NATURALIZING INTENTIONALITY: PUTTING OURSELVES IN THE PICTURE

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OUR QUESTION

What is it for human thoughts and feelings to represent the world?

NATURALIZING INTENTIONALITY

We expect cognitive science to provide a *naturalistic* explanation of our representational capacities*:*

- Not *assuming* intentionality, but explaining it in non-intentional and non-semantic terms.
- Not treating intentionality as fundamental.

NATURALIZING INTENTIONALITY

- The cognitive sciences best placed to explain intentionality are *computational psychology* and *computational neuroscience.*

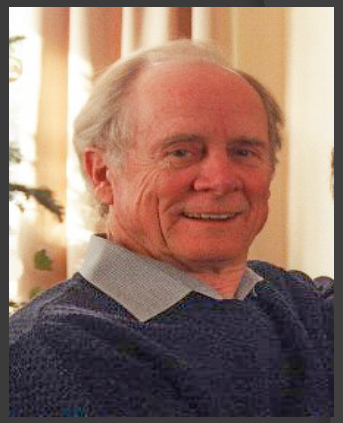
- *Problem:* computational theories aim to specify the *mechanics* of thought. How will they explain how we think about the world?

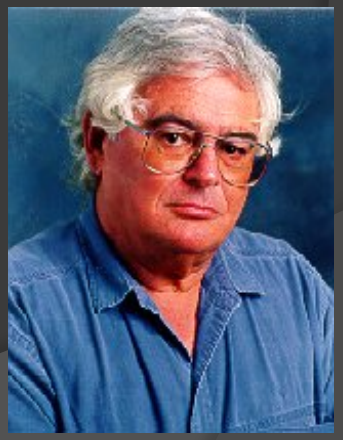
NATURALIZING INTENTIONALITY

- A *naturalistic semantics* for thought: the relation between an internal state or structure and what it is about (the *representation relation*) must be specifiable in non-semantic and non-intentional terms.

NATURALIZING INTENTIONALITY

- *Information-theoretic* semantics – an internal state means *cat* just in case it is caused by a cat (Dretske, Fodor)



