Cornea and Inductive Evidence

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One of the primary tools in the theist’s defense against “noseeum” arguments from evil is an epistemic principle concerning the Conditions Of Reasonable Epistemic Access (CORNEA) which places an important restriction on what counts as evidence. However, CORNEA is false because it places too strong a condition on what counts as inductive evidence. If CORNEA is true, we lack evidence for a great many of our inductive beliefs. This is because CORNEA amounts to a sensitivity constraint on evidence, and inductive evidence is often insensitive. So unless a theist is also an inductive skeptic, she must abandon CORNEA in responding to this sort of argument from evil.

A noseeum argument from evil is one that enlists the fact that we see no compensating good for some evil as inductive evidence for the claim that there is no such compensating good for that evil. One of the primary tools in the theist’s defense against such arguments is an epistemic principle concerning the Conditions Of Reasonable Epistemic Access (CORNEA):

CORNEA: On the basis of cognized situation s, human H is entitled to claim “It appears that p” only if it is reasonable for H to believe that, given her cognitive faculties and the use she has made of them, if p were not the case, s would likely be different than it is in some way discernible by her.

CORNEA has been ably defended by Stephen Wykstra and has been accepted by at least some parties on either side of the debate over the soundness of noseeum arguments from evil. The principle places an important restriction on what counts as evidence, and it is used to undermine a key
premise in noseeum arguments from evil. CORNEA has been recently criticized both in this journal and elsewhere. However, CORNEA is subject to a much more serious criticism than any previously levied: If CORNEA is true, we lack evidence for many of our inductive beliefs as CORNEA places too strong a restriction on what counts as evidence. This is because CORNEA amounts to a sensitivity constraint on evidence, and oftentimes our evidence is not suitably sensitive to the facts (where some fact A is sensitive to fact B just in case were B not the case, A would not be the case). What follows is a quick review of CORNEA’s relevance for noseeum arguments from evil (§1), an exegesis showing that CORNEA amounts to a sensitivity constraint on evidence (§2), and an argument that CORNEA has false implications for the epistemic status of many of our inductive beliefs (§3).

1. CORNEA and Noseeum Arguments from Evil

Why does it matter whether or not CORNEA is true? The short answer is because the principle underlies a principal objection to noseeum arguments from evil, and noseeum arguments from evil represent one of the most common contemporary forms of the argument from evil. Abandoning the attempt to demonstrate that the existence of evil was logically incompatible with the existence of God (the so-called logical problem of evil), philosophers such as Rowe insist that the existence of evil nevertheless provides strong evidence against the existence of God (the so-called evidential problem of evil). On this version of the argument from evil, the existence of evil won’t count as evidence against the existence of God unless the evil is gratuitous, viz. evil that is not necessary to secure some compensating good or necessary to avert some greater evil. A simplified sketch of the argument is as follows:

5In its initial form, CORNEA was intended as a restriction on evidence simpliciter, though later discussion suggests that CORNEA serves only as a restriction on “levering evidence” where levering evidence is evidence that is epistemically powerful enough to move a rational person from one square belief state to another (e.g., from disbelief to non-belief or from non-belief to belief). See Wykstra, “Rowe’s Noseeum Arguments,” pp. 130-131. My criticism will apply to either reading of ‘evidence,’ and I argue this in §3.

6For example, it has been argued that CORNEA is too weak to block the argument from evil since the principle applies only if it is logically necessary that evil appears gratuitous (Keith Chrzan, “Debunking CORNEA,” International Journal for Philosophy of Religion 21 (1987), pp. 171–177), that CORNEA falsely implies that we are always able to grasp complex subjunctive conditionals (Daniel Howard-Snyder, “Seeing Through CORNEA,” International Journal for Philosophy of Religion 32 [1992], pp. 25–79), and that CORNEA violates closure (Andrew Graham and Stephen Maitzen, “CORNEA and Closure,” Faith and Philosophy 24:1 (2007), 83–86).


9This point is widely conceded. For example, Rowe (“The Problem of Evil,” p. 335) writes that “Intense human or animal suffering is in itself bad, an evil, even
(1) If God exists, then there are no gratuitous evils.
(2) At least some evils are gratuitous.
So, (3) God does not exist.\(^{10}\)

(1) is defended by appeal to God's omnipotence and omnibenevolence. A wholly good God would not allow evil that he could prevent unless doing so was necessary for some greater good or for averting some evil equally as bad or worse.\(^{11}\) As for premise (2), we have reason to think that a particular evil is gratuitous only if we have reason to think that the evil in question does not secure some compensating good, so (2) is defended as follows:

(4) If there is no compensating good for some evil, then that evil is gratuitous.
(5) There are no compensating goods for at least some evils.
So, (2) At least some evils are gratuitous.

