Aboutness and Higher-Order Contingentism

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1 Modal Metaphysics

Is the framework of objects necessary or contingent (Williamson 2013)?

Some things exist contingently. **(Contingentism)**
Necessarily, everything necessarily exists. **(Necessitism)**
Some properties/propositions/etc. exist contingently. **(H. O.C)**
Necessarily, every property/proposition/etc. necessarily exists. **(H. O.N)**

How do these positions connect? Does H. O. C./N. follow from Contingentism/Necessitism? (Goodman 2016, Fairchild 2024)

A prominent thought: Patterns of contingency in what individuals there are produce patterns of contingency in what entities of higher types there are.

But how? A prominent suggestion: Relations of **aboutness** between entities of higher types and individuals. (Prior 1957, Fine 1980, Adams 1981, Fitch 1996)

2 Background

2.1 Typed Languages

Existing formal discussions of these positions are couched in higher-order modal languages (Gallin 1975, Williamson 2013, Fritz 2023).

A higher-order language is any typed language. Types are defined as follows:

- e is the basic type, the type of individuals;
- If τ is a type, $\langle\tau\rangle$ is a type;

Examples:

- $\langle e_1, ..., e_n\rangle$: the type of n-ary relations between individuals
- $\langle\rangle$: the type of propositions
- $\langle\langle\rangle_1, \ldots, \langle\rangle_n\rangle$: the type of n-ary relations between propositions

We also employ λ, a variable-binding operator that takes open sentences as inputs and outputs predicates. Example:

- The open sentence Rx and the predicate $\lambda x.Rx$. The predicate denotes a function from entities of type x to propositions.

Standard signatures like that of propositional, first-order, and first-order modal logic can be enriched by indexing terms by appropriate types, yielding **typed** propositional, first-order, and first-order modal logic.

2.2 Modal Metaphysics Regimented

$E =_{df} \lambda x.\exists y\ (x = y)$	(Existence)
$\Box\forall x\Box Ex$	(Necessitism)
$\exists x\Diamond\neg Ex$	(Contingentism)
$x_\sigma \equiv y_\sigma =_{df} \forall X_{\langle\sigma\rangle}\ (Xx \leftrightarrow Yx)$	(H.O. Identity)
$E_{\langle\sigma\rangle} =_{df} \lambda X_\sigma.\exists Y_\sigma\ (X \equiv_{\langle\sigma,\sigma\rangle} Y)$	(H.O. Existence)
$\Box\forall X_\sigma\Box E_{\langle\sigma\rangle}X$	(H.O.N.)
$\exists X_\sigma\Diamond\neg E_{\langle\sigma\rangle}X$	(H.O.C.)

3 The Aboutness-Theoretic Argument

An argument for the contingent existence of propositions from the contingent existence of individuals:

(1) Socrates possibly does not exist. **(Contingentism)**

(2) The proposition [that Socrates exists] is about Socrates. **(Aboutness)**

(3) If a proposition is about an individual, the proposition exists only if the individual exists **(Aboutness)**

(4) The proposition [that Socrates exists] exists only if Socrates exists (from [2, 3])

(5) The proposition [that Socrates exists] possibly does not exist (from [1], [4]

[1] $\mathfrak{A}(p, x)$ is a relation of type $\langle\langle\rangle, e\rangle$ Intuitively: p is about x.
[2] $\mathcal{A}(p)$ denotes a function from propositions to the entity(ies) it is about.

A formalised version of the argument. [1]

(1) $\Diamond\neg\exists y\ (s = y)$ **(Contingentism)**

(2) $\Box(\mathfrak{A}((\lambda x.\exists y\ (x = y))(s), s))$ **(Aboutness)**

(3) $\Box\forall p_{\langle\rangle}\Box\forall x_e\Box(\mathfrak{A}(p, x) \rightarrow (Ep \rightarrow Ex))$ **(Aboutness)**

(4) $\Box(E((\lambda x.\exists y\ (x = y))(s) \rightarrow Es))$ (from [2, 3])

(5) $\Diamond\neg\exists q\ (q \equiv (\lambda x.\exists y\ (x = y))(s))$ (from [1], [4]

Premise (2): the particular aboutness-claim used to motivate higher-order contingentism;

Premise (3): the general thesis that relations of aboutness induce relations of existential dependence.

