

Representations, Symbols, Icons, Concepts... And Why There are No *Mental* Representations

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Outline

- 1 Introduction
- 2 Getting symbols wrong
- 3 Fixing the picture
- 4 A representational continuum

What is a concept?

- *“... Mental particulars; specifically, they satisfy whatever ontological conditions have to be met by things that function as mental causes and effects.”* – Jerry Fodor
- *“... Like the scale models that stand in for objects during courtroom reenactments. They allow us to reexperience past events or anticipate future events.”* – Jesse Prinz
- *“... Complex general ideas, combining various characteristics and features.”* – Zoltan Torey
- *“... A mental representation that contains knowledge about an object or class of objects that serves to pick out or point to the object or class of objects that are characteristically associated with the concept.”* – Paul Hemeren
- *“... A perceived regularity (or pattern) in events or objects, or records of events or objects, designated by label.”* – Joseph Novak and Alberto Cañas

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Yes, but what is a concept *really*?

- A synchronized relation, of some kind, between a mental agent and an experienced environment that includes that agent.
- A concept is a synchronized pattern of relatively abstract, relatively higher-order association between some aspect of the mental world of the agent (“self”) and some matching aspect of her experienced environment (“non-self”).
- A synchronized pattern of relatively abstract, relatively higher-order association between some aspect of the mental world of the agent (“self”) and some matching affordance(s) of her experienced environment (“non-self”), such that the affordance(s) implicitly or explicitly specifies the necessary, sufficient, and customary (or contextual) conditions for its application *relative to any particular moment*.
- A unit of structured thought that shows *systematicity* and *productivity*.

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Building blocks of thought



Are concepts representations?

Sure!



No way!



Two contrasting views

- On the one view, concepts are meant to stand or *stand in* for aspects of the world. Representation and represented are clearly separate.
- On the other, such talk is taken as an illegitimate and misguided stepping back from the world: agents are always in the world and directly engaged with it. Representation and represented merge into one and disappear.

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Eternally caught between *knowing how* and *knowing that*

- Critical distinction between concepts as we reflect upon them as concepts, and concepts as we possess and employ them non-reflectively.
- Push concepts one direction, toward “high-level” cognition, and they look more like representations.
- Push them the other way, toward “low-level” cognition, and they look more like (non-representational) abilities.
- Concepts themselves sit in the middle, beholden to neither!
- Theories of concepts, on the other hand, have an inevitable *representational* quality to them!

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Symbols as commonly understood (by philosophers)

- Most often visually realized, but at the same time intrinsically amodal: i.e., not grounded in any particular modality.
- Discrete and individuable, *not* continuous.
- Simple of form, but with an often complex meaning (sense/reference). Distinct from icons.
- (Fully) arbitrary in form: any form can take any meaning (strict syntax/semantics separation).
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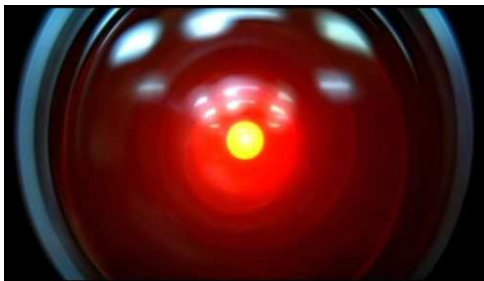
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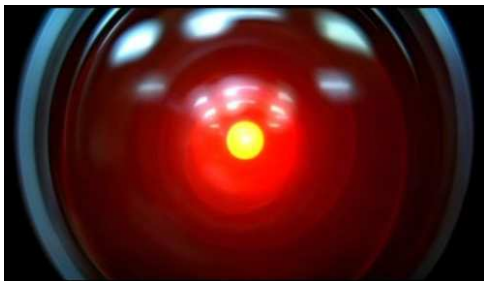
The *evil* computer metaphor

- The human-made artefact applying “purely” syntactic rules over strings of “meaningless” symbols to generate new strings of “meaningless” symbols.
 - John Searle’s Chinese Room thought experiment.
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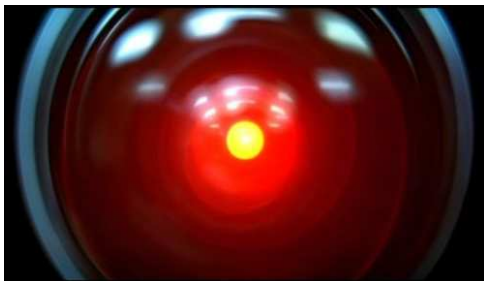
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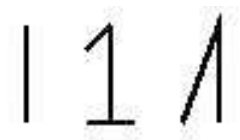
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- Amodality

- Symbols have to be grounded *somehow* (cf. Harnad's *symbol grounding* problem).

