MEANING INTENTIONS AND SEMANTIC COMPOSITION

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A FAREWELL TO CONTEXT

CONTEXT ELIMINATIVISM

Semantics and pragmatics can and should proceed without positing any theoretical notion of context.

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- **A parameter of the semantic interpretation function**

- A delimited body of information that the hearer must rely on in interpretation.

- The target of speech acts.

- The source of presupposition constraints.

THE EXPLANATORY ROLE OF MEANING

David Lewis's Advice:

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Meaning "is something that determines the conditions under which a sentence is true or false"

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Meaning "is something that determines the conditions under which a sentence is true or false"

# AN ALTERNATIVE IDEA

The meaning of a sentence provides a hearer with partial evidence of what the speaker means by uttering it.

Sperber & Wilson (1986/94); Bach (1987); Carston (2002); Neale (2004); Schiffer (2003)
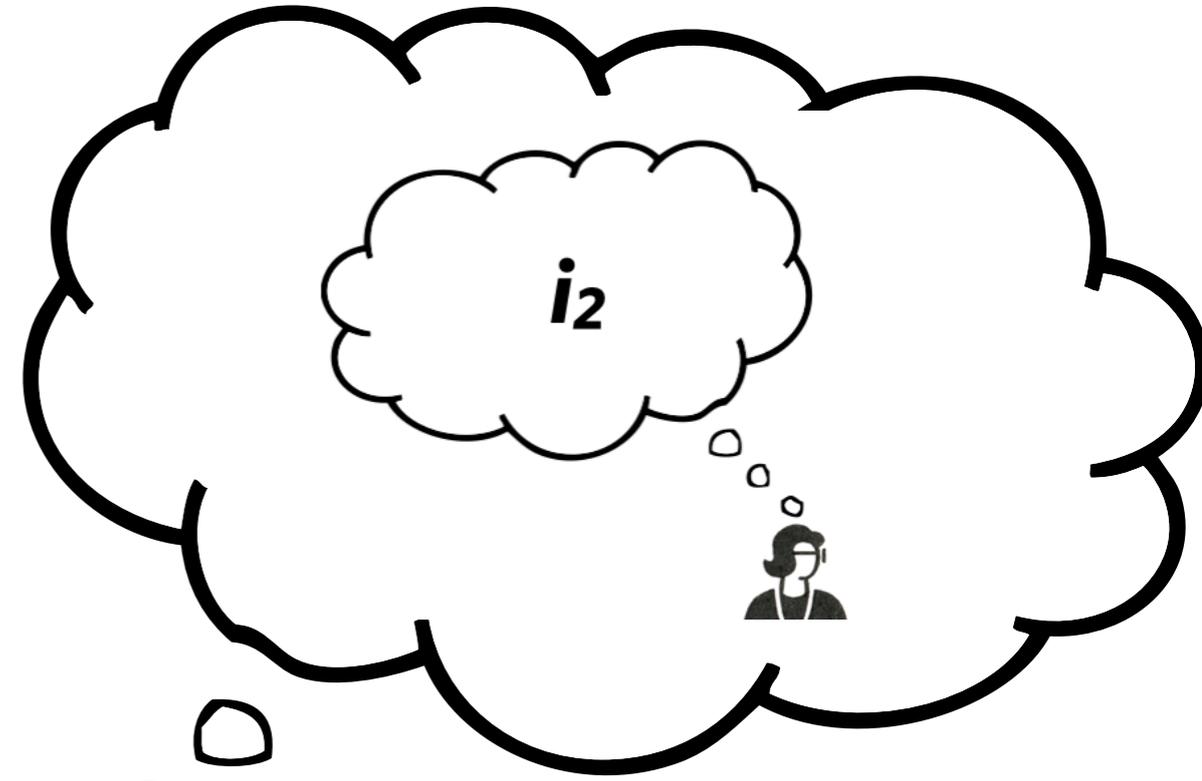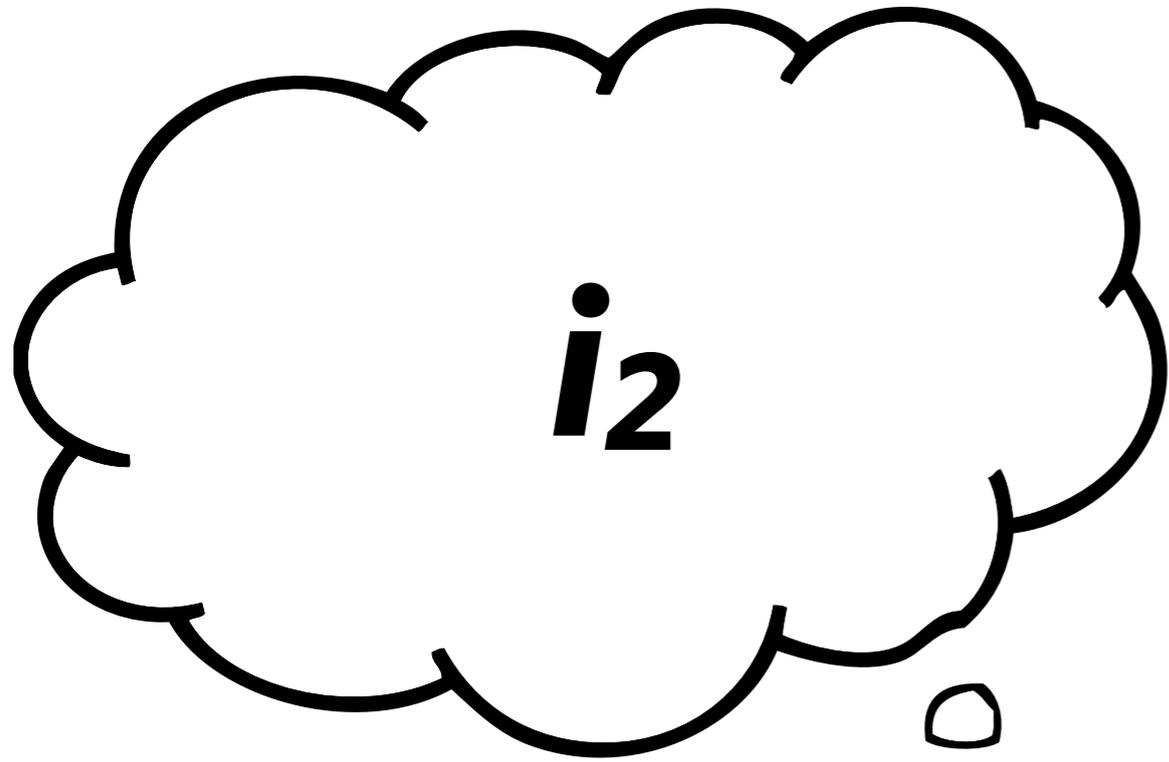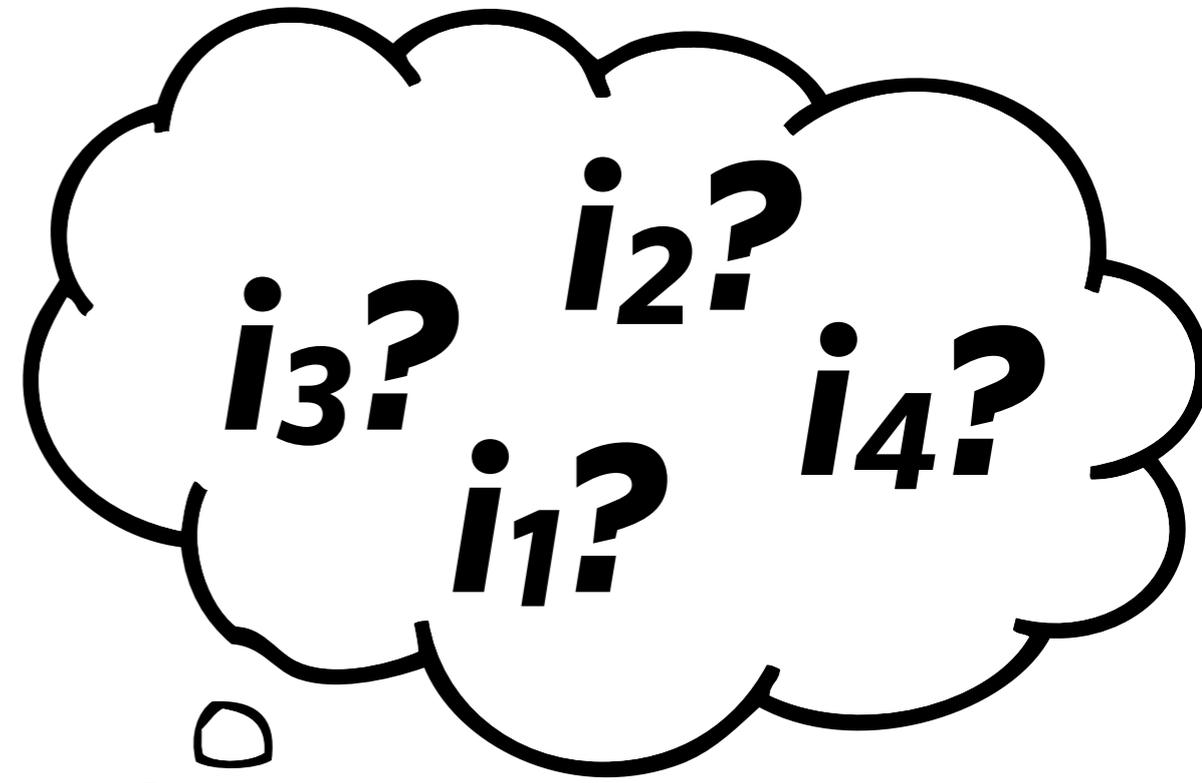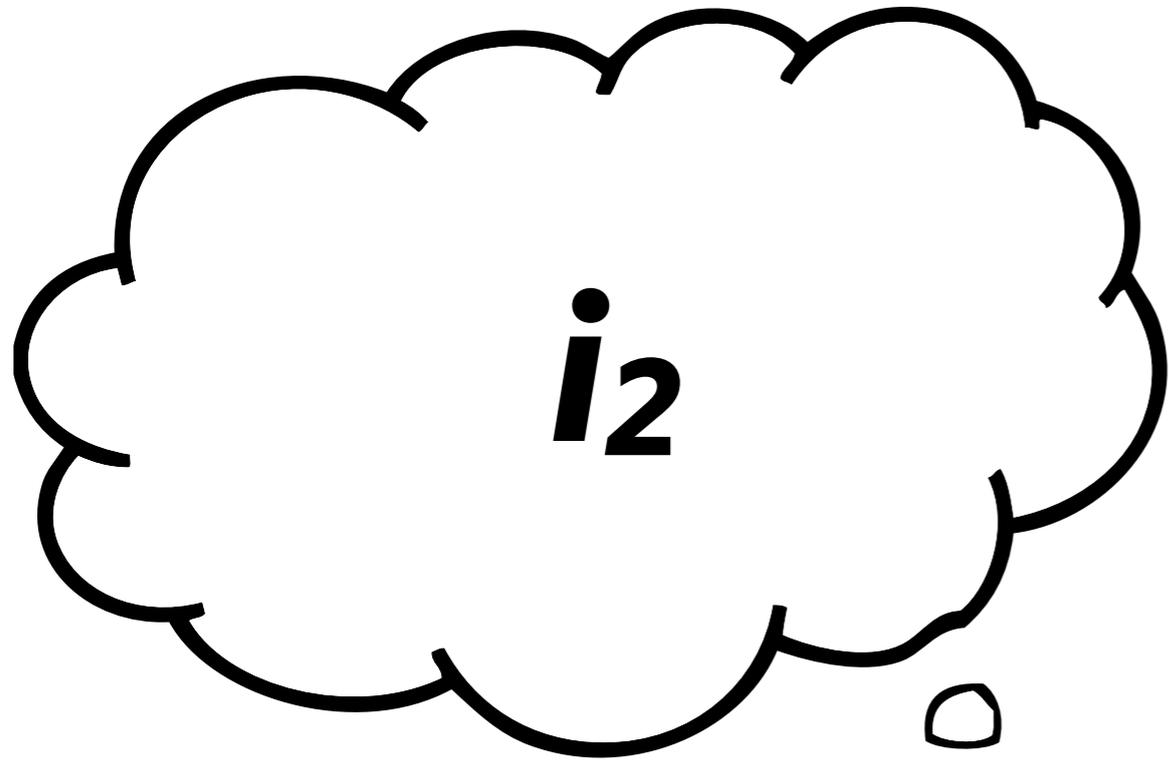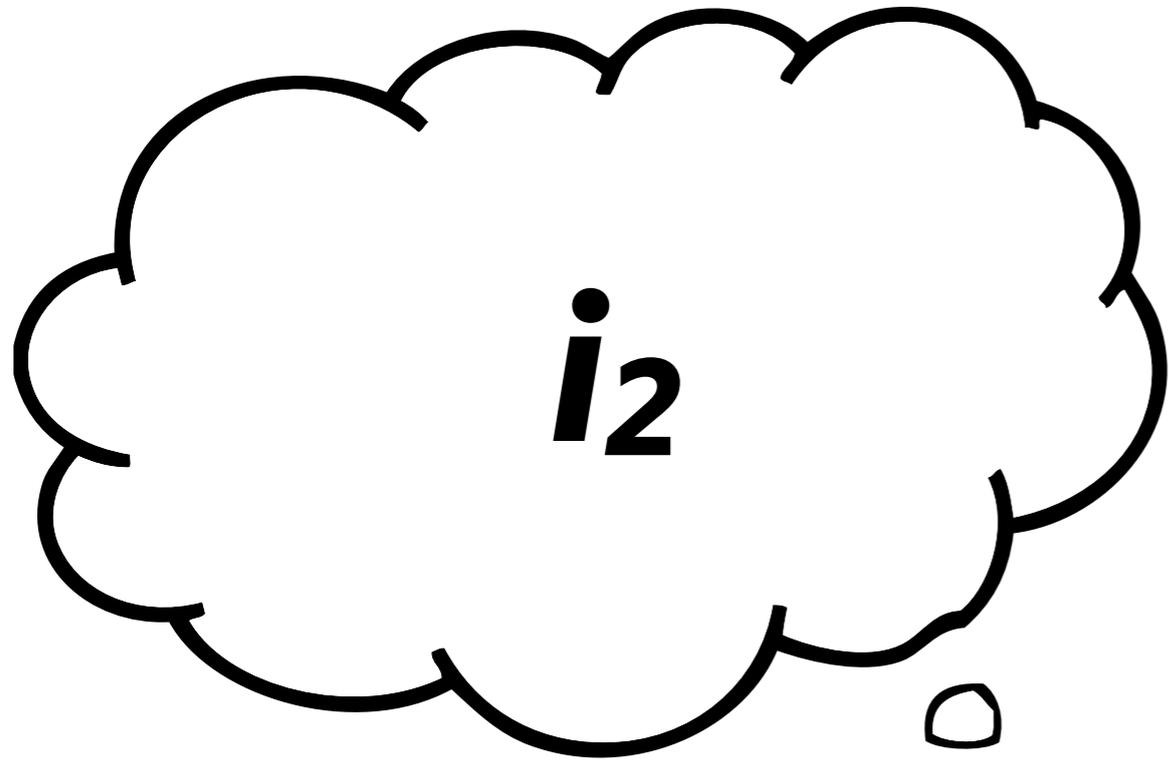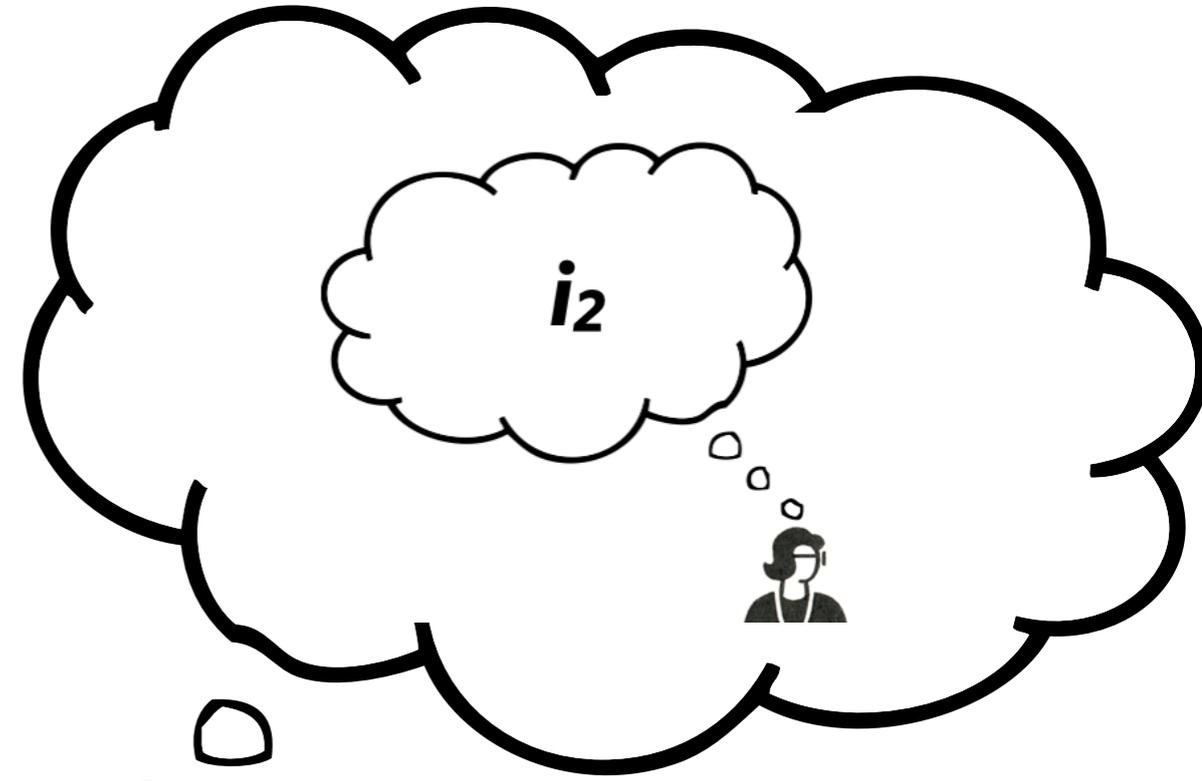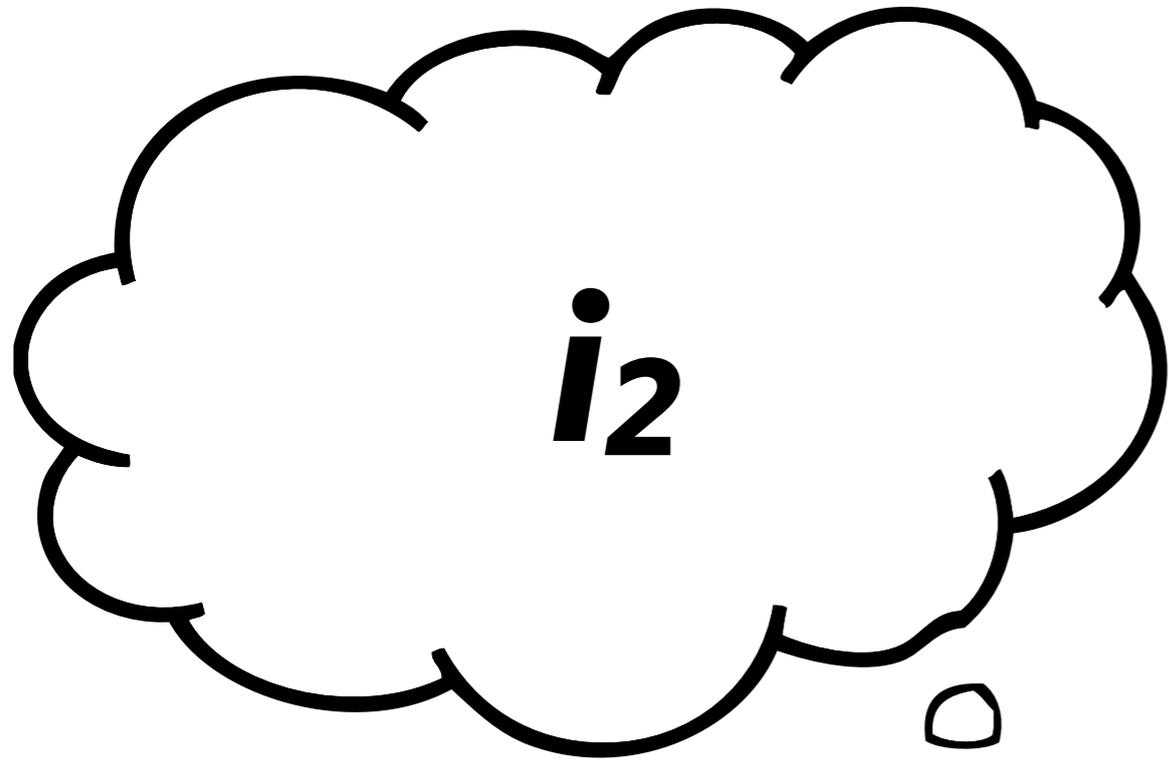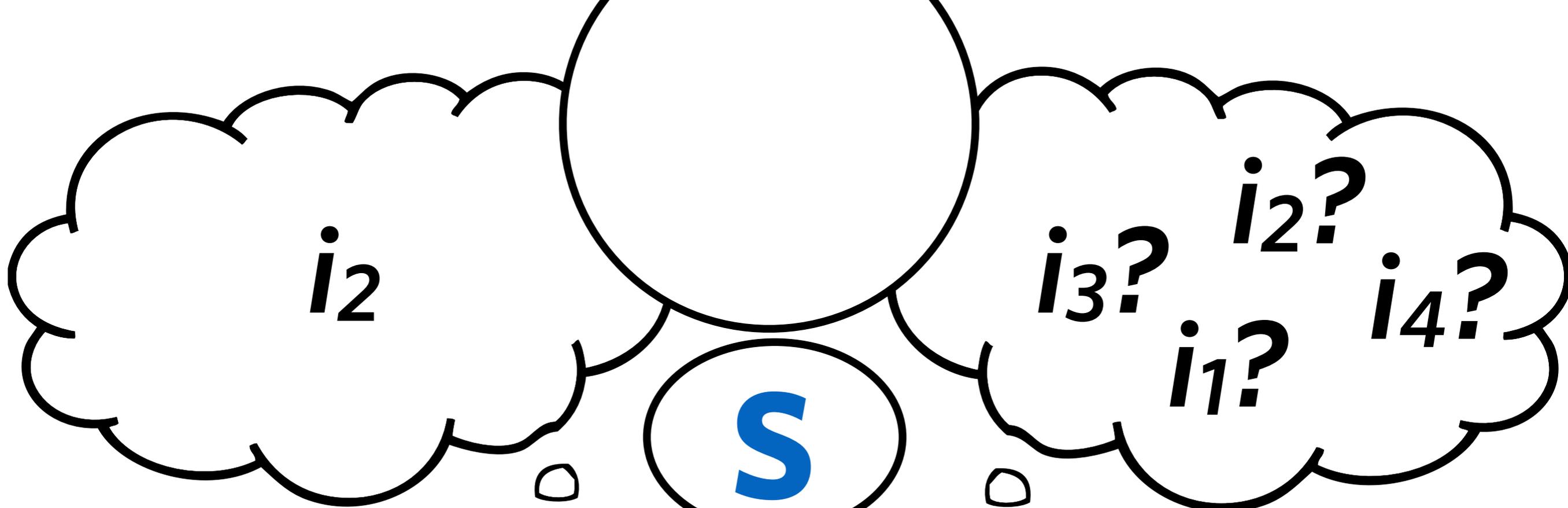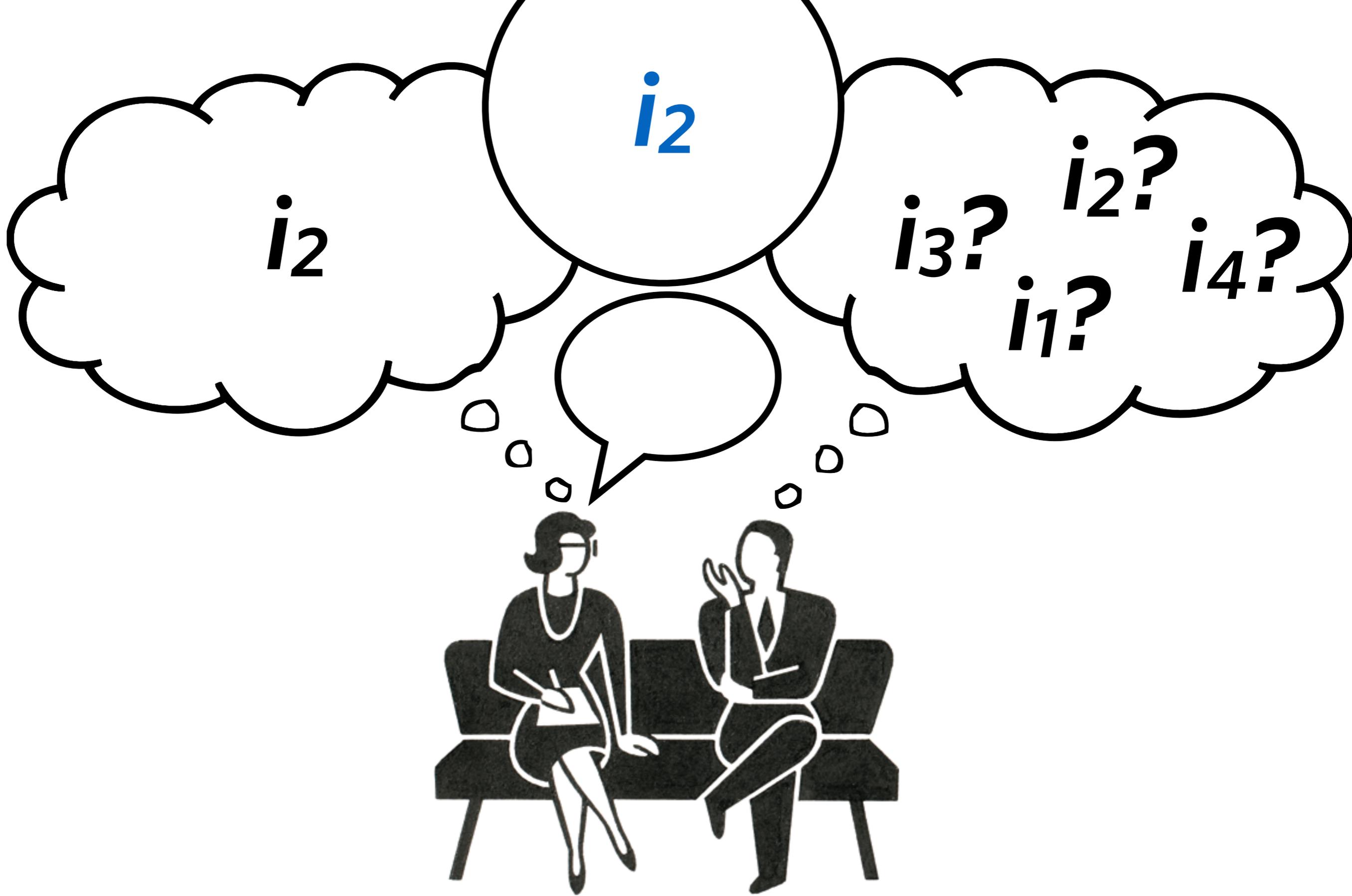
i_1?
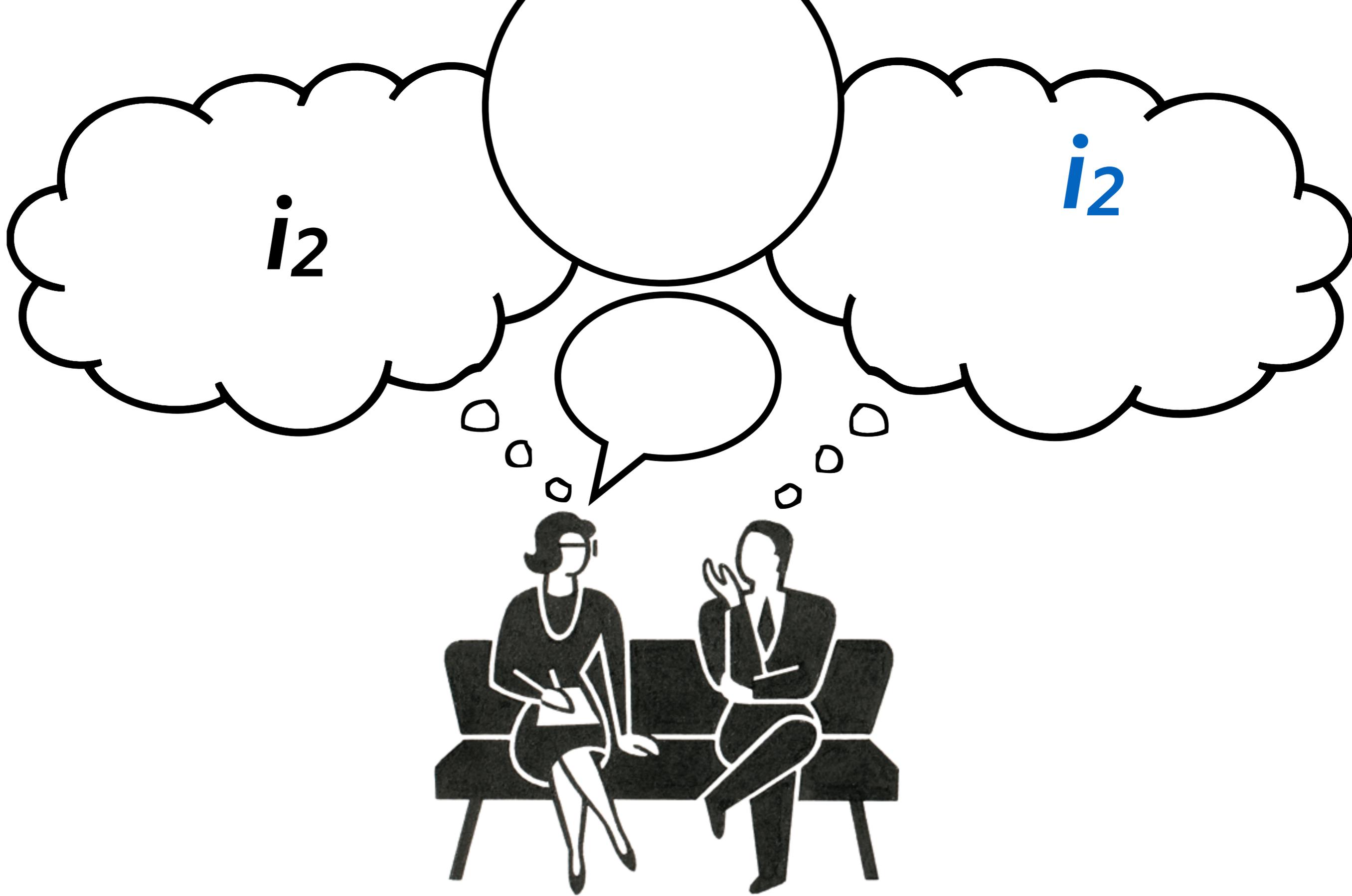
i_2?