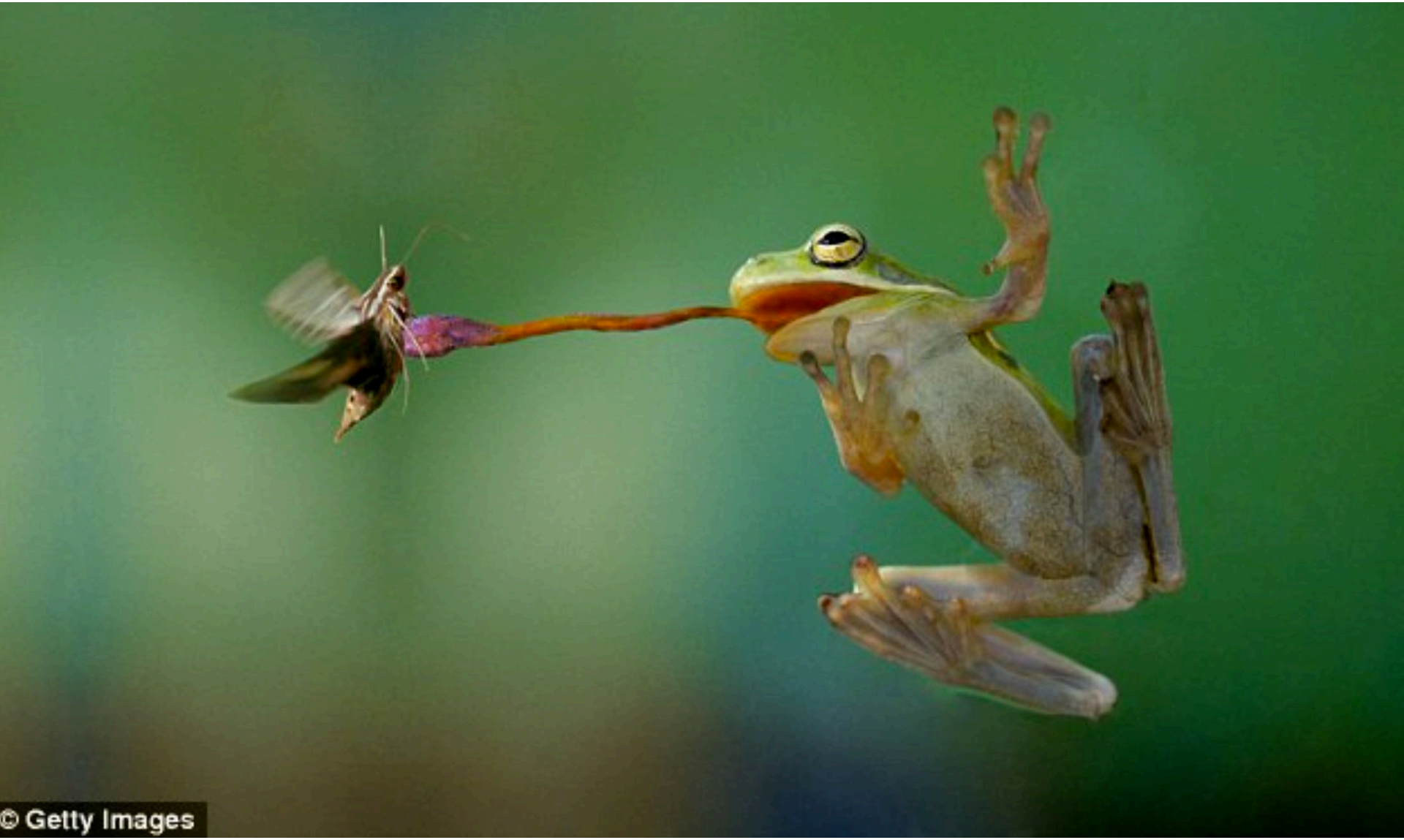


NATURALIZING INTENTIONALITY

- *Teleosemantics* – an internal state means *cat* just in case it has the natural function of indicating cats (Millikan)

NATURALIZING INTENTIONALITY

- Problem with naturalistic semantic theories: *indeterminacy* – whatever the proposed naturalistic relation, multiple candidates satisfy it.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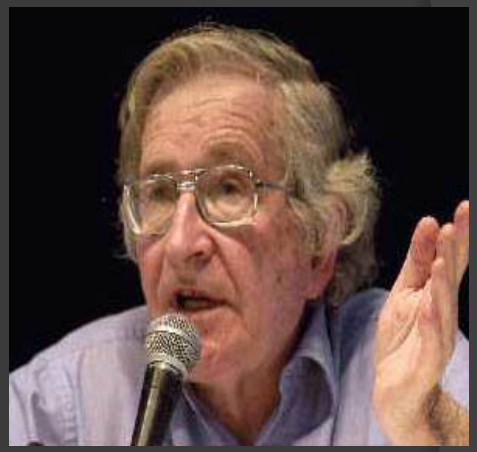
NATURALIZING INTENTIONALITY

- Why does indeterminacy matter? Because we want to allow for the possibility that an internal state can *misrepresent* the world, and for that we need determinate truth conditions.
- But the various content-candidates have *different* truth conditions.

CONTENT ELIMINATIVISM?

- Talk of a structure "representing an edge" is just a convenient way of sorting structures into kinds determined by their role in processing. We shouldn't conclude that the structure is a representation *of* anything. (Chomsky)



CONTENT ELIMINATIVISM?

- Chomsky's motivation: to purge the sciences of the mind of *normative* and *intentional* notions – such talk as 'solving a problem,' 'making a mistake,' 'misrepresenting' – which he thinks just reflect our *parochial interests* and have no place in science.

COMPUTATIONAL THEORIES

- Typically explain our cognitive capacities by characterizing them in terms of a more general *mathematical function*:
- Perceptual systems compute *smoothing functions.*
- The motor control system computes *vector subtraction.*
- The human navigation system may compute *path integration.*

COMPUTATIONAL THEORIES

- The mathematical characterization is not merely a metaphor. The brain computes the specified function in the same sense that a hand calculator or an iPad does.

