Properties and other intensions

The occasional intentionalist comments on Larson's
Grammar of Intensionality

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0 Sententialism

Extensions and Intensions
Compositional meaning supervenes on modes of reference and propositional content, i.e. the basic meanings are individual concepts and propositions (as special cases); compositional values are functions combining basic meanings and/or values.

Frege (1892), Carnap (1947), Montague (1970b)

≠ *Internalism* Frege (1892),...

Graspable propositional content is independent of reference.

- *Fregean Compositionality*

Extensions of compound expressions are determined by the extensions or intensions of their immediate parts and the mode of composition.

=> but <≠ Sternefeld & Zimmermann (in prep.)*)

- *Intensional Compositionality*

Intensions of compound expressions are determined by the intensions of their immediate parts and the mode of composition.

———————————————

*) $[\![\Phi B]\!]_w = 1$ if and only if $[\![B]\!] (w) = [\![B]\!] (w_0)$

Traditional rival:

One-layered semantics
Compositional meaning supervenes on reference and propositional content, i.e. meanings are referents, propositions, or functions combining meanings.

(Russell 1905, Montague 1970a)

≠ *Externalism* Burge (1979),...

Propositional content generally depends on reference.

Types

- *Fregean Types* of semantic values

e, ***t*** $\in$ *FT*

a, *b* $\in$ *FT* => ***(****ab****)***, ***(s****a****)*** $\in$ *FT*

$\approx$ Kaplan (1975)

- *Russellian Types* of semantic values

p $\in$ *RT*

a, *b* $\in$ *RT* => ***(****ab****)***, ***(e****b****)*** $\in$ *RT*

- *Sententialist (Argument & Value) Types*

e $\in$ *AT*

p $\in$ *VT*

a $\in$ *AT*, *b* $\in$ *VT* => ***(****ab****)***, ***(p****b****)*** $\in$ *VT*

a, *b* $\in$ *AT* => ***(****ab****)*** $\in$ *AT*

- *Fregean Compositionality*

Extensions of compound expressions are determined by the extensions or intensions of their immediate parts and the mode of composition.

≈>

Fregean Laziness

Substitution problems are solved by trading in extensions for intensions.

Jones believes that Hesporus is Phosphorus. Frege (1892)

Jones seeks a unicorn. Montague (1970b)

Jones is listening attentively. Montague (1973)

Jones is an alleged murderer. Montague (1970a) *[sic!]*

1 Intensional transitives

An uncommon classification, according to whether the semantic value of the (indefinite) intensional objects ...

A ... directly contribute to the predicate (or to an embedded clause)
B ... are existential quantifiers (or something else)
C ... existentially qantify (or denote an argument)

Approach	A	B	C
Property Analysis (Zimmermann 1993a)	+	−	−
Intensionalism (Montague 1970b)	+	+	−
Sententialism (den Dikken *et al.* 1996)	−	+	+
Intentionalism (May 1985)	+	+	+

The lazy Fregean's conclusion

Jones seeks a unicorn.
Every unicorn is a griffin.
Every griffin is a unicorn.
∴ *Jones seeks a griffin.*

Word	*Type*
…	*…*
seek	*e(et) (se)(et)*
…	*…*

The true Fregean's strategy

STEP 1: Find suitable paraphrase

Jones seeks a unicorn. Quine (1956)

≡ ***Jones tries to find a unicorn.***

STEP 2: Give compositional analysis of paraphrase

try to find a unicorn.

≈ $\lambda x^{e}.\ \mathsf{T}(x, \hat{}(\exists y)\ [\mathsf{U}(y)\ \&\ \mathsf{F}(x,y)]$ (details negotiable)

STEP 3: Isolate contribution of (original) object

$\lambda x^{e}.\ \mathsf{T}(x, \hat{}(\exists y)\ [\mathsf{U}(y)\ \&\ \mathsf{F}(x,y)])$

≡ $[\lambda \wp^{(s((et)t))}.\ \lambda x^{e}.\ \mathsf{T}(x, \hat{}\ \wp\{\lambda y.\ \mathsf{F}(x,y)\})]$

$(\hat{}\lambda P^{et}.\ (\exists y)\ [\mathsf{U}(y)\ \&\ P(y)])$

STEP 4a: Identify compositional contribution of verb

$\textbf{\textit{seek'}} = \lambda \wp^{(s((et)t))}.\ \lambda x^{e}.\ \mathsf{T}(x, \hat{}\ \wp\{\lambda y.\ \mathsf{F}(x,y)\})$

STEP 4b: **...** and collect its type

$\tau(seek') = (s((et)t))(et) = q(et)$ ... for short

STEP 5a (OPTIONAL): generalize

$\tau(want') = q(et)$

$\tau(owe') = e(q(et))$ Montague (1968)

[or maybe: $\tau(owe') = q(q(et))$] Zimmermann (2005)

$\tau(appear) = q((s(et))t) = q(pt)$ Montague (1973)

$\tau(worship') = e(q(et))$ Montague (1968)

... OOOPS ... with thanks to J.A..W. Kamp

STEP 5b (EVEN MORE OPTIONAL): generalize to worst case

$\tau(find') = q(et)$

... or even: $\tau(find) = q(qt)$ ...