- Discreteness

- Symbols *evolve*.
- Symbols never stand on their own.



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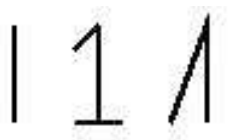
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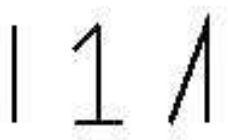
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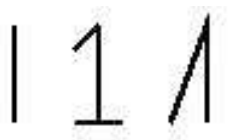
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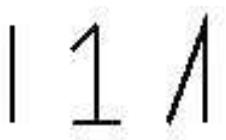
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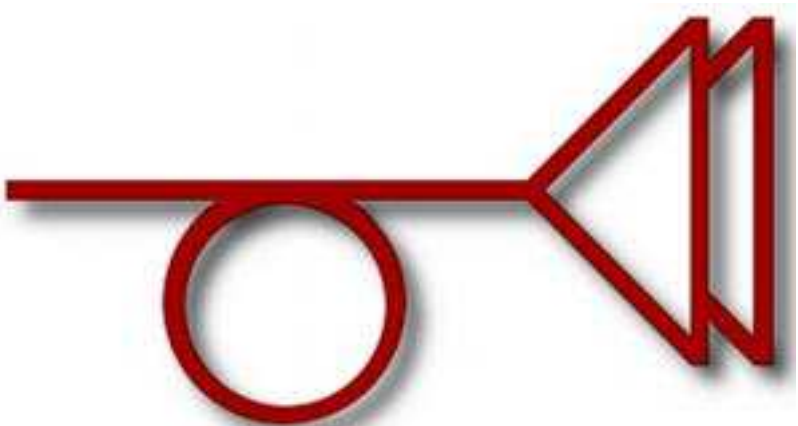
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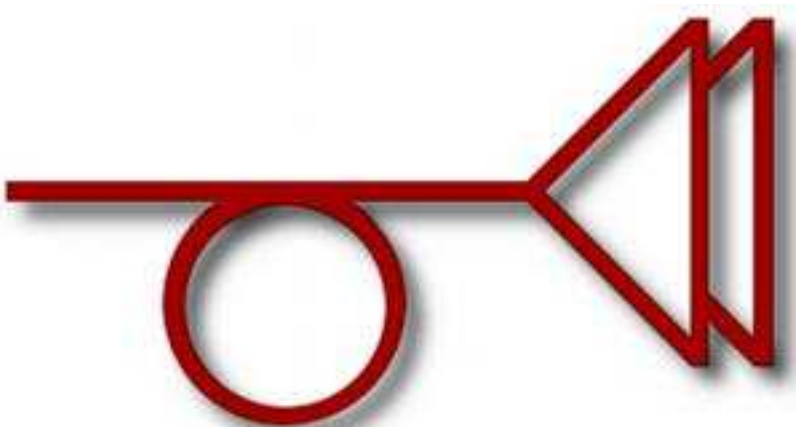
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 - Distinction between icons and symbols not always clear.