i_3?

i_4?

i_2

WHAT DOES MEANING DO?

The Mainstream View:

The meaning of an expression determines what is said with the expression (relative to a context).

WHAT DOES MEANING DO?

Our View:

The meaning of an expression *e* makes communicating with *e* efficient by:

- Reducing the inferential workload.

- Restricting what a speaker can mean by *e*.

"DETERMINATION"

What goes into **determining** the content of what is said when a speaker uses a sentence on a given occasion?

The following are commonly mentioned:

- sentence meaning
- context
- topic
- question under discussion
- the task at hand
- coherence
- background
- defaults
- common knowledge
- discourse structure
- salience
- relevance

- pragmatic inference
- cooperation
- conversational maxims
- rationality assumptions
- norms
- practical canons
- conventions
- practices
- community standards
- causal chains
- divisions of linguistic labour
- speaker's intentions

METAPHYSICS VS. PRAGMATICS

(CQ) A Constitutive Question in Metaphysics
In virtue of what **FACTS** is it the case that a speaker, S, means whatever it is S **MEANS** by uttering something, x, on a given occasion?

(EQ) An Epistemic Question answered by a PRAGMATIC Theory
What sorts of **INFORMATION**, what sorts of **PRINCIPLES**, and what **TYPES OF COGNITIVE STATES** and **PROCESSES** are involved in the (typically spontaneous) **FORMATION** of **HYPOTHESES** by an interpreter about what S means by uttering something, x, on a given occasion?

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(AQ) An Aetiological Question answered by a FORMATIC Theory
What sorts of **INFORMATION**, what sorts of **PRINCIPLES**, and what **TYPES OF COGNITIVE STATES** and **PROCESSES** are involved in the **FORMATION** of the **MEANING INTENTIONS** S has in uttering x on a given occasion? (That is, what figures in or constrains S's pairing of x with what S means by uttering x on that occasion?)

PRAGMATICS VS. FORMATICS

An answer to (EQ) will provide **THE FULLY GENERAL COMPONENT** of an explanation of how audiences form hypotheses about what speakers mean by producing utterances on given occasions.

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A **FORMATIC THEORY** is an answer to (AQ)

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PUTTING THE PIECES TOGETHER

CQ, EQ, and AQ come together as follows:

The question of what **CONSTITUTIVELY** determines what S means on a given occasion and the question of what is involved in **EPISTEMICALLY** determining (i.e. ascertaining or identifying, or at least forming a hypothesis about) what S means on that occasion are conceptually distinct…

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...even though the formation of S's meaning intentions is typically **AETIOLOGICALLY** determined, in part, by S's conceptions of the sorts of things S reasonably presumes to be potentially involved in an audience's **EPISTEMICALLY** determining (or at least forming a hypothesis about) what S means.

"SPEAKER" MEANING

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- The most "basic" notion of (non-natural) meaning is that of **SOMEONE MEANING** something by doing something on a particular occasion.

- Other notions of meaning (e.g. sentence meaning and word meaning) are "derivative" and "explicated" in terms of this. E.g. **EXPRESSION MEANING** is essentially **FOSSILIZED SPEAKER MEANING** (expression meanings are self-perpetuating regularities in speaker meaning).

MEANING INTENTIONS (M-INTENTIONS)

By doing something, x, S, **MEANT** something iff, for some audience, A, and response r, S did x intending

(i) A to to produce r

(ii) A to recognise that S did x intending (1)

(iii) A's recognition that S did x intending (1) to function, at least in part as a reason for (1)

For short:

S did x **M-INTENDING** to produce r in A.

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  ▸ In producing his utterance, S relies on what he takes to be A's capacity to identify what he means;

  ▸ A assumes that S is so relying.

- In short, the ways in which S and A operate are **DOVETAILED** and **MUTUALLY SUSTAINING**.

"SPEAKER" MEANING

- Speakers and hearers are basically rational

- For the most part, speakers want to be understood

- For the most part, hearers seek to understand

- Words and their arrangements have properties that enter into an explanation of why speakers use them in the ways they do (formatics), and why addressees understand in the way they do (pragmatics).

- Notice: no assumption that linguistic meaning plays a **CONSTITUTIVE** role (metaphysics).

DIRECT AND INDIRECT SPEAKER MEANING

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CASE 1: MEANING AND SAYING

There can be situations in which (1) and (2) are both true:

(1) By uttering 'I'm tired,' I **MEANT** that I was tired.

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A difference in **DIRECTNESS**. Change the verbs:

(1) By uttering 'I'm tired,' I was saying (stating/asserting) that I was tired

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But this is just **LABELLING** the difference. We want an **EXPLANATION**.

