

PHILOSOPHY AND/OF SEMANTICS

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Logic, Language and Computation
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OUTLINE

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Origins of formal semantics

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Philosophical concerns

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Abstraction versus idealisation

ORIGINS OF FORMAL SEMANTICS (I)

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Main obstacle from philosophical point of view:

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Main obstacle from philosophical point of view:
lack of formal structure in natural language syntax

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Main obstacle from linguistic point of view:

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Main obstacle from philosophical point of view:
lack of formal structure in natural language syntax

Main obstacle from linguistic point of view:
referential nature of logical semantics

ORIGINS OF FORMAL SEMANTICS (2)

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Contribution from philosophy and logic:

ORIGINS OF FORMAL SEMANTICS (2)

Contribution from philosophy and logic:

formal languages, model theory, possible world
semantics

ORIGINS OF FORMAL SEMANTICS (2)

Contribution from philosophy and logic:

formal languages, model theory, possible world semantics

Contribution from linguistics:

ORIGINS OF FORMAL SEMANTICS (2)

Contribution from philosophy and logic:

formal languages, model theory, possible world semantics

Contribution from linguistics:

development of generative grammar

ORIGINS OF FORMAL SEMANTICS (3)

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Formal semantics as a joint undertaking:

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Formal semantics as a joint undertaking:
methodological individualism

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Formal semantics as a joint undertaking:

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distinction between grammatical form and logical form

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Formal semantics as a joint undertaking:

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methodological psychologism

PHILOSOPHICAL CONCERNS (I)

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Methodological individualism:

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Methodological individualism:
compositionality, creativity, infinity

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Grammatical form and logical form:

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availability and determinacy of meanings

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compositionality, creativity, infinity

Grammatical form and logical form:

availability and determinacy of meanings

Methodological psychologism:

intuitions as phenomena and as data

PHILOSOPHICAL CONCERNS (2)

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The status of formal semantics:

PHILOSOPHICAL CONCERNS (2)

The status of formal semantics:

empirical

PHILOSOPHICAL CONCERNS (2)

The status of formal semantics:

empirical

engineering

PHILOSOPHICAL CONCERNS (2)

The status of formal semantics:

empirical

engineering

deductive

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empirical

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The nature of semantics' object:

PHILOSOPHICAL CONCERNS (2)

The status of formal semantics:

empirical

engineering

deductive

The nature of semantics' object:

natural phenomenon

PHILOSOPHICAL CONCERNS (2)

The status of formal semantics:

empirical

engineering

deductive

The nature of semantics' object:

natural phenomenon

hybrid object

CONSTRUCTION, ABSTRACTION, IDEALISATION

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Examples of constructed objects:

CONSTRUCTION, ABSTRACTION, IDEALISATION

Examples of constructed objects:

language

CONSTRUCTION, ABSTRACTION, IDEALISATION

Examples of constructed objects:

language

meaning

CONSTRUCTION, ABSTRACTION, IDEALISATION

Examples of constructed objects:

language

meaning

competence

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Examples of constructed objects:

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Two types of construction:

CONSTRUCTION, ABSTRACTION, IDEALISATION

Examples of constructed objects:

language

meaning

competence

Two types of construction:

abstraction

CONSTRUCTION, ABSTRACTION, IDEALISATION

Examples of constructed objects:

language

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Two types of construction:

abstraction

idealisation

ABSTRACTION AS CONSTRUCTION

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Abstraction as instrument of construction that turns a phenomenon into an object of study

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Abstracted features: real features of phenomenon that are irrelevant / too complex / intractable / ...

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Examples in the sciences: frictionless plane; perfect vacuum; pure chemical substance; etc

A 'UNIVERSAL RIGHT TO ABSTRACTION'?

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Abstraction in linguistics:

Any serious study will [...] abstract away from variation tentatively regarded as insignificant and from external interference dismissed as irrelevant at a given stage of inquiry. [...] It should come as no surprise, then, that a significant notion of 'language' as an object of rational inquiry can be developed only on the basis of rather far-reaching abstraction.