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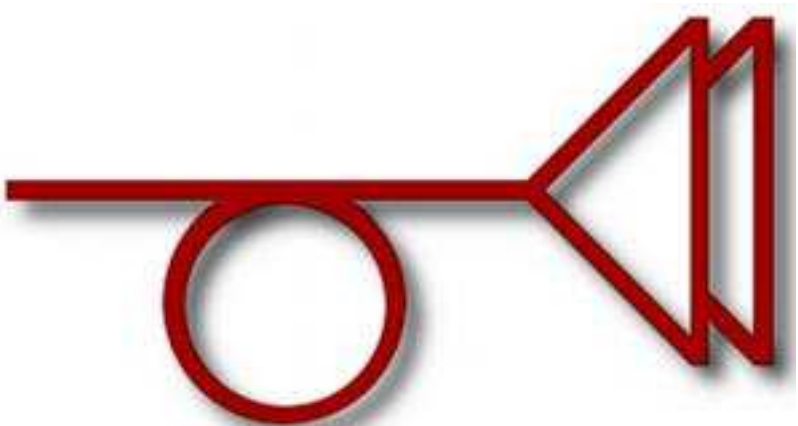
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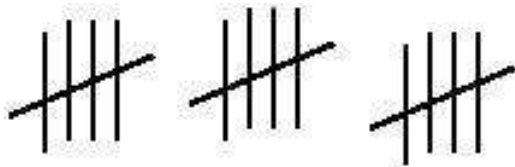
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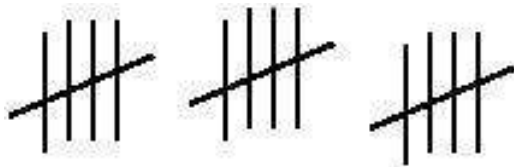
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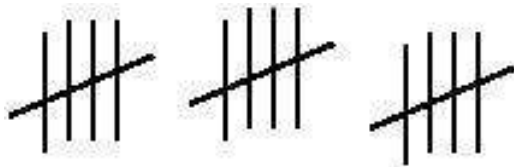
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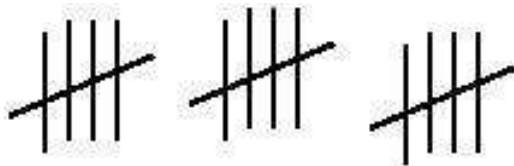
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- Context-freeness

- At minimum, there is always a shared social context in which symbols are learned and applied.
- Remove them too far from their context of origin, and they cease to function as symbols.

- Observer-freeness

- *Extremely* unclear what it is for a symbol to be a symbol in the absence of an agent to interpret and employ it as such!
- Failure to acknowledge the role of the observer in the act of representing leads to confusion.

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The role of the observer



*"The underlying assumption of many is that a real world exists independently of any observer; and that symbols are entities that can 'stand for' objects in this real world in some abstract and absolute sense. In practice, the role of the observer in the act of representing something is ignored.... The gun I reach for when I hear the word **representation** has this engraved on it: 'When **P** is used by **Q** to represent **R** to **S**, who is **Q** and who is **S**?'"* – Inman Harvey (1992), *Untimed and Misrepresented*

The computer metaphor revisited

- A conceptual agent is needed to give meaning to the signs being manipulated by the computer.
- Without that agent, the signs never become symbols.

We treat computers as idealized machines, operating on their own, neither embedded in an environment nor embodied in any particular form (when in fact they are both), unable to make a mistake (which they can, and do), for the same reason we treat symbols as amodal/discrete/context-free/arbitrary – likewise idealizations – because we find it conceptually useful, even, perhaps, conceptually necessary.

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- Modally grounded, but in such a way that the links back to the modal grounding may, in practice, be difficult or impossible to reconstruct.
- Individuable from other symbols and from a non-symbolic background, with the caveat that the discreteness masks an underlying continuity: *cf. categorical perception*.
- On a representational continuum with iconic representations.
- Possessing an *apparent* arbitrariness of form, precisely in relation to the extent to which the symbol has been abstracted away from any particular context of interpretation or disassociated from its original historical context.
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- Unlike symbols, their form is typically clearly non-arbitrary.
- Generally exists some isomorphism between parts of representation and parts of represented.
- Typically lack a combinatorial syntax and semantics.
- Standard metaphor: “pictures in the mind”.
- Symbolic representations impoverished form of iconic ones.

Whither *mental* representations?

