The Nonmodal Conception of Propositional Apriority

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Apriority and aposteriority are modes of justification: so we speak of a priori justification and a priori knowledge. But they are derivatively properties of propositions and sentences: so we also speak of a priori propositions and a priori sentences. This is familiar e.g. from the Kantian thesis that a proposition is necessary iff it is a priori, from the Kripkean thesis that there are contingent a priori truths, and from the two-dimensionalist thesis that a sentence is a priori iff it has a necessary primary intension.

The standard understanding of propositional apriority is modal: p is a priori iff it is possible that p is known apriori. Something similar goes for sentential apriority.

I'll argue: there is a more important nonmodal understanding of propositional apriority: roughly, p is a priori iff there is a conclusive a priori justification for believing p. This nonmodal variety of propositional apriority has more of properties standardly attributed to propositional apriority. We can bring this out via two puzzles concerning the contingent a priori.

The Contingent A Priori

'The meter stick in Paris is one meter long'

'Julius invented the zip, if anyone did'

'S iff actually S' for any contingent S.

Prima facie, for each p expressed by these sentences: Ap (it is knowable a priori that p) but not □p (it could have failed to be the case that p).

Symbols

□, ◊: metaphysical necessity, possibility
A: apriority
@: actually
K, K_A, E: Someone knows, someone knows a priori, someone entertains
→, ↔: material conditional and biconditional

Puzzle 1: The Nesting Problem

The following three claims form an inconsistent triad.

(1) $Ap \ \& \sim\Box p$
(2) $Ap \rightarrow \Box Ap$
(3) $\Box(Ap \rightarrow p)$

(2) follows from $Ap \leftrightarrow \Diamond K_A p$ and S5 ($\Diamond p \rightarrow \Box\Diamond p$). So on the modal conception of propositional apriority (given S5 and the contingent a priori), (3) is false and apriority is not factive.

Puzzle 2: The Fragility Problem

Widely believed: For all p, $A(p \leftrightarrow @p)$.

Consequently (if $A = \Diamond K_A$): $\Diamond K_A(p \leftrightarrow @p)$, $\Diamond K(p \leftrightarrow @p)$.

But: Let r be $\neg Eq$, where q is such that no-one entertains q.

1. $@r$
2. $@r \rightarrow \ \Box @r$
3. $\Box(K(r \leftrightarrow @r) \rightarrow (r \leftrightarrow @r))$
4. $\Box(r \rightarrow \neg K(r \leftrightarrow @r))$

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5. $\neg\Diamond K(r \leftrightarrow @r)$

Corollary (given $A = \Diamond K_A$): $\sim A(r \leftrightarrow @r)$.

1: follows from stipulation of unentertained proposition.
2, 3: standard principles for @ and K.
4: follows from $K(r \leftrightarrow @r) \rightarrow E(r \leftrightarrow @r)$ and $E(r \leftrightarrow @r) \rightarrow Eq$.

Deny 1/4?

Doubts about K → E or E → E: Re-interpret 'Ep' as 'Someone entertains a proposition of which p is a proper or improper constituent', and 'Kp' as 'Someone occurrently knows p' or 'Someone knows p while entertaining p'.

Doubts about entertaining: Re-interpret 'Eq' = 'Someone knows (p ↔ @p) for some p of which q is a constituent'.

Doubts about entertaining/constituency (possible-worlds propositions): Take r to be a pair of worlds including actual world such that ~K(r ↔ @r) in both r-worlds.

Main escape route: Hold K(p ↔ @p) for all p.

Deny 2/3?

Face-value view of 'actually': there is a proposition expressed by '@p' such that 'K@p' and '□@p' (and so on) are true iff this proposition is known or necessary.

Then 2/3 follow from □(Kp → p) and (@p → □@p) for propositions.

Russellian face-value view: face-value view plus '@p' expresses the proposition p(a), a singular proposition about the actual world.

Then (r ↔ @r) is unknowable. The sentence 'r ↔ @r' is knowable, but the sentence is semantically fragile: it expresses different propositions in different worlds, so that if one were to attempt to know it, it would express a different proposition.

Reject the face-value view: quotational view [Kp = K('p')], ambiguity view [p expresses different propositions in K and @ contexts], scope view ['@p' = 'In the world, p' and @ takes wide scope over □ but not K].

Maybe so, but we can stipulate a reading so that '@p' = 'In this very-world state, p'.

Conclusion: (p ↔ @p) isn't always knowable a priori. Still, it seems trivial and there ought to be a sense in which it counts as a priori. Options?

Option 1: Sentential apriority.

One knows a sentence S (a priori) in w if one knows p (a priori) in w, where S expresses p in w. S is a priori iff S is knowable a priori.

Then 'r ↔ @r' is plausibly a priori in the cases above, even though (r ↔ @r) is not. Sentential and propositional apriority come apart in cases of semantic fragility.

Still, this doesn't help with the nesting problem (for both sentential and propositional apriority, (2) is true and (3) is false). And intuitively, the proposition expressed by 'r ↔ @r' is trivial and should count as a priori.

Option 2: Nonmodal apriority

Both puzzles suggest that we might look for a nonmodal conception of apriority: that is, a conception such that Ap isn't analyzed in terms of the possibility of $K_A p$.

Inspiration: there is a proof of (r ↔ @r) in the logic of 'actually' (e.g. Hazen's S5A). But one cannot use this proof to come to know (r ↔ @r). So (r ↔ @r) is provable in the standard sense that there exists a proof of it, but not in the modal sense that it can be proved.

