Bird & Pettigrew (2019) Internalism, Externalism, and the KK Principle

Handout for Epistemology Reading Group, Akshan deAlwis

April 8, 2025

Bird & Pettigrew (hereby B&P) are interested in whether Externalism $\equiv \neg$KK. They focus on EnoKK:

$$\text{Externalism} \rightarrow \neg\text{KK} \quad \text{(EnoKK)}$$

B&P defend EnoKK. They make this case by examining Okasha (2013) and Greco's (2014) arguments against EnoKK.

Setup

Ok, onto the setup. Here's KK and weak KK:

$$\Box\forall s\forall p(K_s p \equiv (B_s p \;\&\; p \;\&\; X_s p)) \quad \text{(KK)}$$

$$\Box\forall s\forall p((K_s p \;\&\; B_s K_s p) \rightarrow K_s K_s p) \quad \text{(weak KK)}$$

B&P use subscript s to indicate that some predicate holds in respect to a subject (e.g. $K_s p$ means subject s knows proposition p).

B&P offer a simple analysis of knowledge:

$$\Box\forall s\forall p(K_s p \equiv (B_s p \;\&\; p \;\&\; X_s p)) \quad \text{(analysis of K)}$$

Where X is a proposition function that takes p and returns X_p, the proposition that, on top of true belief, makes for knowledge.

B&P define externalism as "for some necessary condition on knowledge, Φ, it is possible for some subject to know some proposition and believe that she knows it without knowing that Φ holds of it with respect to her" (p. 1715).

$$\Diamond\exists s\exists p(K_s p \;\&\; B_s K_s p \;\& \neg K_s \Phi_s p) \quad \text{(externalism)}$$

And internalism is the denial of externalism. Someone is a *witness* to externalism when she's in the position of $K_s p$ but $\neg K_s \Phi_s p$.

What do you make of this definition of externalism/internalism?

The "Standard" Argument for EnoKK

Okasha reconstructs the "standard" argument for EnoKK:

(1)	$Kp \;\&\; BKp \;\&\; \neg KXp$	(assumption)
(2)	$Kp \equiv (Bp \;\&\; p \;\&\; Xp)$	(the analysis of knowledge)
(3)	$(Kp \;\&\; BKp) \rightarrow KKp$	(weak KK, assumed for RAA)
(4)	KKp	(1, 3)
(5)	$K(Bp \;\&\; p \;\&\; Xp)$	(2, 4)
(6)	KXp	(5)
(7)	$\neg((Kp \;\&\; BKp) \rightarrow KKp)$	(1, 3, 6, RAA)

Okasha objects that (5) from (2, 4) commits the intensional fallacy, so the argument for EnoKK is invalid.

B&P argue against the method of cases for establishing EnoKK, where intuitively a subject's first-order beliefs meet the externalist conditions for knowledge but not the second. They raise three worries:

- A case with version e of externalism just shows that e entails ¬KK, but not the general EnoKK.
- An argument with cases may inadvertently commit the intensional fallacy.
- There can be alternative ways for the second-order beliefs to satisfy the externalist condition.

I find the second and third worries to be weak. Really, B&P want a general argument for EnoKK, and the method of cases doesn't (clearly) provide that.

Do Some Versions of Externalism Entail KK?

Greco argues that his intuitively externalist account of knowledge entails KK (so ¬EnoKK). B&P will argue accounts like Greco's aren't really externalist.

B&P start with an intuition pump using the toy account MM:

$$Kp \equiv (Bp \;\&\; p \;\&\; Mp) \quad \text{(MM)}$$

Where Mp is the proposition *Mars has two moons*

Mp a constant propositional function, so $Mp \equiv Mq$ and $Mp \equiv MKp$.

Intuitively, MM is externalist, as someone might Kp, BKp, but doesn't $\neg BMp$. Yet, it's easy to show that MM entails weak KK.

MM entails weak KK because it makes knowledge easy. B&P argue that Greco's account of knowledge suffers from the same fault.