SAYING

(The Grice/Schiffer Account)

SAYING (a special form of **MEANING**):

In uttering a sentence x (of language L), S said that p iff

(i) the proposition that p "conforms to" the meaning of x (in L), and

(ii) S meant that p by uttering x.

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(iii) S can consistently **DENY** that he meant that q without denying that he said that p. (Cancellability)

DIRECT AND INDIRECT MEANING

CASE 2: MEANING WITHOUT SAYING (MAKING AS IF TO SAY):

(1) By uttering 'I'm tired,' I did **NOT MEAN** that I was tired.

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The difference in **DIRECTNESS**:

(1) By uttering 'I'm tired,' I was **PLAY-SAYING** (play-stating/ play-asserting) that I was tired

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But what is **PLAY-SAYING**?

DIRECT AND INDIRECT MEANING

PLAY-SAYING:

In uttering an expression x (of language L), S **PLAY-SAID** that p iff

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PLAY-MEANING:

In doing x, S **PLAY-MEANT** that p iff

(i) S meant something in uttering x but did not mean that p;

(ii) S expected A's reasoning to what S did mean to proceed via A's belief that S did not mean that p.

DIRECT AND INDIRECT MEANING

A limitation of the Grice/Schiffer account: it is inapplicable to nonlinguistic cases.

CASE 3: A NON-LINGUISTIC ANALOGUE:

There can be situations in which (5) and (6) are both true:

(1) By yawning ostentatiously, I **MEANT** that I was tired.

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A difference in **DIRECTNESS**. But no verbs to indicate this

(1) By yawning ostentatiously, I was **X-ING** that I was tired

(2) By yawning ostentatiously, I was **Y-ING** that you should leave.

CASE 4: A SECOND NON-LINGUISTIC ANALOGUE:

(1) By yawning ostentatiously, I did **NOT MEAN** that I was tired.

(2) By yawning ostentatiously, I **MEANT** that you should leave

DIRECT AND INDIRECT MEANING

UNIFICATION

(1) By uttering 'I'm tired' (by yawning ostentatiously), I **DIRECTLY MEANT** (or **PLAY-MEANT**) that I was tired.

(2) By **DIRECTLY MEANING** (or **PLAY MEANING**) that I was tired (by uttering 'I'm tired' (by yawning ostentatiously)), I **INDIRECTLY MEANT** that you should leave.

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QUESTION:

Can we characterize a notion of **DIRECTLY MEANING** (i.e., a notion applicable to both linguistic and nonlinguistic cases) **WITHOUT APPEALING TO LINGUISTIC MEANING**?

SAYING AND IMPLICATING (SUPER-GRICEAN VERSION)

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WHAT ABOUT CONTEXT?

UNDERDETERMINATION/ UNDERSPECIFICATON

(1) It's cloudy (/raining/dark/midnight...)

(2) Everyone is ready (set/?disappointed/*upset)

(3) This is too hot/big/heavy/dark/red

(4) It is illegal to sell alcohol to people under 21 years old

(5) Parking prohibited

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(8) Yes, she had a headache

(9) Yes (No)

CONTEXT, CONTENT, AND INFERENCE

CLAIM 1:

Pace many **SEMANTICISTS**, underdetermination gives no reason to posit theoretically significant notions of **CONTENT** and **CONTEXT** for which the **CONTENT** of what is said when a sentence is used on a given occasion is **CONSTITUTIVELY DETERMINED** in part by **CONTEXT**

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CLAIM 2:

Pace many **PRAGMATICISTS** underdetermination gives no reason to posit theoretically significant notions of **CONTENT** and **INTERPRETIVE INFERENCE** for which the **CONTENT** of what is said when a sentence is used on a given occasion is **CONSTITUTIVELY DETERMINED** in part by **INTERPRETIVE INFERENCE**.

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Claims to the effect that things other than **LINGUISTIC MEANING** and **MEANING INTENTIONS** are partial determinants of the content of what is said are largely the product of conflating different notions **DETERMINATION**.

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Linguistic meaning and m-intentions are the **ONLY** determinants of the content of what is said.

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Linguistic meaning and m-intentions are the **ONLY** determinants of the content of what is said.

SUPER-GRICEAN POSITION:

M-intentions are the **ONLY** determinants of the content of what is said!

WHAT DOES MEANING DO?

Our View:

The meaning of an expression *e* makes communicating with *e* efficient by:

- Reducing the inferential workload.

- Restricting what a speaker can mean *e*.

TWO TYPES OF SEMANTIC COMPOSITION

THE STANDARD VIEW
SEMANTIC VALUES AS CONTENTS

$$\unicode{x27E6}\text{He}_1 \text{ smokes}\unicode{x27E7}^{\textcolor{red}{\mathbf{g}}}_{\textcent} = \lambda w_s \,.\, \textcolor{red}{\mathbf{g}}(1) \text{ smokes at } w$$

(presupposition: g(1) is male)

Heim & Kratzer (1998)
von Fintel & Heim (2011)

Heim & Kratzer (1998), p.243:

"...let us think of assignments as representing the contribution of the utterance situation. The physical and psychological circumstances that prevail when an LF is processed will (if the utterance is felicitous) determine an assignment to all the free variables occurring in this LF."

$$[\![\text{He smokes}]\!]_{\cancel{c}}^{c,g} = \lambda w_s \, . \, [\![\text{He}]\!]^c \text{ smokes at } w$$

$[\![\text{He}_1]\!]^c$ = The male being demonstrated in c

$[\![\text{He}_1]\!]^c$ = The most salient male in c

$[\![\text{He}_1]\!]^c$ = The male whom the speaker intends to refer to (etc.) in c

$[\![\text{He}_1]\!]^c$ = The male about whom the speaker has such-and-such commitment in c

$[\![\text{He}_1]\!]^c$ = The male who bears such-and-such relation to the discourse referent 1 in c

SEMANTIC VALUES AS CONSTRAINTS

- Sentences' semantic values do not determine truth conditions!

- The metasemantic question and the idea of semantic content are category mistakes!

- An expression's semantic value gives incomplete evidence of what a speaker can (literally) means with it.

Sperber & Wilson (1986/94); Bach (1987); Carston (2002); Neale (2004); Schiffer (2003)

"...the semantics of an expression gives the information that a competent speaker can glean from it independently of any context of utterance. ...

That this information is independent of contexts is a consequence of the fact that grammar, semantics in particular, is concerned with linguistic types, not tokens. ..."

—Kent Bach, *Thought and Reference, p.5*

CHARACTER COMPOSITION

Semantics is in the business of composing "**CHARACTERS**" or "**MEANINGS**", not contents.

CONTENT COMPOSITION

The **SEMANTICS** of L determines the **TRUTH CONDITIONS** of L sentences (relative to contexts)

CHARACTER COMPOSITION

The **SEMANTICS** of L merely **CONSTRAINS** truth conditions of L sentences in the following sense:

(1) It supplies a template or **BLUEPRINT** for the truth conditions of what the speaker is saying in uttering a sentence X.

(2) As such, it provides addressees with **PARTIAL EVIDENCE** of what a speaker can (literally) **MEAN** by uttering X.

OKAY BUT...

- How about the compositional details?

- What about entailment?

- And what's so good about this alternative idea?

COMPOSITIONAL SEMANTICS

THE PLAN

- Implement the idea of semantic values as characters rather than contents.

- Stick as close to orthodoxy as possible.

- For now, "orthodoxy" means "textbook static semantics".

Semantics of 'It stinks.'

$$\llbracket \text{It}_1 \text{ stinks} \rrbracket^g$$
$$= \lambda w_s \, . \, g(1) \text{ stinks at } w$$

Heim & Kratzer (1998);
von Fintel & Heim (2011)