COMPUTATIONAL THEORIES

- The mathematical characterization is *domain-general*, independent of the cognitive capacity to be explained (vision, motor control, etc.). Smoothing functions, vector subtraction, and so on, are standard items in the computational theorist's toolbox.

COMPUTATIONAL THEORIES

- To apply one of these tools to a biological system provides a measure of understanding of what might otherwise be a heterogeneous collection of input-output pairs. (Aha! It's an integrator!) The mathematical characterization provides the basis for predicting the behavior of the system in a wide range of circumstances that go well beyond the observed data set.

COMPUTATIONAL THEORIES

- The theorist must explain how computing the value of the function, in the subject's normal environment, contributes to the exercise of the cognitive capacity that is the explanatory target of the theory.

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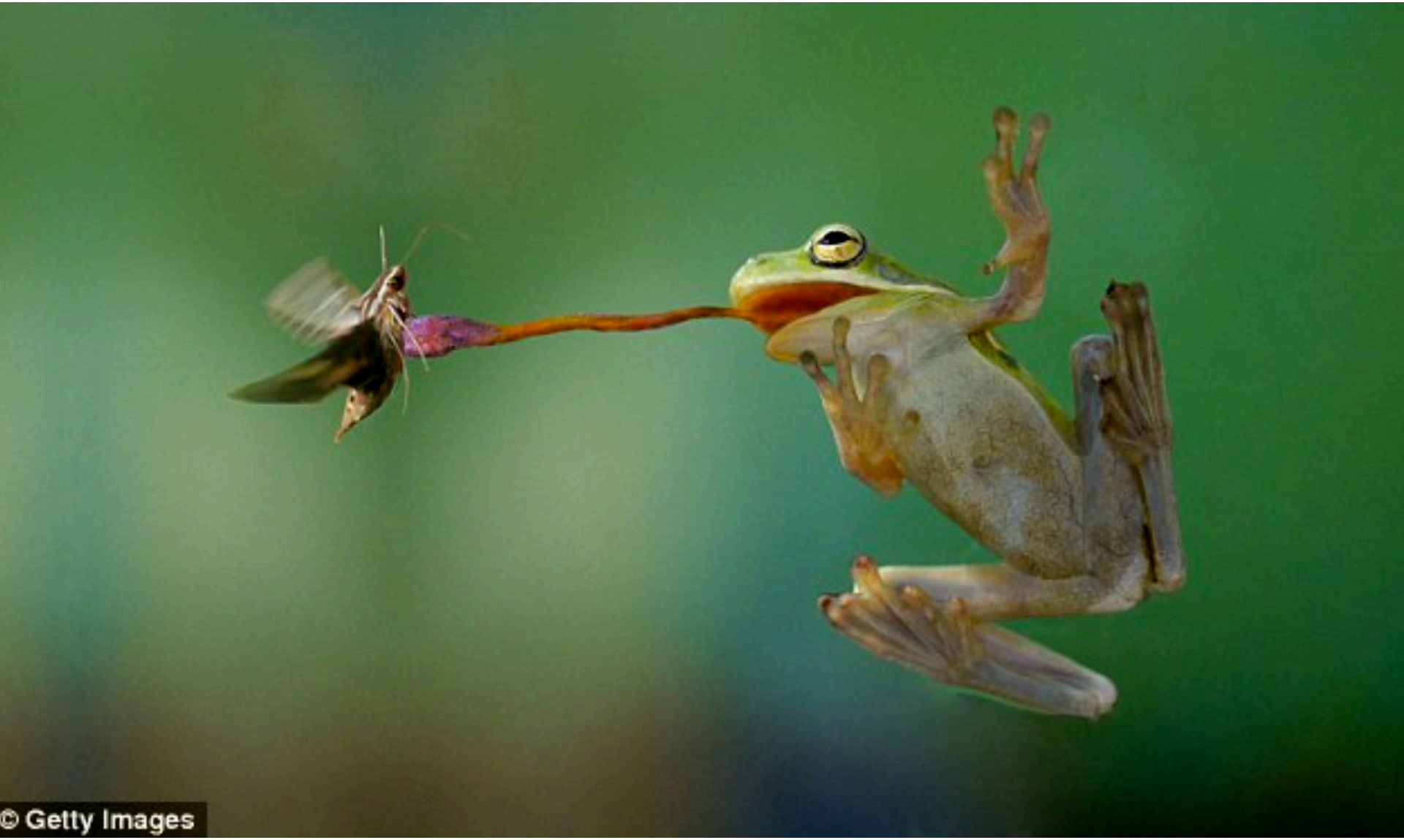
- The theorist must explain how computing the value of the function, in the subject's normal environment, contributes to the exercise of the cognitive capacity that is the explanatory target of the theory.
- The *ecological component* of the theory will specify general features of the normal environment to explain this.
- Representational content – *distal content* – plays no role here.