MM → weak KK

(1) $Kp \;\&\; BKp$ (Assumption)
(2) $Mp \equiv MKp$ (Since M is constant)
(3) $Kp \equiv (Bp \;\&\; p \;\&\; Mp)$ (MM)
(4) $Kp \rightarrow MKp$ (MM, 2)
(5) $BKp \;\&\; Kp \;\&\; MKp$ (1, 4)
(6) KKp (4, MM)

Greco's Argument for KK

Greco offers an information-carrying 'normal conditions' account of knowledge:

s knows p iff (1) s believes p; (2) p; (3) conditions are normal; (4) s is in a state X such that, in normal conditions, if s is in X, then p; (5) s's being in state X causes or constitutes s's belief p

Intuitively, Greco's account is externalist.

Greco idealizes so that (3) and (4) entail (5) and (1). (3) and (4) also entail (2). So, Greco's analysis is:

$$K_s p \equiv s \text{ is in a state } X_s \text{ such that } \Box_N (X_s \rightarrow p) \;\&\; N$$

Where N symbolizes 'conditions are normal' and $\Box_N p$ symbolizes 'in all normal worlds, p'.

Greco proves his analysis entails KK. The proof relies on two lemmas:

First lemma

This first lemma is basically just $(P \to Q) \to (P \to (P \to Q))$.

s is in a state X_s such that $\Box_N(X_s \to p) \to$
s is in a state X_s such that $\Box_N(X_s \to (s$ is in a state X_s such that $\Box_N(X_s \to p)))$

Second lemma

$$\Box_N(P) \text{ entails } \Box_N(P\&N)$$

We can then prove KK...

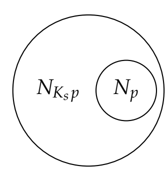
(1)	$K_s p$	(assumption)
(2)	s is in a state X_s such that $\Box_N(X_s \to p)$	(1, Greco's analysis)
(3)	N	(1, Greco's analysis)
(4)	s is in a state X_s such that $\Box_N(X_s \to$ $(s$ is in a state X_s such that $\Box_N(X_s \to p)))$	(2, first lemma)
(5)	s is in a state X_s such that $\Box_N(X_s \to$ $(s$ is in a state X_s such that $\Box_N(X_s \to p)\&N))$	(4, second lemma)
(6)	s is in a state X_s such that $\Box_N(X_s \to K_s p)$	(5, Greco's analysis)
(7)	s is in a state X_s such that $\Box_N(X_s \to K_s p)\&N$	(3, 6)
(8)	$K_s(K_s p)$	(7, Greco's analysis)
(9)	$K_s p \to K_s(K_s p)$	(1, 8)

B&P's Complaints

B&P observe that Greco's analysis makes knowledge easy. If I know any proposition, then conditions are normal. Thus, for any state I'm in and any proposition that holds normally when I'm in that state, then I know that proposition, even if I have no reason to rule out abnormal conditions.

I see a station clock display 12:05. The clock is broken and it happens to be 12:05. I know I have hands, so it's normal conditions. On Greco's analysis, I know it's 12:05, since normally station clocks are accurate and it's normal conditions.

The obvious response is *relativizing* normal conditions, either to the proposition or process. Yet, this makes the proof invalid. Let's relativize to the proposition. The N in Line 3 is normal conditions relative to p ('N_p'). The N in line 5 is normal conditions relative to $K_s p$ ('$N_{K_s p}$'). The proof follows only if $N_p \to N_{K_s p}$.



B&P think any argument for $N_p \to N_{K_s p}$ likely begs the question. They hold that arguments for $N_p \to N_{K_s p}$ will turn on whether it's more demanding to know $K_s p$ than it is to know p, the issue at hand.

What about relativizing to process? The proof follows only if $N_{1st-order-proc} \to N_{2nd-order-proc}$. Is there some process *proc* always available for higher-order belief formation where $N_{1st-order-proc} \to N_{proc}$?[1] B&P hold adjudicating these questions just is debating the plausibility of KK.

(e.g. $N_{vision} \to N_{introspection}$)

[1] B&P also argue that normal conditions sometimes must be relative to process-proposition pairs (the normal conditions for judging *scarlet* with vision are more restrictive than judging *red* with vision). They suggest Kp and p are like this as well.