Semantics of 'It stinks.'
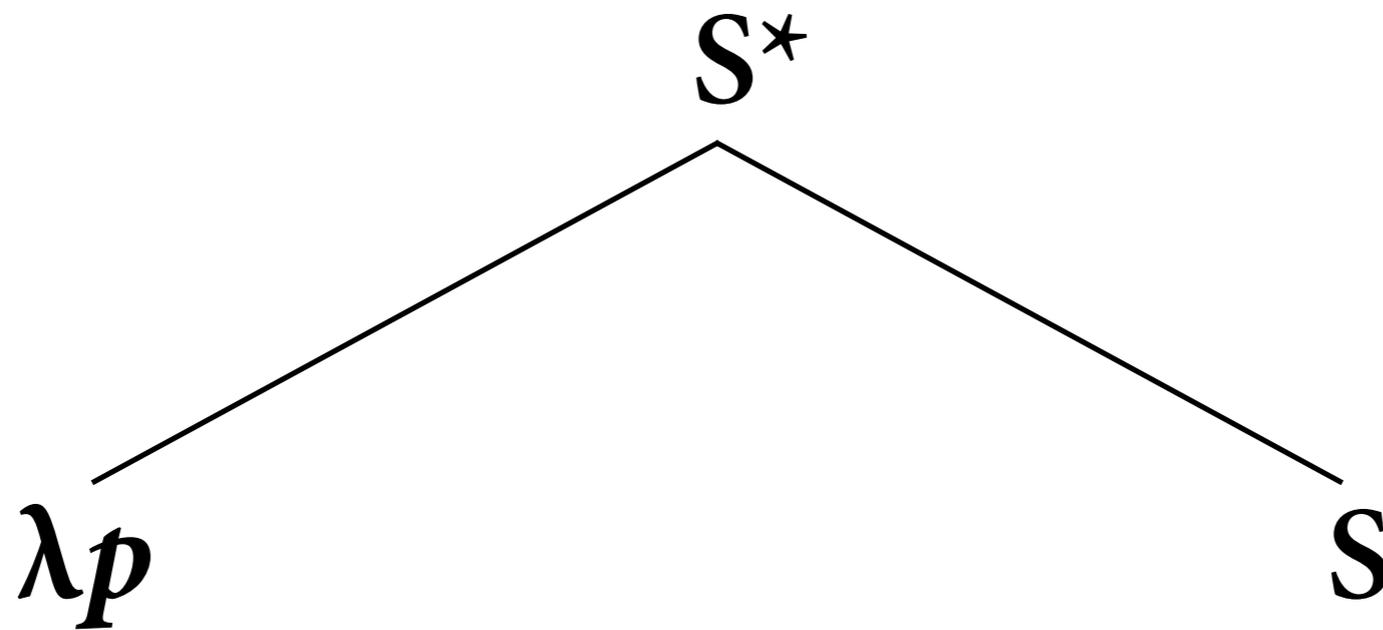
$$S^*$$

$$\lambda p \qquad\qquad S$$

$$[\![\text{It}_1 \text{ stinks}]\!]^g$$
$$= \lambda w_s \,.\, g(1) \text{ stinks at } w$$

Semantics of 'It stinks.'

$$⟦S*⟧$$

$$= \lambda p_{\langle s,t \rangle} . (\exists x) \ p = [\lambda w_s . x \text{ stinks at } w]$$

λp

S
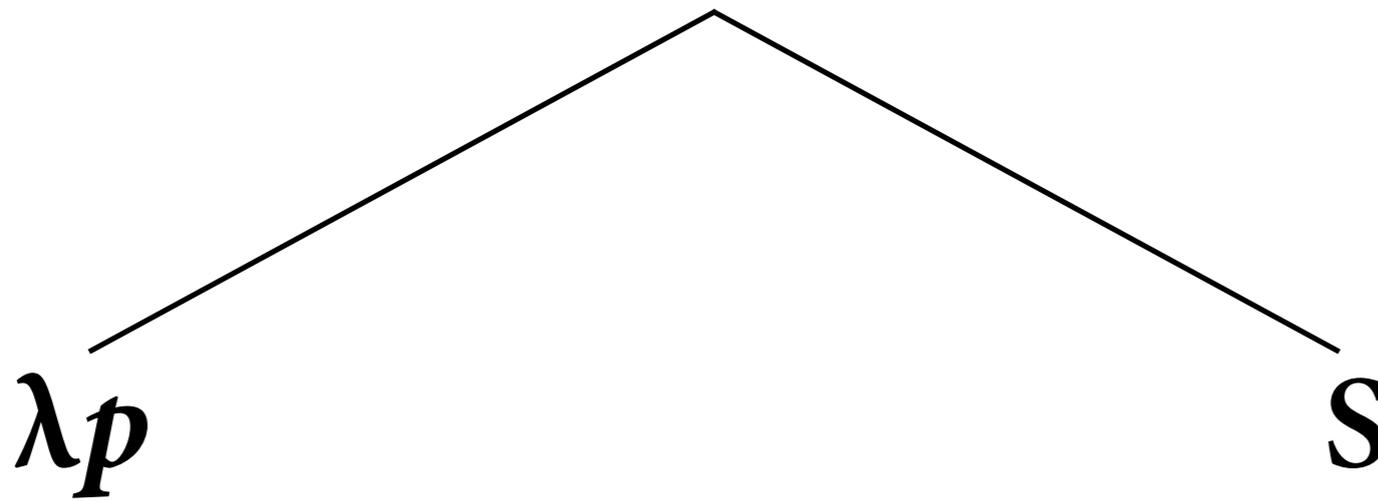
$⟦\text{It}_1 \text{ stinks}⟧^g$
$= \lambda w_s . g(1) \text{ stinks at } w$

(PTA) Proposition-Type Abstraction

Let α be a branching node with daughters β and $\gamma_{i...n}$, such that:

 (a) β dominates only λp, and

 (b) γ contains unbound variables $v_i \ldots v_n$.

Then:

$$[\![\alpha]\!] = \lambda p_{\langle s,t \rangle} \,.\, (\exists x_i)\ldots(\exists x_n)\, p = [\![\gamma]\!]^{g[x_i/i\ldots x_n/n]}$$

ENTAILMENT

The g-closure of SR

Let $\llbracket SR \rrbracket$ be $\lambda p_{\langle s,t \rangle} . (\exists x_i) \ldots (\exists x_n)[\lambda p . p = \varphi]$

Then $g(SR) = \llbracket \varphi \rrbracket^g$

Sentence-Radical Entailment

$\{SR_i \ldots SR_m\} \vdash SR_n$ iff $(\forall g)\{g(SR_i) \ldots g(SR_m)\}$
$\vdash g(SR_n)$

QUESTIONS

- What's the semantic difference between 'he' and 'she'?

- What about other "context-sensitive" expressions: 'that', 'I', 'here', 'you', etc?

- What about "context-sensitive" expressions that aren't type e?

A PROPOSAL

⟦He smokes⟧
$= \lambda p_{\langle s,t \rangle} \, . \, (\exists x_e : x \text{ is male}) \, p = [\lambda w_s \, . \, x \text{ smokes at } w]$

⟦You smoke⟧
$= \lambda p_{\langle s,t \rangle} \, . \, (\exists x_e : x \text{ is the addressee})$
$p = [\lambda w_s \, . \, x \text{ smokes at } w]$

⟦The dog barks⟧
$= \lambda p_{\langle s,t \rangle} \, . \, (\exists \varphi_{et}) \, p = [\lambda w_s \, . \, \textit{The } \varphi \textit{ dog } \text{barks at } w]$

A PROPOSAL

- The semantic values of "context-sensitive" expressions are constraints on what we can do with them.

- Roughly: characters.

- These constraints can be represented as ordered pairs:

$$[\![e]\!]^{g} = \langle \tau, \varphi \rangle$$

τ is e's semantic type

φ is e's *constraint property*

SOME EXAMPLES

$[\![he]\!]^g = \langle e, \lambda x . x$ is male$\rangle$

$[\![she]\!]^g = \langle e, \lambda x . x$ is female$\rangle$

$[\![that]\!]^g = \langle e, \lambda x . x$ is "distal" from the speaker$\rangle$

$[\![this]\!]^g = \langle e, \lambda x . x$ is "proximal" from the speaker$\rangle$

$[\![I]\!]^g = \langle e, \lambda x . x$ is the speaker$\rangle$

$[\![here]\!]^g = \langle e, \lambda x . x$ is a place containing the speaker$\rangle$

$[\![dom.]\!]^g = \langle et, \lambda f . f{=}f \rangle$

(PTA⋆) Proposition-Type Abstraction (Pedantic Version)

Let α be a branching node with daughters β and $\gamma_{i\ldots n}$, such that:

(a) β dominates only λp, and

(b) γ contains unbound variables $v^i \ldots v^n$.

Then:

$$[\![\alpha]\!] = \lambda p_{\langle s,t \rangle} \cdot (\exists x^i_{\tau([\![v^i]\!]^g)} : \varphi([\![v^i]\!]^g)x^i) \ldots (\exists x^n_{\tau([\![v^n]\!]^g)} : \varphi([\![v^n]\!]^g)x^n) : p = [\![\gamma]\!]^{g^{[x^i/i \ldots x^n/n]}}$$

(DEFINITION: For any v's semantic value, $\langle x, F \rangle$, $\tau(\langle x, F \rangle) = x$ and $\varphi(\langle x, F \rangle) = F$)

EXAMPLES

$[\![$He smokes$]\!]$
$= \lambda p_{\langle s,t \rangle} . (\exists x_e : x \text{ is male}) \, p = [\lambda w_s . x \text{ smokes at } w]$

$[\![$You smoke$]\!]$
$= \lambda p_{\langle s,t \rangle} . (\exists x_e : x \text{ is the addressee})$
$p = [\lambda w_s . x \text{ smokes at } w]$

$[\![$The dog barks$]\!]$
$= \lambda p_{\langle s,t \rangle} . (\exists \varphi_{et}) \, p = [\lambda w_s . \textit{The } \varphi \textit{ dog} \text{ barks at } w]$

SOME NICE FEATURES

- Contexts be gone!

- Minimal role for assignment functions.

- Thin, compositionally derived semantic values.

- Very conservative: just a minimal addition to Heim & Kratzer required.

TO-DO LIST

- How does λp interact with scope-takers?

- What about non-deictic, unbound anaphoric pronouns?

- Can other compositional-semantic systems be extended in a similar way?

