessary
    b. Functionalism
    c. Emergence
    d. Ontological Openness
    e. Interdependence & Independence
3. Human Dissimilarity
    a. Iyashi or Robot Healing
    b. ML Communication and Computation

Artificial Communication

For Esposito, linguistic interactions with LLMs can be considered a form of communication.

Artificial Communication

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Esposito takes the position that LLMs:

- are not intelligent in the human sense
- have no capacity to “understand”
- yet a form of communication can still take place.

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- Information is different for participants in a communication system.
- It is relative to a specific observer.
- Communication happens when somebody understands that something was said.

Artificial Communication

This concept of communication is centered on the receiver or observer rather than the speaker.

Artificial Communication

This is relevant to LLMs, as this model does not require interiority or intelligence for communication to happen.

Common definitions of communication define it as having at least two participants having at least part of a thought in common.

Artificial Communication

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- Luhmann believes that questions of subjects and minds in a communication system are beyond the scope of the definition of communications.
- Communication can produce forms of coordination, but the thoughts of the participants are not part of communication itself.

Artificial Communication

Linguistic interactions with LLMs can be considered a form of communication, if a receiver or observer interprets it as such.

Emergent Personhood

For Gygi, personhood in Japan can emerge from interaction with things.

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Emergent Personhood

In “Robot Companions”, a type of agency/personhood or “kokoro” can emerge through processes of relation, interaction, and socialization with things.

- Gygi says, While Japanese attribute kokoro (mind/heart) to things, they don’t necessarily attribute inochi (life) to robots. Both are separate concepts.
- Gygi says entities are not personified first, then socialized with later, but they are personified “as, when, and because” they are socialized with. (Bird-David)

Emergent Personhood

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- Gygi then defines "animation" as "the technology of relating to things who may or may not be persons."
- These approaches enable relation and interaction with things without assuming anything about the thing's interiority.

Emergent Personhood

Gygi discusses two modes of animation:

- Cathexis
- Recalcitrance

Emergent Personhood

Cathexis

- The user merges their will with an instrument, and they act as one.

Emergent Personhood

Cathexis

- The user merges their will with an instrument, and they act as one.
- The thing becomes one with one’s body, both in the sense that one’s perception extends through the object, but also that the agency of the object is projected into it from the user.

Cathexis

First Example: Skillful Use of a Tool

Cathexis

Hiroshi Ishiguro's Geminoids

- Hiroshi Ishiguro (石黒浩) is a Japanese roboticist and engineer.

- Geminoids are remote controlled robot replicas

Cathexis

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Ishiguro observed that when somebody was manipulating the Geminoid's head, he felt as if it happened to him.

Cathexis

Other operators of the Geminoid experienced something similar. When someone poked the cheek of the Geminoid, “the operator would react as if they were touched, themselves.”

Cathexis

This self-extension is bidirectional.

Cathexis

LLM's as an extension of the mind and body

Emergent Personhood

Recalcitrance

- The “agency” of a thing appears because it opposes the user.

Recalcitrance

Gygi's examples involve the Sony AIBO

Recalcitrance

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- the owner rushed to extract the AIBO from the situation.
- AIBO developers might say this happened because of a malfunctioning of sensors.
- The AIBO owner framed the situation differently: that it was because of the AIBO's mischievous personality.

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- This framing arises not just because of the owner's meaning-making, but is the result of how the AIBO must navigate the world, which is mediated by an owner.
- Had the owner not run to retrieve the AIBO, the behavior would have been perceived as a malfunction rather than mischievousness.

Recalcitrance

Another example is how AIBOs respond to vocal commands.

- Sometimes its sensors do not pick up certain voices well.
- This is seen as the AIBO having a dislike or preference for certain people.

Recalcitrance in LLMs

LLMs are designed to be able to produce unpredictable results

Recalcitrance

This similar to Esposito's Virtual Contingency

- Virtual contingency can produce the effects of recalcitrance.

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- Virtual contingency can produce the effects of recalcitrance.
- Contingency in LLMs is borrowed from its training data, the contingency of humans. Thus it is virtual.
- LLMs are stochastic algorithms.

Emergent Personhood

For Gygi, a type of agency or “kokoro” can emerge through technologies of animation. These are processes of socialization, relation, and interaction.

Comparisons and Synthesis

Both concepts do not require interiority or intelligence in interaction partners

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- Esposito does not define communication in reference to conscious subjects.
- Gygi's technologies of animation in Japan allow interaction with different things without having to confirm any aspects of interiority.

Comparisons and Synthesis

Both concepts can be said to be functionalist and pragmatic concepts.

Comparisons and Synthesis

Both concepts can be seen as emergent ontologies.

Comparisons and Synthesis

Both can be seen as ontologically open.

- For example, an AIBO can “come into being as a robot, as a pet, as a family member or as a technological marvel.”