(4) is true by definition. Proponents of so-called noseeum arguments from evil defend (5) by appeal to an appears-claim: it often appears as if there are no compensating goods for some evils that we know about. For example, Rowe asks us to consider the case of a fawn that is burned to death in a wildfire:

So far as we can see, the fawn's intense suffering is pointless. For there does not appear to be any greater good such that the prevention of the fawn's suffering would require either the loss of that good or the occurrence of an evil equally bad or worse. Nor does there seem to be any equally bad or worse evil so connected to the fawn's suffering that it would have had to occur had the fawn's suffering been prevented.\(^{12}\)

According to the proponent of the noseeum argument from evil, our not seeing any compensating good in cases like these is a \textit{prima facie} reason to

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\(^{10}\)For example, here is Rowe's ("The Problem of Evil," p. 336) version of the argument:
1. There exist instances of intense suffering which an omnipotent, omniscient being could have prevented without thereby losing some greater good or permitting some evil equally bad or worse.
2. An omniscient, wholly good being would prevent the occurrence of any intense suffering it could, unless it could not do so without thereby losing some greater good or permitting some evil equally bad or worse.
3. \therefore There does not exist an omnipotent, omniscient, wholly good being.

\(^{11}\)For a rebuttal of premise (1), see Peter van Inwagen, \textit{The Problem of Evil} (Oxford: Oxford University Press, 2006).

think that there is no compensating good; thus premise (5) is true, and the
argument from evil goes through.

CORNEA is invoked to show that the fact that there appears to be no
compensating good does not provide any reason to think that there re­
ally is no compensating good (or, alternatively, to dispute the truth of the
appears-claim in question—more on the mechanics of this move below).
This leaves premise (5) undefended. And without a reason to think that at
least some evils in the world really are gratuitous, the noseeum argument
from evil is left without a defense of its minor premise. For this reason, it
is important to see whether CORNEA is susceptible to the criticism levied
against it here.

2. CORNEA and Sensitivity

Here is the original formulation of the principle once again:

CORNEA: On the basis of cognized situation s, human H is entitled
to claim “It appears that p” only if it is reasonable for H to
believe that, given her cognitive faculties and the use she
has made of them, if p were not the case, s would likely be
different than it is in some way discernible by her.13

Some exegesis of the principle is necessary to make the case that CORNEA
is a sensitivity constraint. First, a ‘cognized situation’ is anything that
can serve as evidence (e.g., a perceptual experience, a belief, a seeming
state, etc.).

Second, Wykstra uses ‘appears’ in an epistemically-loaded sense. Since
at least Chisholm14 it has been recognized that appearance words like ‘ap­
pears,’ ‘looks,’ ‘see,’ etc. are ambiguous. For example, these words can be
used in a phenomenological/ perceptual sense as in ‘the table looks brown
to me’ or ‘I see the dog.’ Appearance words can also be used in a metaphor­
ical or cognitive sense as in ‘I see that the argument is valid’ or ‘it appears
that the war in Iraq is going badly.’ There is also an epistemically-loaded
sense in which the appearance claim constitutes \textit{prima facie} evidence for
some belief, and it is this sense of ‘appears’ that is relevant for CORNEA.

The use of a technical sense of ‘appears’ makes the role of CORNEA in
the dialectic between Rowe and Wykstra confusing. Where ‘e’ stands for
some particular evil, Wykstra illustrates the dialectic as follows:

(A) We see no good for which God would allow e.
(B) There appears to be no good for which God allows e.
(C) There is no good for which God allows e.15

Wykstra claims that Rowe uses (A) to support (B) and moves from (B) to
(C) via the principle of credulity (roughly, the principle that if it appears
that P, then it is reasonable to believe that P). Since Wykstra accepts (A) and

accepts the principle of credulity, he seeks to block the move from (A) to (B) by imposing the CORNEA restriction on appears claims. However, it doesn't much matter if the evidential restriction is placed on the move from (A) to (B) or the move from (B) to (C). It is much simpler to agree with Rowe that it appears (in the cognitive sense) that there are no compensating goods for some evils but insist that this cognitive state doesn't provide evidence for the belief that there are no compensating goods unless the requirement imposed by CORNEA is met. Thus understood, CORNEA is a restriction on when any "cognized situation" counts as evidence. Wykstra concedes as much: "the key idea behind CORNEA is a proposed test for whether some alleged evidence E seriously 'supports' . . . some hypothesis H."16

Third, Wykstra clarifies the subjunctive conditional in the consequent of CORNEA as follows:

CORNEA says that a situation of seeing no X justifies one's claiming "it appears there is no X" only if it is reasonable for one to believe that X is something to which we would likely have "epistemic access" in the situation.17

Since this is the epistemically charged sense of 'appears,' the gist is that the fact that it appears to me that P will count as evidence for P only if it is reasonable for me to believe that a certain counterfactual is true: were it not the case that P, my cognized situation would likely be different than it is.