An Aside: Unspecificity as Quantificational Dependence

Hintikka (1969)

$try' = \lambda p^{st}.\ \lambda x^{e}.\ (\forall i^{s})\ [A_a\,(x,i) \rightarrow p_i]$

a designated variable of type *s*: A: pertinent alternative relation

Jones seeks a unicorn

$\approx \quad (\forall i^{s})\ [A_a(j,i) \rightarrow (\exists y)\ [U_i(y)\ \&\ F_i\,(j,y)]]$

Every man loves a woman

$\approx \quad (\forall x)\ [M_a(x) \rightarrow (\exists y)\ [W_a(y)\ \&\ L_a(x,y)]]$

Problems and Objections Larson (2002) etc.

- *Inhomogeneity of intensional verbs* Schwarz (2008)

Jones wanted the minutes before the meeting. Partee (1974)

Jones was looking for the minutes before the meeting.

Mary worships a Greek goddess. Parsons (1980)

- *Inhomogeneity of intensional objects* Zimmermann (1993a)

Paul resembles a unicorn.

Paul resembles most unicorns.

- *Intensional relative clauses* Moltmann (1997), Zimmermann (1993a)

Geach is looking for something Quine is looking for. restrictive

The company is seeking an engineer, who must be fluent in English. non-estrictive

Evidence for intentionalism?

- *Monotonicity Problem*

John is looking for a red sweater.
John is looking for a sweater.

John is looking for a red sweater.
Mary is looking for a blue pen.
∴ ~~***John is looking for something Mary is looking for.***~~

- *IKEA sentences* Zimmermann (2010)

The set is missing [exactly] five screws.
Exactly five screws are missing.
Most screws are missing.
Every missing screw has been replaced.

The set is missing [exactly] five screws

$\approx$ $[\lambda P^{s(et)}.\ \mathrm{M}(\mathrm{s},(\exists^{=5} y)\ [\mathrm{S}(y)\ \&\ y \subset \mathrm{s}\ \&\ P(y)])]\ (\lambda y^{e}.\ y \not\subset \mathrm{s})$

... where

$[\![\mathrm{M}(x,p)]\!]^{i} = 1$

$\Leftrightarrow$ $(\forall j)$ [x is completed (starting from i) $\Rightarrow$ $p(j) = 1$]

Exactly five screws are missing [from x]

$\approx$ $[\lambda P^{s(et)}.\ \mathrm{M}(x,(\exists^{=5} y)\ [\mathrm{S}(y)\ \&\ y \subset \mathrm{s}\ \&\ P(y)])]\ (\lambda y^{e}.\ y \not\subset x)$

miss' =

$\lambda \wp^{s(et)}.\ [\lambda P^{s(et)}.\ \mathrm{M}(x,(\wp y)\ [P(y)\ \&\ y \subset x\ \&\ P(y)])]\ (\lambda y^{e}.\ y \not\subset x)$

Most screws are missing [from x]

$\approx$ $[\lambda P^{s(et)}.\ \mathrm{M}(x,(\mathrm{MOST}y\colon [\mathrm{S}(y)\ \&\ y \subset x])\ \&\ P\{y\}])](\hat{}\lambda y^{e}.\ y \not\subset x)$

$\not\approx$ $[\lambda P^{s(et)}.\ \mathrm{M}(x,(\mathrm{MOST}y\colon \mathrm{S}(y))\ [y \subset x\ \&\ P\{y\}]])]\ (\hat{}\lambda y^{e}.\ y \not\subset x)$

$\approx$ *Most screws should be in x but are not*

Most screws are missing [from x]

$\approx$ $(\exists C)\ (\mathrm{MOST}\ f\colon [C(f)\ \&\ \mathrm{S}^{+}(f)\ \&\ f^{+} \subset x])f^{+} \not\subset x$

where C ranges over (adapted) conceptual covers Aloni (2001)
and S^{+} coerces S into applying to (partial) individual concepts:

$[\![P^{+}]\!]^{i}(\mathrm{f}) = 1$ iff $(\forall j \in dom(\mathrm{f}))[\![P]\!]^{i}(\mathrm{f}(j)) = 1$

$\approx>$ Intentionalism

2 Adverbs

[...] the unavailability of nonspecific readings with manner adverbs [...] has been not explicitly discussed in the literature on intensionality [...] The postulate [(*)] does not explain it. Larson (2002: 243)

$(*)\ (\forall x)\ (\forall \Pi)\ \Box\ [(\mathbf{Adv'}(\hat{}\Pi)(x) \rightarrow \Pi(x)]$

Schematic postulate: Engesser (1980)

$(\forall x^{e})\ \Box\ [Tr(\hat{}\Omega) \rightarrow Tr(\lambda\wp.\ \mathbf{Adv'}(\hat{}\lambda x.\ \Omega(x, \wp)))]$

where Ω translates a transitive verb and $Tr(\Omega)$ abbreviates:

$\Box\ (\forall x^{e})\ (\forall \wp^{q})\ [\Omega(x, \wp) \leftrightarrow \wp\{\lambda y.\ \Omega(x, \lambda P^{s(et)}.\ P(y))\}]$

Generalizing to possible verb-intensions: quoting von Stechow (p.c)

$(\forall x)\ (\forall \Omega)\ \Box\ [Tr(\Omega) \rightarrow Tr(\lambda\wp.\ \lambda x.\ \mathbf{Adv'}(\hat{}\Omega(x, \wp))]$

$\Leftrightarrow \mathbf{Adv'} \equiv \lambda P^{s(et)}.\ \check{}P$ given (*): Zimmermann (1987; 1993b)

3 Adjectives

Zwarts (2012)

Intensionalism vs. model theory as a source of laziness

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