CONTENT AS EXPLANATORY GLOSS

Content serves various explanatory purposes:

- Connecting the domain-general mathematical characterization to the specific cognitive capacity that is the explanatory target of the theory.
- Characterizing internal processes in a way that makes perspicuous their causal role in a process that typically extends into the environment.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CONTENT AS EXPLANATORY GLOSS

- Pragmatic considerations select among equally naturalistic alternatives. *Explanatory focus* resolves indeterminacy.
- Unlike the naturalistic proposals, there is no presumption that a naturalistic relation alone determines content. Content isn't naturalized; it is 'quarantined' in the gloss.

CONTENT AS EXPLANATORY GLOSS

- Even if (maybe *especially if*) we eventually succeed in naturalizing representational content we would still need an intentional gloss of the sort I have described.

CONTENT AS EXPLANATORY GLOSS

1) There is no reason to think that necessary and sufficient naturalistic conditions would be *explanatory* of intentionality, because they wouldn't necessarily contribute to *our understanding* of intentional phenomena in any significant way.

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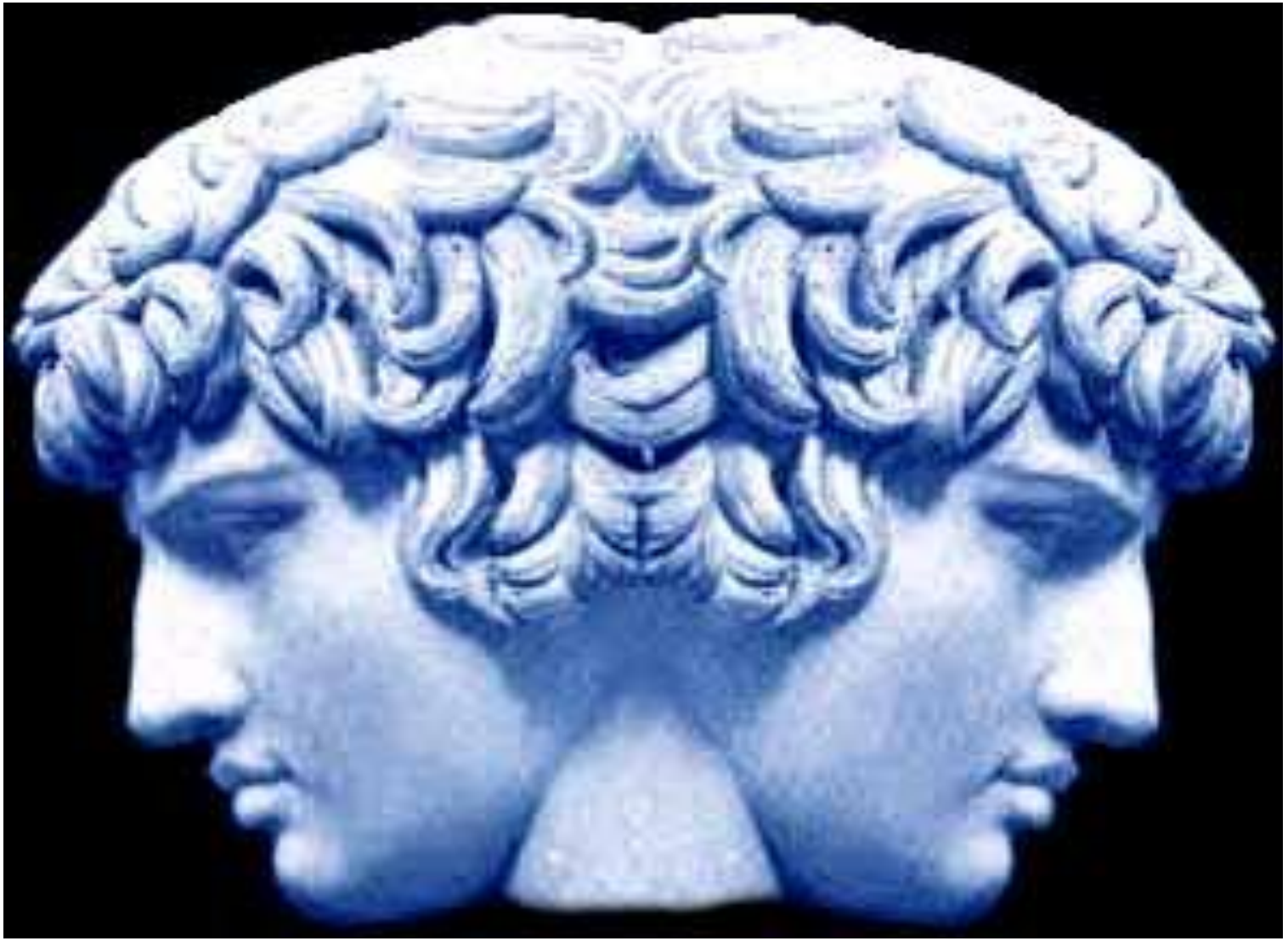
2) The naturalized reduction of intentionality is likely to leave what is distinctively personal out of the picture.