MM and Greco's analysis are really internalist(?)

Ok, but MM and the too-easy version of Greco's analysis still entail KK. B&P need to show that these intuitively externalist accounts aren't really externalist.

B&P argue that for both accounts, should the subject know anything, the subject is in a position to know that the additional condition X_p is fulfilled.

They hold that an account of knowledge is externalist either if:

(a) It is *intuitively possible* for a subject to satisfy the analysis and to be a witness to externalism;

(b) It is *possible by the lights of the analysis itself* for a subject to satisfy the analysis and to be a witness to externalism.

I don't get (b). I kinda get it if B&P mean that a subject can know the analysis yet remain a witness to externalism. But why (independently) think anyone means this with externalism?

An account is *weakly* externalist if it satisfies (a) but not (b), *strongly* externalist if it satisfies (a) and (b).

We should only expect EnoKK to hold for *strongly* externalist accounts.

Two Arguments for EnoKK

B&P argue the standard argument for EnoKK follows if the equivalence between knowledge and its analysis is *known*. Suppose there's some subject g (call him 'Goldman') who knows the correct externalist analysis of knowledge (e.g. relabilism) and g is a witness to externalism for q (*Dodoma is the captial of Tanzania*).

(1)	$K_g q \quad \& \quad B_g K_g q \quad \& \quad \neg K_g X_g q$	(fact about Goldman)
(2′)	$K_g(\Box \forall s \forall p(K_s p \equiv (B_s p \& p \& X_s p)))$	(known analysis of K)
(3)	$\Box \forall s \forall p((K_s p \& B_s K_s p) \to K_s K_s p)$	(KK, assumed for RAA)
(4)	$K_g K_g q$	(1, 3)
(5)	$K_g(B_g q \& q \& X_g q)$	(2′, 4)
(6)	$K_g X_g q$	(5)
(7)	$\neg \Box \forall s \forall p((K_s p \& B_s K_s p) \to K_s K_s p)$	(1, 6, RAA)

(5) follows from (2″) and (4) via the *closure of knowledge under known equivalence*. This argument works *mutatis mutandis* for any externalism where knowing the analysis does not put you in a position to know that X_p is fulfilled (i.e. *strongly* externalist accs). If I think there's no correct analysis of knowledge, then (2″) works:

$$(2'') \quad K_g(\Box \forall s \forall p(K_s p \to X_s p))$$

We can derive (6) from (2′′) and (4) via *closure of knowledge under known implication*.

Knowledge Closure

A number of epistemologists reject closure principles. B&P hold that they don't need general closure principles, but just closure *in this kind of case*.

The kind of case where if Goldman knows that he knows q, and he knows that if someone knows a proposition then their belief in that proposition is reliably formed, then Goldman can know by inference that his belief q is reliably formed

B&P's reasons:

- Common problem cases for closure involve knowing a remote possibility doesn't hold, but this case isn't like that.
- The case doesn't fall afoul of Nozick's tracking condition.[2]
- The case is intuitive.

[2] If p were false, s would not believe p

EnoKK's Converse

The converse of EnoKK is IKK

$$\text{Internalism} \rightarrow \text{KK} \quad \text{(IKK)}$$

The standard argument also commits the intensional falacy according to Okasha. B&P's strategy of closure under known equivalences doesn't work here. That would require the premise that all subjects know the correct analysis of K, and that's implausible.

The standard, flawed argument for IKK

(1) $K_t p$ (Assumption)
(2) $\Box\forall s\forall p(K_s p \equiv (B_s p \;\&\; p \;\&\; X_s p))$
(3) $B_t p$ (1, 2)
(4) $K_t B_t p$ (3, assume $Bp \rightarrow KBp$)
(5) $K_t X_t p$ (1, 2, Internalism)
(6) $K_t(B_t p \;\&\; p \;\&\; X_t p)$ (1, 4, 5)
(7) $K_t K_t p$ (2, 6)

The implauislbe (2′):
$\forall s K_s(\Box\forall s\forall p(K_s p \equiv (B_s p \;\&\; p \;\&\; X_s p)))$