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- For example, an AIBO can “come into being as a robot, as a pet, as a family member or as a technological marvel.”
- What an AIBO *is* “emerges through the relations it enters”
- The ontology is never closed, and is continuously informed through the process of interaction and relation.

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Comparisons and Synthesis

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- For Gygi, because instances of animation emerge in the process of relation, each instance of relation and animation is unique.
- each instance of relation and animation does not necessarily have the same characteristics, processes, outcomes, etc. as another.

Comparisons and Synthesis

Ontological Openness in LLMs

LLMs are engineered to have high docility and high recalcitrance when needed.

Extension of the Self through Cathexis

Another Person through Recalcitrance

Non-Person

Comparisons and Synthesis

Both concepts are interdependent but independent

- Communication can emerge without personhood
- Personhood can emerge without communication
- Both affect each other, but can exist without the other.

Comparisons and Synthesis

Both concepts:

- do not require interiority or intelligence in interaction partners
- are functionalist and pragmatic concepts
- can see them as emergent ontologies
- can be seen as ontologically open
- are interdependent but independent

Dissimilarity from Humans

It is the dissimilarity of these technologies from humans that enables them to have unique interactions as interaction partners.

Dissimilarity from Humans

Gygi says that it is the lack of interiority that enables unique interactions with robots that cannot occur with humans.

Dissimilarity from Humans

Iyashi or Robot healing

Dissimilarity from Humans

ASUNA, a life-like android.

Dissimilarity from Humans

- During one event, A disabled person was moved to tears of joy, because ASUNA looked at them steadily.

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- The participant notes that when people avert their eyes from them, it might because staring at them would be distressing. But when people stare at them, they might be looked at as a spectacle.

Dissimilarity from Humans

- During one event, A disabled person was moved to tears of joy, because ASUNA looked at them steadily.
- The participant notes that when people avert their eyes from them, it might because staring at them would be distressing. But when people stare at them, they might be looked at as a spectacle.
- However, because the participant knew that the android had no capacity to have judgements or intentions, they felt that ASUNA looked at them with “pure eyes”.

Dissimilarity from Humans

"Robot" by the Blanca Li Dance company on February 22, 2017. This had child-sized Nao robots.

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- These robots often fell down.
- An audience member said they would have preferred a show with just robots, saying “They were so cute, I felt enormously healed.”
- “They were cuter than children or animals, because they did not have an ego (jiga) or selfishness (gayoku). The robot’s kokoro is felt when it moves in these awkward, cute, inhuman ways.

Dissimilarity from Humans

These technologies can excel in specific types of interactions because they do not resemble humans.

Dissimilarity from Humans

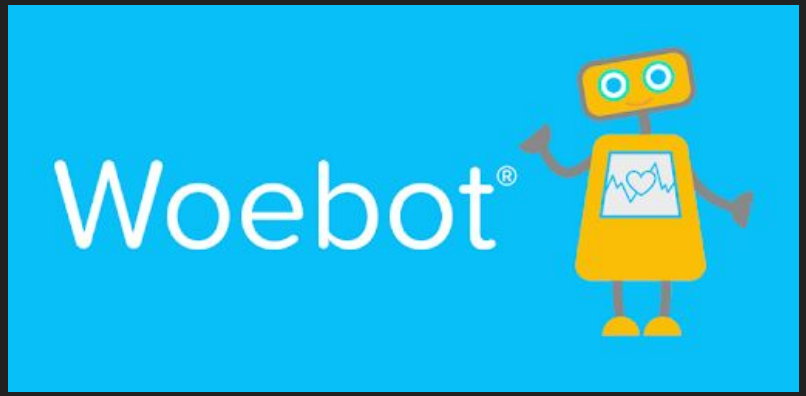
Esposito says that LLMs and Machine Learning algorithms can do what humans cannot do because they do not try to reproduce human intelligence and understanding.

- LLMs communicate via token prediction
- Recommendation systems can recommend music
- Translators translate without understanding