CONTENT AS EXPLANATORY GLOSS

- The intentional gloss connects the objective, computational account (the *scientific image*) with the way we see ourselves (the *manifest image*).

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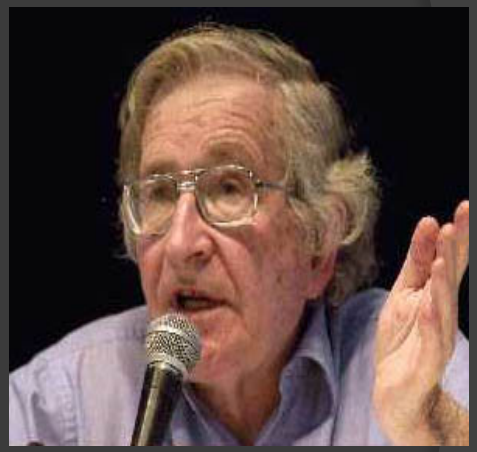
- If there *are* naturalistic conditions for content, what we think of as distinctively *mental* representations – *thoughts* and *feelings* – may turn out not to be special. The conditions may be satisfied by all kinds of *mindless* systems.

CONTENT AS EXPLANATORY GLOSS

- Chomsky: Purge the sciences of the mind of normative and intentional notions, which just reflect our *parochial* interests and have no place in science.



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- If our representational capacities are to be explained – *naturalistically explained* – then at some point ‘representation’ and ‘content’ are going to drop out of the picture provided by the theory.

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- The alternative is a kind of *primitivism* about intentionality.

CONTENT AS EXPLANATORY GLOSS

- The internal structures characterized by the theory have meaning and truth conditions only in the intentional gloss.
- The gloss supports the *normative* characterization given by the commonsense understanding of our own mental activity – *competence*, *success* at various tasks, *rational* activity (and the other side of the normative coin – *error, mistake*).

CONTENT AS EXPLANATORY GLOSS

- The gloss is the ‘connective tissue’ bridging the scientific account given by the computational theory proper (which has no place for normative notions) with the way we see ourselves. This is the role of representational talk in a theoretical context.