We might say: p is (nonmodally) a priori when there exists an a priori warrant for p. An a priori warrant for p is a conclusive a priori propositional justification for a subject to believe p (a priori = non-experiential, conclusive = sufficient for knowledge [or for certainty]).

Nonmodal apriority and the fragility problem

In the case above, the existence of a proof for (r ↔ @r) yields an a priori warrant for p. But one cannot use this warrant to come to know p. So (r ↔ @r) is a priori in the nonmodal sense but not in the modal sense.

Typically, a conclusive propositional justification can be used to gain knowledge, and an a priori warrant can be used to gain a priori knowledge. But not always, as the case in question demonstrates. (See also the discussion of constraints on possible thinkers below.)

Nonmodal apriority and the nesting problem

The existence of a warrant for p plausibly requires that p is true. If so, then a contingent a priori proposition (e.g. p iff @p) will be a priori in the actual world but not in worlds in which p is false (at least if the existence of a warrant for p requires that p is true). If so, (2) is false, (3) is true, and apriority is factive after all.

[There's more to say here, e.g. concerning nonconclusive a priori justification. See the appendix.]

Nonmodal apriority and strong metaphysical necessities

What if there are strong constraints on the space of metaphysically possible knowers, so that e.g. no possible being can carry out a proof of more than a million steps? Then mathematical truths for which there is only a longer proof will not be a priori in the modal sense, but they will be a priori in the nonmodal sense. So apriority nonmodally construed is not hostage to the analysis of metaphysical modality. (Same for conceivability nonmodally construed.

Questions about a priori warrant

(1) Propositional justification is usually understood as justification for a subject (at a time in a world). So must we speak about propositional apriority relative to a subject too?

Arguably: there is a subject-independent notion of a priori warrant. E.g. a proof provides a subject-independent a priori warrant for p. When there is a subject-independent a priori warrant for p, there exists an a priori warrant for any subject to believe p. This requires an idealized notion of warrant and of propositional justification that is not sensitive to a subject's cognitive limitations. We can distinguish the (idealized) notion of there *existing* a warrant from the (non-idealized) notion of a subject *having* a warrant to believe p.

(2) Arguably: some deeply contingent a priori truths can be justified a priori and known a priori (if knowledge doesn't require certainty). One can even argue that almost any truth could be known a priori, e.g. by a being with appropriate innate reliable inference mechanisms. If so, it could be argued that any proposition has an idealized a priori warrant.

We can avoid this worry by stipulating (at least for many purporses) that an a priori warrant or a conclusive a priori justification be an a priori warrant for *certainty* in p. This more closely tracks the traditional notion of a priori truth and leaves open reasonably strong connections between propositional apriority and necessity.

(3) What is an a priori warrant, or a propositional justification in general? Perhaps just a property of a proposition or a relation between propositions and thinkers. But an (optional) more substantive understanding is available, again inspired by the case of proof.

Warrants as support structures (*Constructing the World*, excursus 5): A warrant for p (for a subject) = a directed graph of propositions connected by support relations, supporting p. The graph must be grounded in (i) known propositions, (ii) primitively warranted propositions, or (iii) experience. A warrant is a priori when grounded wholly in a priori known propositions or in a priori primitively warranted propositions [ultimately: when not grounded in experience?]. A subject-independent a priori warrant is one grounded wholly in a priori primitively warranted propositions (via subject-independent support relations).

Conclusion: The puzzles above motivate multiple notions of apriority. The fragility and nesting problems motivate us to distinguish modal and nonmodal conceptions of propositional apriority. The nonmodal conception of apriority is arguably the most fundamental and the best-behaved.

Appendix 1: Two-dimensionalism and a priori warrant

On my 2D view of propositions: concepts involve both modes of presentation (primary intensions, or functions from scenarios to extensions) and extensions. E.g. *Hesperus* involves primary intension (the morning star) and extension (Venus). Propositions are structures of concepts, structured according to logical form. E.g. *Hesperus is Phosphorus* is ((morning star, v) = (evening star, v)). *Actual* and *I* have primitive primary intensions picking out subject/world at center of scenario.

Then we want to say: S is a priori iff S has a necessary primary intension. 'Hesperus is Phosphorus' has a contingent primary intension and isn't a priori. 'r iff actually r' has necessary primary intension and is knowable a priori.

Q: What to say about propositional apriority? Tempting to say: (*) Necessarily, p is a priori iff p has a necessary primary intension.

Fragility problem: *p iff actually p* has a necessary primary intension but isn't knowable a priori. Solution: it has an a priori warrant.

Nesting problem: if (*), then (2) is true and propositional apriority isn't factive. Solution: Given the warrant conception of apriority, one should deny (*). For a start, apriority of p in w requires the existence of an a priori warrant for p in w, which requires the truth of p in w. This depends on the extensional part of p, not the primary-intension part.

More deeply: warrant for p in w requires that p is apt to be entertained in w, which requires that its constituent concepts are apt to be grasped in w. The concept *Julius* (zip-inventor, Whitworth) isn't apt to be grasped in a world where the inventor isn't Whitworth.

A concept is *live* in w when its primary intension picks out its extension in w (from some center). A proposition is live in w when all constituent concepts are live in w.

Then: in worlds w where a contingent a priori proposition p (e.g. *p iff actually p, Julius invented the zip*) is false, the proposition isn't live. A priori warrant requires liveness. So p isn't a priori in w.

Modified claim: p is a priori (has an a priori warrant) iff p has a necessary primary intension and is live. Then (2) is false and (3) is true. Propositional apriority is factive. Standard contingent a priori propositions such as *p iff actually p* are indeed a priori.