SEMANTICS AND COGNITIVE ARCHITECTURE

AN ARCHITECTURAL ARGUMENT

1. The part of utterance comprehension modeled by compositional semantics is modular (in Fodor's sense).

2. Reference-resolution is a central process.

3. Modular processes output to central processes (not the other way around).

4. So, reference resolution happens after compositional semantics, not before.

MODULAR PROCESSES
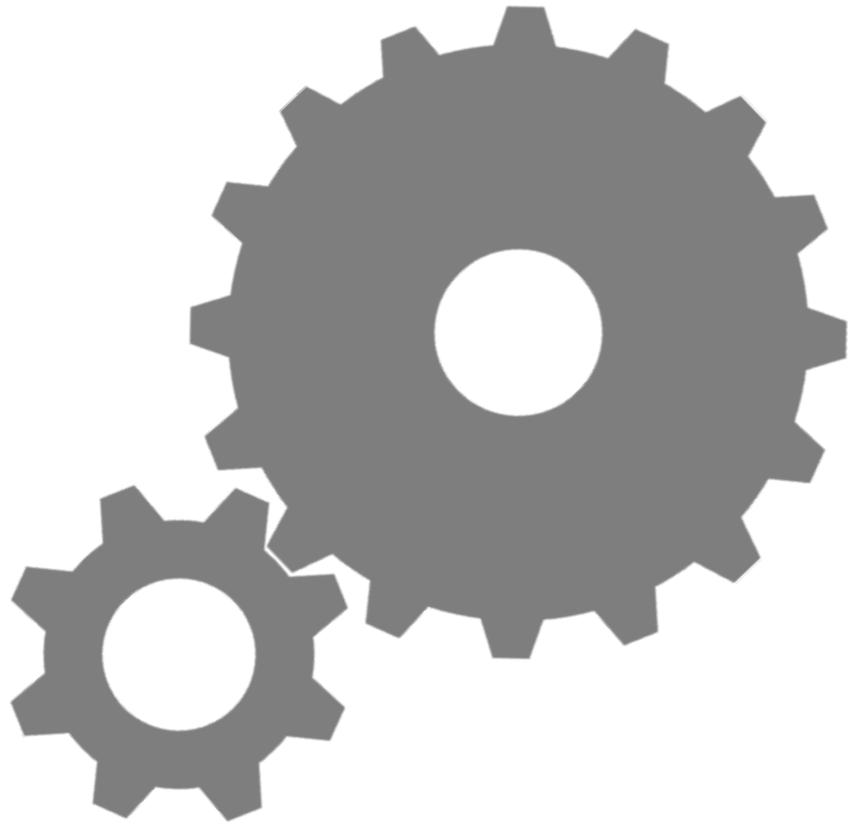
- encapsulated
- domain-specific
- automatic, effortless
- algorithmic

CENTRAL PROCESSES
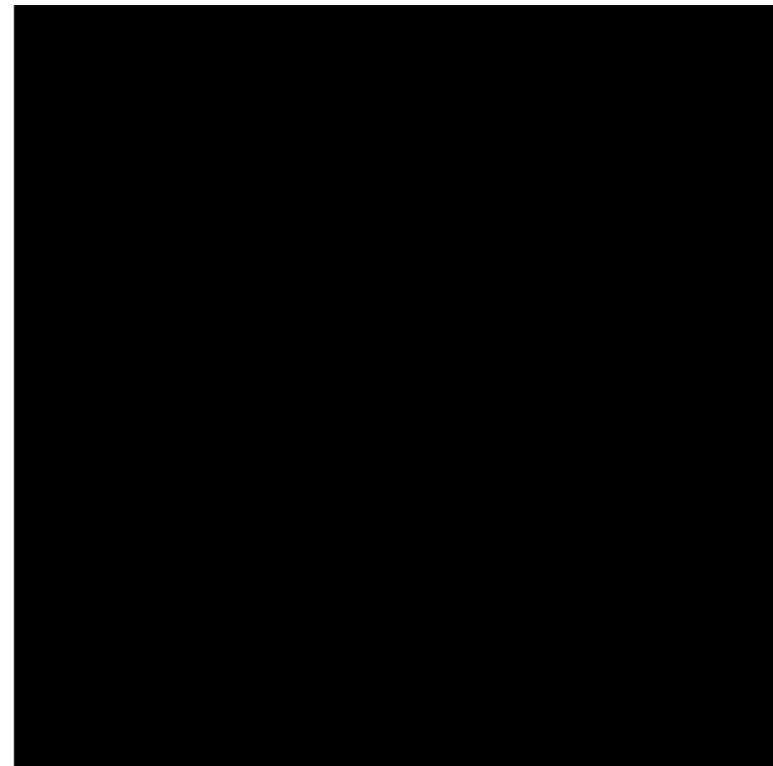
- isotropic
- general-purpose
- can be controlled, effortful
- abductive

SEMANTIC COMPOSITION
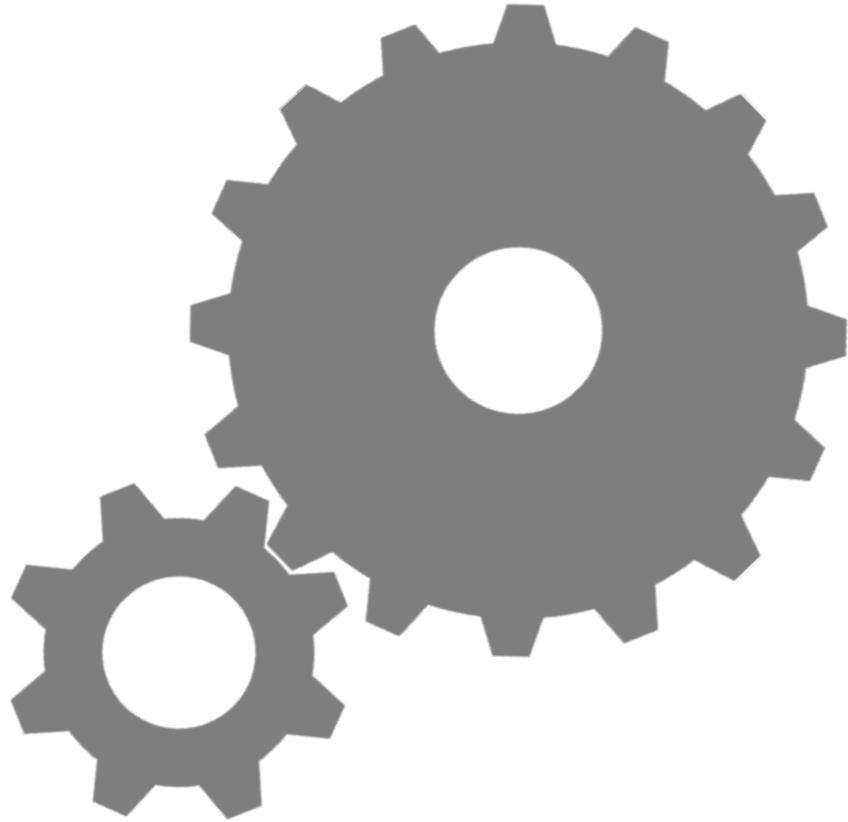
- encapsulated
- domain-specific
- automatic, effortless
- algorithmic

REFERENCE RESOLUTION
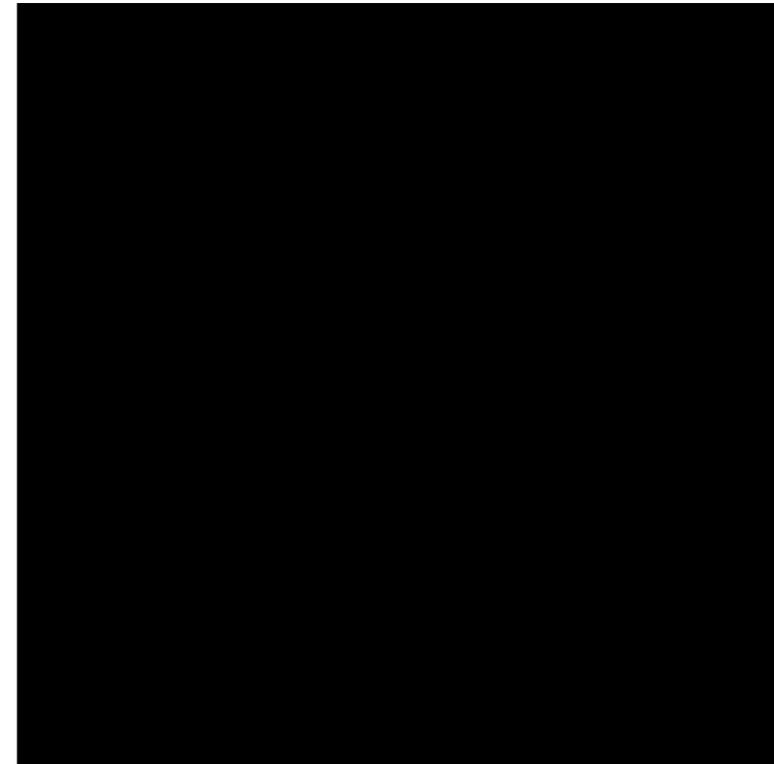
- isotropic
- general-purpose
- can be controlled, effortful
- abductive