CONTENT AS EXPLANATORY GLOSS

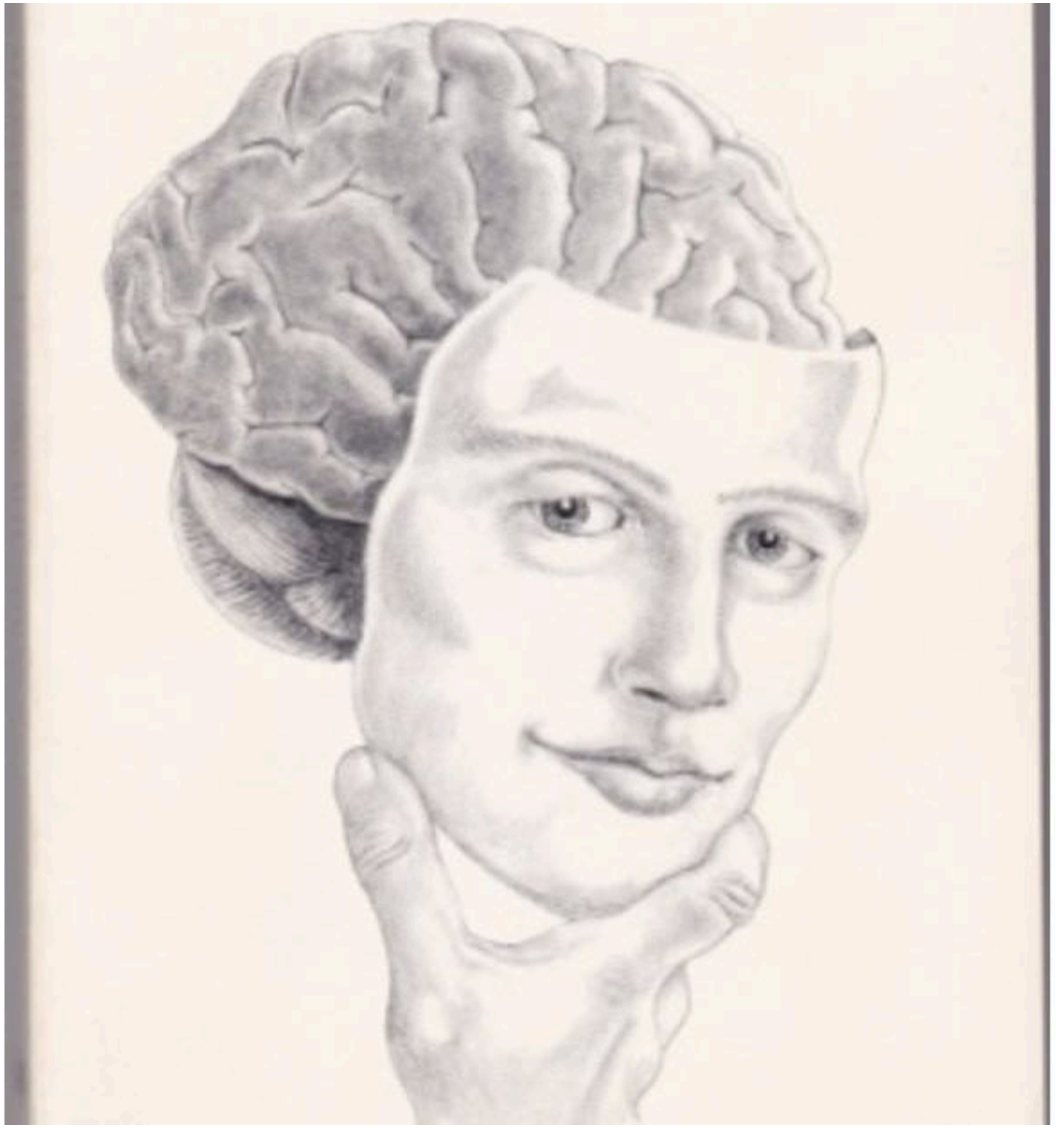
- We can't recover the distinction between rational activity and a mistake at the level of fundamental physics, nor at the level of neural processes. Martian scientists may not be interested in this distinction. But so what? It's *our* science.