Dissimilarity from Humans

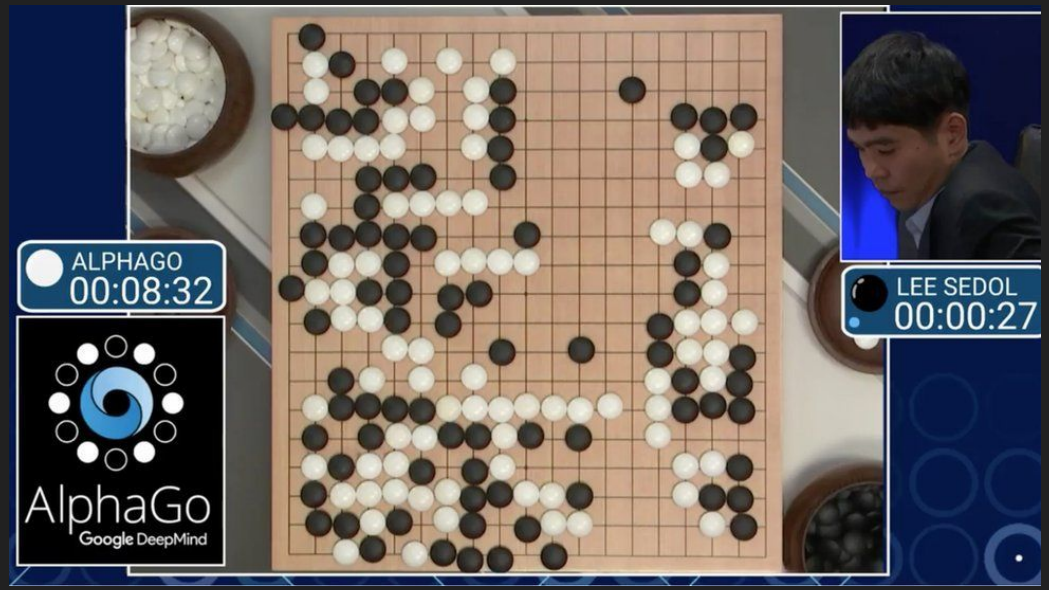
Can a type of Iyashi or unique emotional interaction occur with LLMs as well, because of their lack of interiority?

Dissimilarity from Humans



Social Chatbots

Dissimilarity from Humans



Lee Sedol vs. AlphaGo, March 2016

Dissimilarity from Humans

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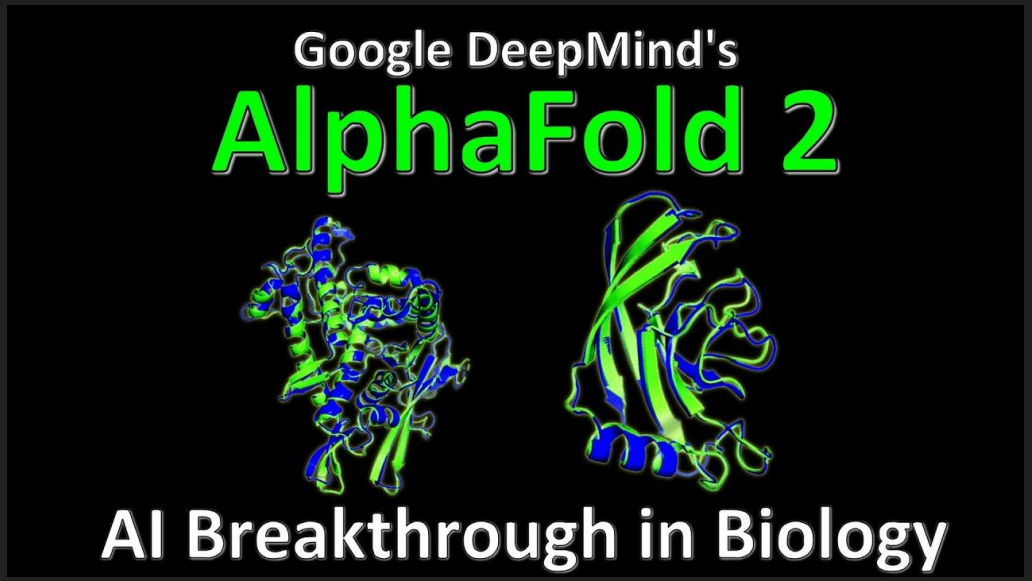
Dissimilarity from Humans

- AlphaGo made move 37 that “couldn’t have come to any human mind”, and won this match.
- Lee Sedol learned from this encounter, and won against AlphaGo during another match in move 78 (The Touch of God)
- This is an instance in which both humans and algorithms are able to accomplish something that neither one would have accomplished on their own.

Dissimilarity from Humans



The Protein Folding Problem

Dissimilarity from Humans

- ML algorithms have excelled in solving different protein structures.

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Dissimilarity from Humans

- ML algorithms have excelled in solving different protein structures.
- The machine learning algorithm did not devise a theory like a human would.
- Instead it learned from thousands of known cases - something humans are not capable of.

Dissimilarity from Humans

- Gygi says that it is the lack of interiority that enables unique interactions with robots that cannot occur with humans.
- Esposito says that LLMs and Machine Learning algorithms excel because they do not try to reproduce human intelligence and understanding.

Dissimilarity from Humans

It may have been the starting point of these technologies to try and imitate what humans can do, but perhaps it is their divergence with humans that makes them valuable.

Outline

1. Frameworks
    a. Artificial Communication
    b. Japanese Personhood
2. Comparison & Synthesis. Both concepts:
    a. do not require interiority or intelligence in interaction partners
    b. are functionalist and pragmatic concepts
    c. can see them as emergent ontologies
    d. can be seen as ontologically open
    e. are interdependent but independent
3. Human Dissimilarity enables unique interactions.
    a. Gygi says that it is the lack of interiority that enables unique interactions with robots that cannot occur with humans.
    b. Esposito says that LLMs and Machine Learning algorithms excel because they do not try to reproduce human intelligence and understanding.