Question of **adequacy**: Is there a theory of aboutness capable of delivering independently plausible verdicts about patterns of higher-order contingency? Potential problems for a theory of aboutness:

1) **under**generation - less entities of higher types than we have independent reasons to accept;

2) **over**generation - more entities of higher types than we have independent reasons to accept.

4 Theories of Aboutness

4.1 A Structured Theory of Aboutness

Rough proposal: A proposition is about whichever individuals are denoted by constants mentioned in the sentence by which the proposition is expressed.

Regimentation (*cf.* Dorr 2016):[2]

$$\mathcal{A}((\lambda x.\Phi x)(a)) = \mathcal{A}((\lambda x.\Phi x)(b)) \rightarrow a = b \tag{1}$$

Extended to include predicates:

$$\begin{aligned}\mathcal{A}\left((\lambda x.\Phi x)(a)\right) = \mathcal{A}\left((\lambda x.\Psi x)(b)\right)& \\ \rightarrow \left((\lambda x.\Phi x) \equiv (\lambda x.\Psi x) \wedge a = b\right)&\end{aligned} \tag{2}$$

Extended to higher types:

$$\begin{aligned}\left(\mathcal{A}\left((\lambda x_{\langle\rangle}.\Phi x)(p)\right) \equiv \mathcal{A}\left((\lambda y_{\langle\rangle}.\Psi y)(q)\right)\right) \rightarrow& \\ \left((\lambda x.\Phi x)_{\langle\langle\rangle\rangle} \equiv (\lambda x.\Psi x)_{\langle\langle\rangle\rangle} \wedge\ p \equiv q\right)&\end{aligned} \tag{3}$$

Concerns:

- **!** Russell-Myhill Theorem: $\exists\mathcal{P}\exists\mathcal{F}(\mathcal{F}p \equiv \mathcal{P}p \wedge \mathcal{F} \not\equiv \mathcal{P})$
- **!** Undergeneration: Williamson's knife-blade and -handle example.

4.2 A Coarse-Grained Theory of Aboutness

Rough (Lewisian) proposal: Subject matters are partitions of the logical space in which worlds belong to some equivalence class based on relevant overlaps. A proposition is about a given subject matter if and only if it is equivalent to a union of cells in the subject matter's partition. (Lewis 1988a, 1988b)

Regimentation:

- W: logical space (set of possible worlds)
- $\{X_i\}_{i\in I}$: partition of W if and only if
  - $X_i \cap X_j = \emptyset$, whenever $i \neq j$ and $i, j \in I$; and
  - $\bigcup_{i\in I} X_i = X$
- p is **about** $\{X_i\}_{i\in I}$: $p = S = \bigcup_{i\in I} X_i$, for some $i \in I$

Concern:

- **!** Overgeneration: Tautologous propositions. Intuitively about something, rather than everything?

References

[1] Adams, Robert Merrihew. 1981. "Actualism and Thisness." *Synthese* 49 (1): 3–41.

[2] Dorr, Cian. 2016. "To Be F Is To Be G." *Philosophical Perspectives* 30 (1): 39–134.

[3] Fairchild, Maegan. 2024. "Symmetry and Hybrid Contingentism." In *Higher-Order Metaphysics*, edited by Nicholas K. Jones and Peter Fritz. Oxford: Oxford University Press.

[4] Fine, Kit. 1980. "First-Order Modal Theories. Ii: Propositions." *Studia Logica* 39: 159.

[5] Fritz, Peter. 2023. *The Foundations of Modality*. Oxford: Oxford University Press.

[6] Gallin, Daniel. 1975. *Intensional and Higher-Order Modal Logic: With Applications to Montague Semantics*. New York: American Elsevier Pub. Co.

[7] Goodman, Jeremy. 2016. "Williamson on Necessitism." *Canadian Journal of Philosophy* 46 (4–5): 613–39.

[8] Lewis, David. 1988a. "Relevant Implication." *Theoria* 54 (3): 161–74.

[9] Lewis, David. 1988b. "Statements Partly About Observation." *Philosophical Papers* 17 (1): 1–31.

[10] Williamson, Timothy. 2013. *Modal Logic as Metaphysics*. Oxford: Oxford University Press.