

Complex from Psychoanalysis In a Super Concise Model of Mind

Making Real AI - Series

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Purpose of This Slides

Proposing a model of mind (cognitive architecture).

Future topics will be based on this model of mind
in our *Making Real AI* series.

Definitions

- A memory **complex** is a core pattern of memories and perceptions organized around a common theme.
- A **complex substrate** is a processor or a system that can demonstrate the activity of a complex.

See appendix for what we removed from the definition of complex

Example : a Complex about the Leg

“.....if one had a leg amputated when one was a child, this would influence one's life in profound ways, even if he or she overcame the physical handicap.



A person may have many thoughts, emotions, memories, and determinations **centering on that one aspect** of his or her life.



.....
Jung might say he or she had **a complex about the leg.**
- Complex (psychology), Wikipedia



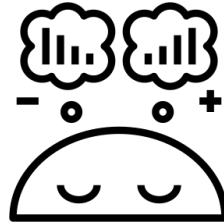
What is a complex

A **complex** is a core pattern of memories and perceptions organized around a common theme.



Memory
Formation

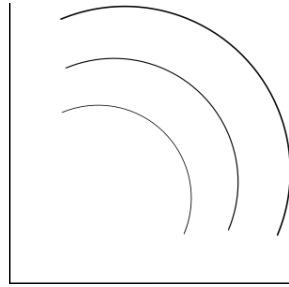
and



Memory
Recall

What is a complex

A **complex** is a core pattern of memories and perceptions organized around a common theme.



Information

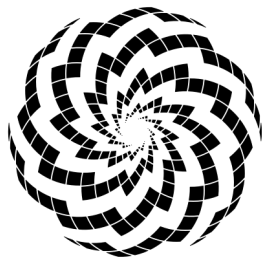
to



Perceptions

What is a complex

A **complex** is a core pattern of memories and perceptions organized around a common theme.



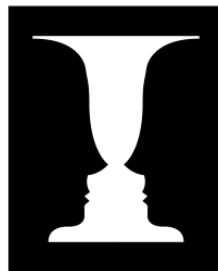
A memory skeleton around the theme +
A information interpreter around the theme

What is a complex

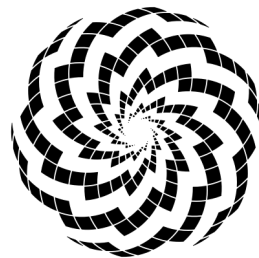
A **complex** is a **memory skeleton** **and** **information interpreter** around its theme.



Memory



Perceptions



Skeleton and
Interpreter

Example : a Complex about the Leg

“.....if one had a leg amputated when one was a child, this would influence one's life in profound ways, even if he or she overcame the physical handicap.

A person may have many thoughts, emotions, memories..... and determinations **centering on that one aspect** of his or her life.

A complex becomes the interpreter of information.
(ex, sensitive to topics about handicap)

Also, a complex is a memory skeleton
(ex, easier to memorize healthcare information related to feet)

.....
Jung might say he or she had a complex about the leg.”
- Complex (psychology), Wikipedia