- What is there here to distinguish mental representations from so-called external representations?
- A representation, on my account, is fundamentally an intentionally taken *perspective*.
 - Intrinsically *relational*.
 - Representation should be distinguishable from represented.
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 - Mental representations as ontologically distinct from other kinds of representations.
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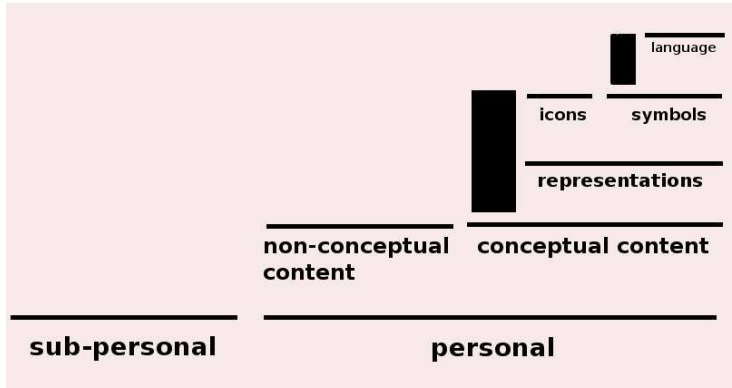
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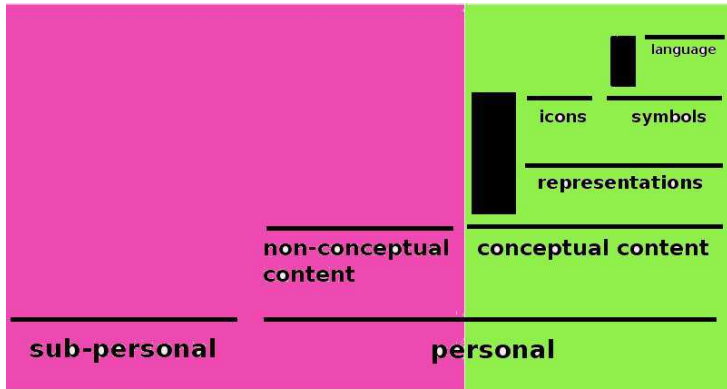
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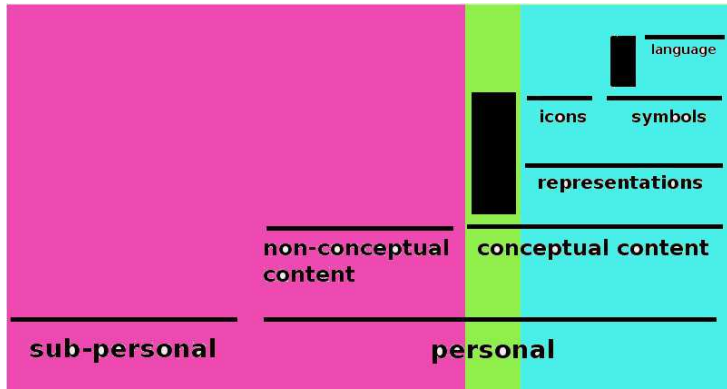
Cognition



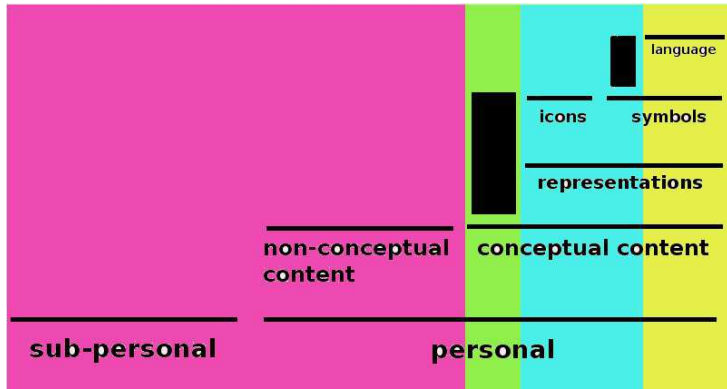
Consciousness



Signs



Language



Comparison of hierarchies

- Semiotic hierarchy: language presupposes signs; signs presuppose consciousness; consciousness presupposes life.
- Conceptual hierarchy: language presupposes representations; representations presuppose both concepts and consciousness; both concepts and consciousness presuppose cognition; cognition *in all our experiences of it to date* is parasitic on life.
- Seems to me that **any** agent we interact with in the appropriate way is appropriately treated as a conceptual agent.

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Cognition = life?

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Conclusions

- Some philosophers have tried to get rid of representations. If you want to study concepts though, then representations are unavoidable.
- At the same time that a representational account of concepts is necessary, it is also insufficient.
- Symbols and representations are often discussed without being defined.
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- Without better justification, *mental* representations as ontologically distinct from *external* representations should be binned!

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