Contingentism, Necessitism and Modal Logic

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1. Introduction

Neccessitism (N): $\Box\forall x\Box\exists y(y = x)$

(*To be read*: Necessarily, everything, necessarily is something, i.e., exists.)[1]

Contingentism (C): $\Diamond\exists x\Diamond\neg\exists y(y = x)$

(*To be read*: Possibly, something, possibly is nothing, i.e., doesn't exist.)[2]

(N) is certainly counter-intuitive.

(i) Absentees. (Surely, *I* might not have existed?)

(ii) Aliens. (Surely, I might have had a *brother*, even though I *actually do not*.)

Yet there are powerful arguments for (N). Modal metaphysics seems to be:

> ... haunted by the myth that whatever exists exists necessarily (Prior, 1968: 48)

2. Simple Arguments for (N)

(a) Suppose we think that the **Converse Barcan Formula** Schema is true.

(CBF) $\exists x\Diamond\alpha \supset \Diamond\exists x\alpha$

An instance of (CBF):[3]

(CBF*) $\exists x\Diamond\neg\exists y(y = x) \supset \Diamond\exists x\neg\exists y(y = x)$

But: $\Diamond\exists x\neg\exists y(y = x)$ is just false. So, $\exists x\Diamond\neg\exists y(y = x)$ is false. Thus:

(N*) $\forall x\Box\exists y(y = x)$

Since, if (CBF), then *necessitated* (CBF), we can strengthen (N*):

(N) $\Box\forall x\Box\exists y(y = x)$

Remember, we had reason to accept (CBF) if we had reason to accept SQML. (CBF*) is an instance of (CBF) if we have reason to accept SQML + Identity. Thus, any argument for SQML + Identity is *a fortiori* an argument for necessitism.

[1] In this debate, to *exist* is to be *identical to something*, i.e., x exists iff $\exists y(y = x)$.

[2] Strictly speaking, these are *first-order* necessitism and contingentism. We also have:
(Property) $\Box\forall X\Box\exists Y(Y = X)$
(Propositions) $\Box\forall p\Box\exists q(q = p)$

[3] Taking $\alpha := \neg\exists y(y = x)$

(b) Another argument for (N) makes it clearer what's at work.

(1) $\exists y(y = x)$

(1) is a theorem of **classical logic** (the underlying quantifier logic in SQML)

(2) $\Box\exists y(y = x)$

(2) follows from (1) by the **Rule of Necessitation**.

(3) $\forall y\Box\exists y(y = x)$

(3) follows from (2) by **classical logic—**the rule of **Universal Generalisation**

(N) $\Box\forall y\Box\exists y(y = x)$

(N) follows from (3) by, again, the **Rule of Necessitation**.

3. Responding to Simple Arguments

If we are contingentists, at which point in (1)–(N) should we jump ship?

Option One: **Generality Interpretation**. Free variables should be interpreted as implicitly universally quantified.[4] Thus, (1) is not a theorem, instead:

[4] This is taken by Kripke. See (Nelson, 2009: 106–108) for discussion.

(1G) $\forall x\exists y(y = x)$

(1G) is innocuous. All we can derive with the Rule of Necessitation:

(2G) $\Box\forall x\exists y(y = x)$

To be read: necessarily everything is identical to something.

Problem: This is a technical fix, but doesn't get to heart of the problem.

(i) The syntax is not out of step with the semantics.

(ii) If we introduce *constants*, then we can rerun the argument.

Option two: **Free Logic**. (1) is a theorem if:

(I1) $x = x$ is an axiom.

(EG) $x = x \supset \exists y(y = x)$ is a theorem.

With a free logic, we modify (EG). We axiomatize our logic so that:

(*) $\forall x\alpha \supset (\mathrm{E}y \to \alpha[x/y])$ is an axiom.

If we can only use (*), we block the derivation of (N). We can only derive:

($\mathrm{N}^{\supset}$) $\Box\forall y\Box(\mathrm{E}x \supset \exists y(y = x))$

Note: we already have other reasons to be dissatisfied with classical quantification.

- Fictional discourse. 'Gandalf is a wizard' ∴ 'There is an x: x is a wizard'?
- Logic should be ontologically neutral. Should it be a theorem of pure logic that something exists, i.e., $\exists y(y = x)$?

Problems. Not all find option two optimal.

(i) Significantly weaken/further complicate our quantifier logic.[5]

Option Three: **Restrict Rule of Necessitation**. Some theorems are not necessary truths, i.e., it's not the case that if $\vdash \alpha$, then $\vdash \Box\alpha$. Which rule instead?

(RoN*) If $\vdash \alpha$ then $\vdash \Box\alpha$, provided α is contains no free variables.

This blocks the move from (1) to (2) but preserves *some* necessitations.

4. A More Sophisticated Argument

Consider the following two principles.

(NI) $\Box\forall x\Box(x = x \supset \Box x = x)$

(*To be read*: Necessarily, everything is necessarily such that if it is identical to itself, it is necessarily identical to itself.)

(SA) $\Box\forall x\Box(x = x \supset \mathrm{E}x)$

(*To be read*: Necessarily everything is necessarily such that if it is identical to itself, it exists.)

We looked at why we should accept (NI) last week.

What about (SA)? This is an instance of *Serious Actualism*—the view that it is impossible for something to satisfy a predicate without existing.[6]

Serious Actualism is intuitive: for something to be a certain way, it must be.

> How could a thing be propertied were there no such thing to be propertied? How could one thing be related to another were there no such things related? (Williamson, 2013: 148–149)

Yet, from the assumption that $\Box\forall x(x = x)$, (NI) and (SA) entail (N).

We should want to keep (NI).[7] So the contingentist should reject (SA).

(i) You might push back against the idea that Serious Actualism is intuitive.

(ii) You might think that natural language is misleading us, i.e., to be a certain way, must something *be*? Compare: "wearing a smile".

[5] Why is this important? We'll talk about this in Week 10 + 11.

[6] A good introduction: (Stephanou, 2007).

[7] Even if skeptical about Kripke's extension of the necessity of identity to theoretical identifications, that identity statements between individuals are necessary if true is compelling.

5. Questions

1. Should we accept classical quantification and the rule of necessitation? If not, which should we reject?

2. What is Serious Actualism? Should we accept it? If not, why not?

3. Which is the most convincing argument for necessitism? Does it convince you to be a necessitist? If not, why not?

References

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