SEMANTICS
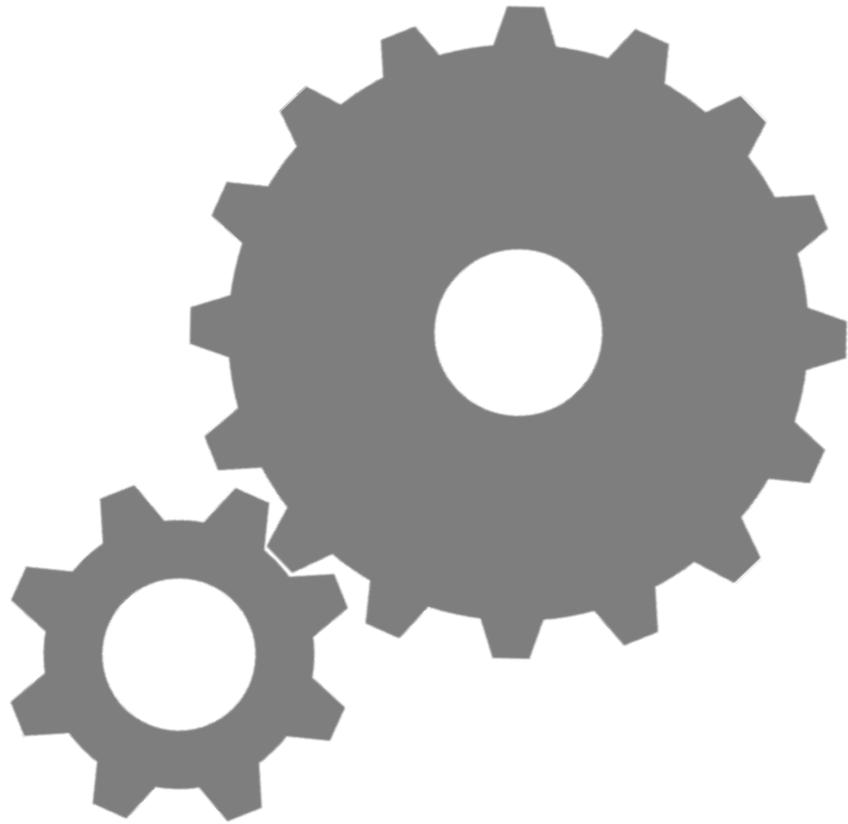
PRAGMATICS

- encapsulated
- domain-specific
- automatic, effortless
- algorithmic
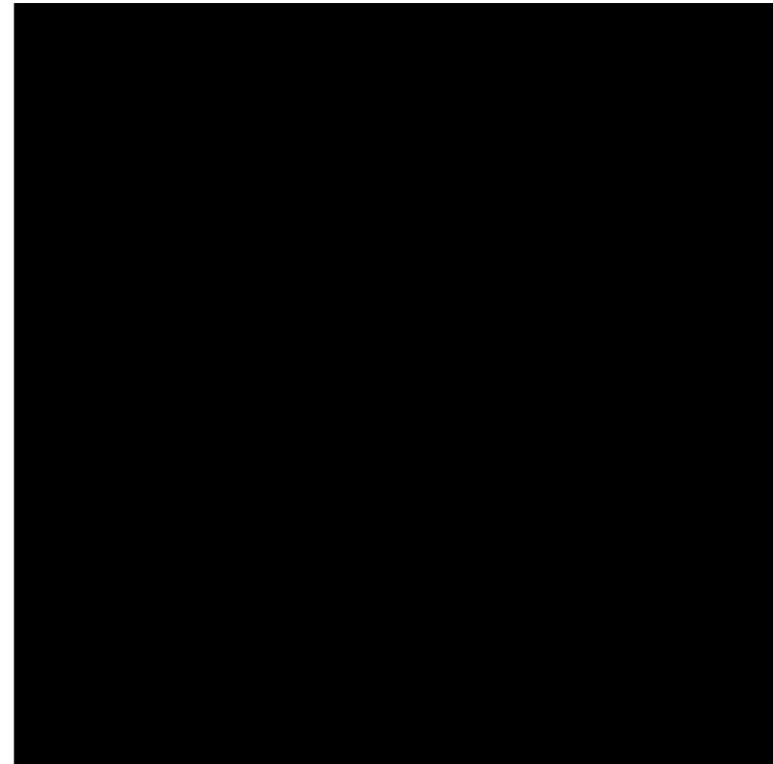
- isotropic
- general-purpose
- can be controlled, effortful
- abductive

FACULTY OF LANGUAGE
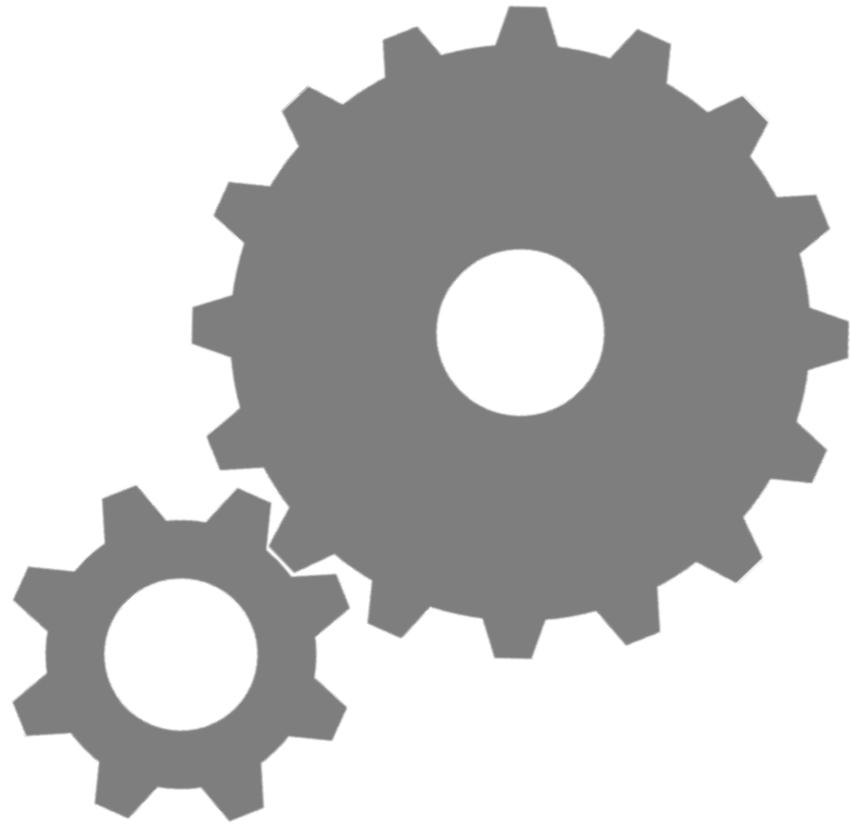
- encapsulated
- domain-specific
- automatic, effortless
- algorithmic

MINDREADING CAPACITY
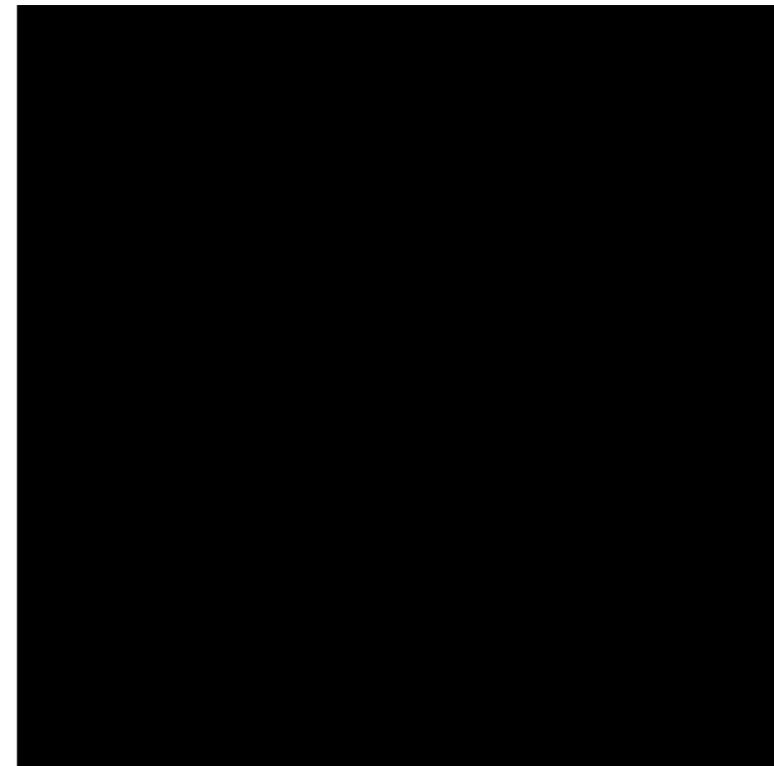
- isotropic
- general-purpose
- can be controlled, effortful
- abductive

THANKS