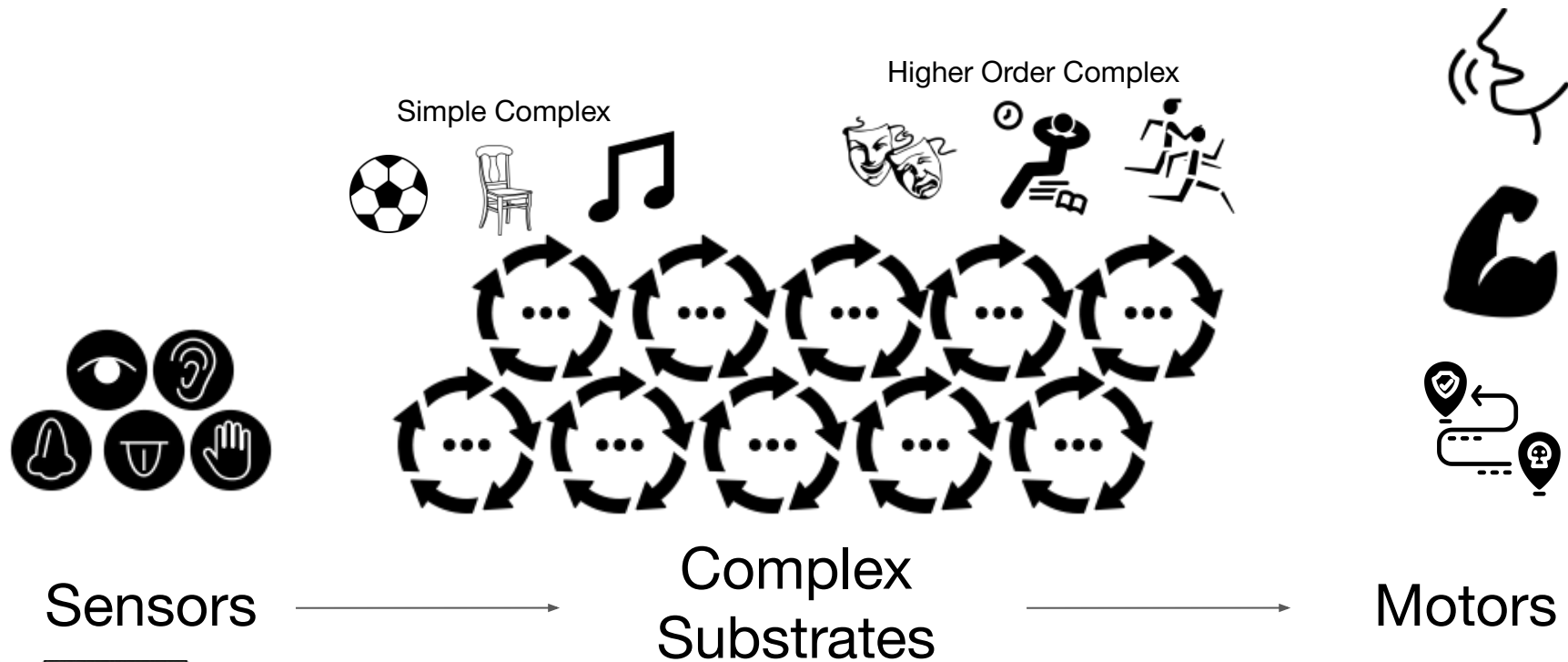


Complex into Model of Mind

A **complex** = memory skeleton + information interpreter.

As information interpreters,
we can put complexes into information flow of cognition.

The Super Concise Model of Mind



Benefit of the Proposed Model of Mind

1. With complex as the compound idea, we can simplify the organization of the model of mind.
2. Complexes are extensible for they are both
3. Complexes can work in parallel.
4. We know the requirements of complex substrates, so we can further investigate them and design complex substrates.

Let's Build the Cognitive Architecture

Follow Libgirl Co., Ltd to see our answer to the design of complex substrates.

Also see what you and us can collaborate.

Appendix

Ideas We Removed from Psychoanalysis

“A complex is a core pattern of ~~emotions~~, memories, perceptions, ~~and wishes in the personal unconscious~~ organized around a common theme, ~~such as power or status~~.” - Complex (psychology), Wikipedia

- Emotions and wishes are by themselves controversial topics for cognitive science and AI, so we leave them in future discussions.
- Power and status are abstract concepts, we don't want to make an impression that a complex must be organized around such abstract concepts.

Ideas We Removed from Psychoanalysis

“.....if one had a leg amputated when one was a child, this would influence one's life in profound ways, even if he or she overcame the physical handicap. A person may have many thoughts, emotions, memories, feelings of inferiority, triumphs, bitterness, and determinations centering on that one aspect of his or her life.

~~If these thoughts were troubling and pervasive~~, Jung might say he or she had a complex about the leg.” - Complex (psychology), Wikipedia

- We think the centered core pattern doesn't have to be troubling.
- Or, even if these thoughts were not troubling, Jung might still say it a complex about the leg. As the logic of the sentence doesn't reject this interpretation.

Reference

- Complex (psychology). Wikipedia. [https://en.wikipedia.org/wiki/Complex_\(psychology\)](https://en.wikipedia.org/wiki/Complex_(psychology)). Published September 17, 2019. Accessed February 16, 2020.