(Chomsky, Rules and Representations, 1980)

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Conceived as a right:

... it is a rare philosopher who would scoff at its [i.e., physics'] weird and counterintuitive principles as contrary to right thinking and therefore untenable. But this standpoint is commonly regarded as inapplicable to cognitive science, linguistics in particular. Somewhere between, there is a boundary. Within that boundary, science is self-justifying; the critical analyst seeks to learn about the criteria for rationality and justification of scientific success. Beyond that boundary, everything changes; the critic applies independent criteria to sit in judgment over the theories advanced and the entities they postulate.

(Chomsky, 'Language and Nature', 1995)

ABSTRACTION: CHARACTERISTICS

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Object:

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Object:

quantitative parameter that is controlled by fixing a value (zero, infinity, ...)

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Result:

model of phenomenon in which the parameter abstracted over is still present

Motivation:

primarily methodological & practical, hence temporary and revisable

IDEALISATION: CHARACTERISTICS

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Object:

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qualitative feature that is left out of consideration

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Object:

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model of phenomenon in which feature that is
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Motivation:

IDEALISATION: CHARACTERISTICS

Object:

qualitative feature that is left out of consideration

Result:

model of phenomenon in which feature that is idealised away is missing

Motivation:

primarily ideological & theoretical, hence permanent and definitory

IDEALISATION: EXAMPLE

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The competence-performance distinction:

Linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest and errors (random or characteristic) in applying his knowledge of the language in actual performance.

(Chomsky, *Aspects*, 1965)

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Competence as a distinct ontological entity:

To study actual linguistic performance, we must consider the interaction of a variety of factors, of which the underlying competence of the speaker-hearer is only one.

(*ibid*).

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Consequence: additional epistemological task, viz.,
explaining the connection between idealised object and
real phenomenon

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Abstraction

Idealisation

ABSTRACTION VERSUS IDEALISATION

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methodological

ontological

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symmetric

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ABSTRACTION VERSUS IDEALISATION: WHY?

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Suggestion: the difference is concerned with

- a. the nature of the domain
- b. the nature of the enterprise

'PHYSICS' VERSUS LINGUISTICS

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'Physics'

experimental design

quantitative differences
between theory and
application

natural ontology

deterministic explanation,
causal laws

'PHYSICS' VERSUS LINGUISTICS

'Physics'

Linguistics

experimental design

hardly any experiment

quantitative differences
between theory and
application

qualitative differences
between theory and
application

natural ontology

hybrid ontology

deterministic explanation,
causal laws

interpretive explanation, no
strict laws

IDEALISATION: FURTHER EXAMPLES

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Written versus spoken language

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Language users as disembodied individuals

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Written versus spoken language

Language users as disembodied individuals

The primacy of context-independent, propositional
meaning

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The hierarchical relation between semantics and
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Limiting the domain of inquiry:

At the conceptual-intentional interface [between sound-meaning pairs of I-language and actual language use] the problems are even more obscure, and may well fall beyond human naturalistic inquiry in crucial respects.

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Changing the domain of inquiry:

The word 'language' has highly divergent meaning in different contexts and disciplines. In informal usage, a language is understood as a culturally specific communication system [...] In the varieties of modern linguistics that concern us here, the term 'language' is used quite differently to refer to an internal component of the mind/brain [...] We assume that this is the primary object of interest for the study of the evolution and function of the language faculty.

(Hauser, Chomsky, Fitch, 'The Faculty of Language', 2002)

THE CONSEQUENCES OF DIFFERENCES

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Idealisation requires `bridging theory`

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Consequence: application dictates theory

THE NATURE OF DIFFERENCES

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Central question: Is naturalism an empirical issue or a choice?

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Ideological nature of idealisation suggests: a choice

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Theoretical differences reflect hybrid ontology