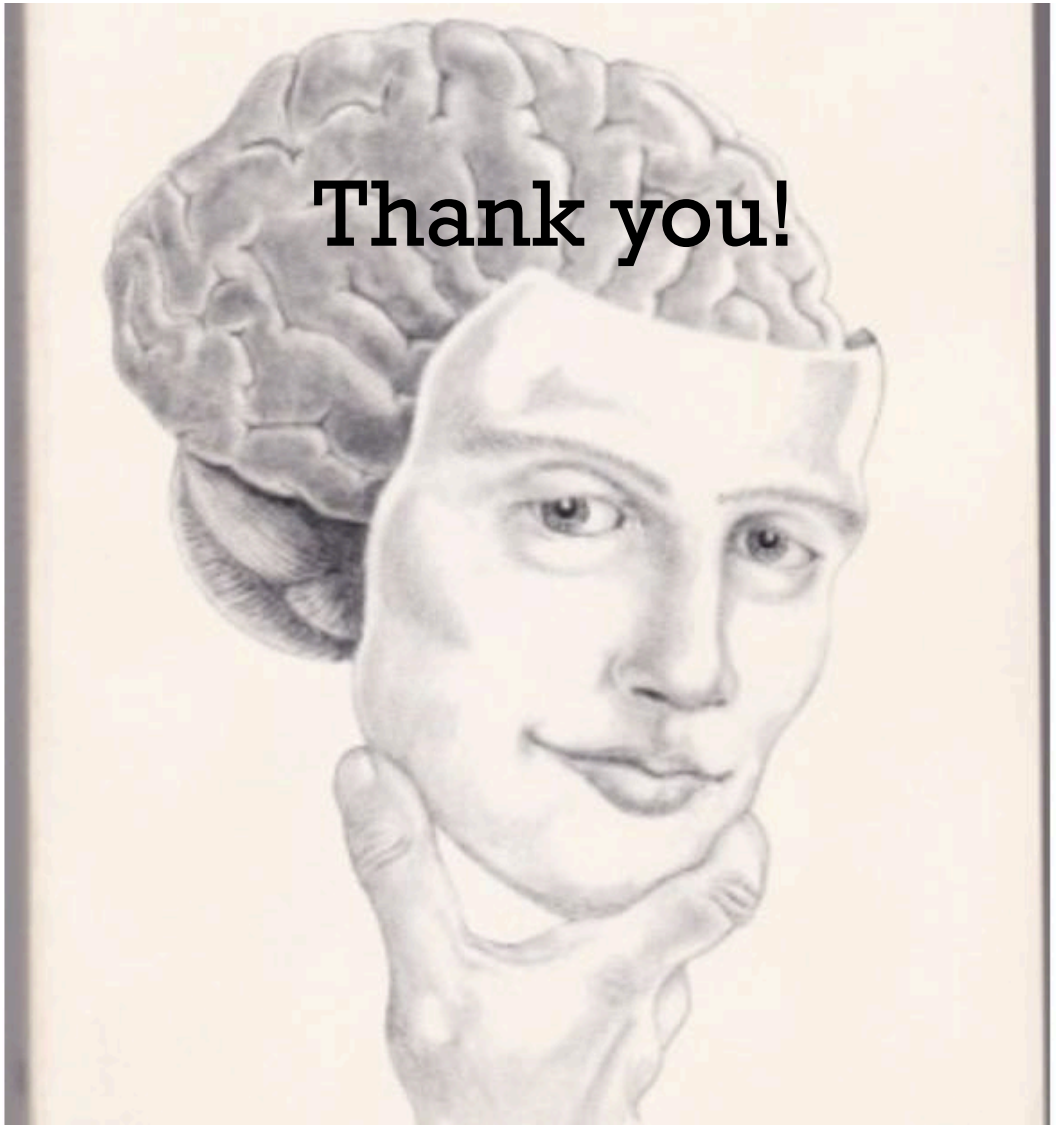
CONTENT AS EXPLANATORY GLOSS

- So representational content fills a kind of *explanatory gap*.
- A *phenomenal* gloss will be needed to bridge the explanatory gap between a reductive account of consciousness and the way things seem to the subject. An intentional gloss will play the same role for a reductive account of intentionality.

CONCLUSION

- Maybe genuinely *mental* representation (i.e. thoughts and feelings representing the world) is something recoverable only from a certain perspective, which objective science eschews. Nonetheless, it is a perspective worth capturing, and the intentional gloss allows us to do that.




Thank you!