This counterfactual restriction amounts to a kind of sensitivity restriction on evidence. Here is a standard sensitivity condition for belief (where 'Bp' stands for the belief that p):

Bp is sensitive only if [ ~p □ ^  ~Bp]

A subject S's belief that P is sensitive only if were P not the case, then S would not believe that P.18 CORNEA is not a sensitivity condition on belief but on evidence. Additionally, standard sensitivity conditions entail the truth of a particular counterfactual: If a subject S's belief that P is sensitive, then the subjunctive conditional 'if P were not the case, then S would not believe that P' is true. But CORNEA lacks this entailment: All that is required to meet the necessary condition in CORNEA is that it be reasonable for the subject to believe that the subjunctive conditional is true (it might actually be false). The CORNEA condition might be sketched as follows:

A subject S's cognitive situation C is evidence for P only if it is reasonable for S to believe that [ ~P □→ C is discernibly different]

According to CORNEA, while it's not the case that the evidence must actually be sensitive to the facts, it must be reasonable for the subject to

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17Wykstra, “Rowe’s Noseeum Arguments,” p. 128.
18The contrapositive of sensitivity is the safety condition: Bp is safe only if [ Bp □→ p]. Note that the safety and sensitivity conditions are not logically equivalent because contraposition is not valid for subjunctive conditionals.
believe that the evidence is sensitive to the facts. If this belief is not reason­able, then the cognized situation in question won’t serve as evidence for the proposition in question. In this way, CORNEA amounts to a kind of sensitivity requirement on evidence.

It is now easy to apply this formulation to concrete cases. Consider my belief that my computer is on. I believe this because it appears to me that my computer is on. This appearance state counts as evidence for my belief that my computer is on because it is reasonable for me to believe that if my computer were off, then my appearance state would be discernibly different. My evidence in this case meets the CORNEA requirement.

Why think that CORNEA is true? Well, on the face of it, CORNEA is plausible. Here is the case used by Wykstra to demonstrate its plausibility:

Searching for a table, you look through a doorway. The room is very large—say, the size of a Concord hangar—and it is filled with bulldozers, dead elephants, Toyotas, and other vision-obstructing objects. Surveying this clutter from the doorway, and seeing no table, should you say: “It does not appear that there is a table in the room”?19

Is the fact that you see no table evidence for the claim ‘there are no tables in the room’? No. CORNEA explains why: it is not reasonable for you to believe that—given your cognitive faculties and the use you have made of them—were there actually a table in the room, your perceptual experience would be any different.

It is obvious how CORNEA undermines the noseeum argument from evil. If CORNEA is true, then the atheist’s case for (5) falls apart. Recall that (5) is defended by appeal to a cognitive appearance state: we don’t see any compensating goods for some evils. Rowe’s original case involved a suffering fawn. Wykstra notes that the fawn case doesn’t pass CORNEA:

On the basis of his seeing no God-justifying good served by the fawn’s suffering, Rowe is entitled to claim “It appears that there is no such good” only if it is reasonable for Rowe to believe that, given his cognitive faculties and the use he has made of them, if the fawn’s suffering served such a good, he would likely see (have epistemic access to) it.20

It is plausible that it’s not reasonable for any of us to believe that—given our limited cognitive faculties and the use we have made of them—things would seem any different to us even if there were compensating goods for all of the evils on earth. We’re just not that perspicacious. It’s plausible that a great many compensating goods would be outside of our ken. And so the fact that it appears to us that there are no compensating goods for some evils does not provide evidence for the claim that there are no compensating goods for some evils.21 Premise (5) is left undefended.

19Wykstra, “The Humean Obstacle,” p. 84.
20Ibid., p. 85.
21Again, as originally proposed, the CORNEA strategy provides a way to deny what I claim here is a fact, namely, that it appears to us that there are no com-
3. CORNEA and Inductive Evidence

The objection that I wish to raise against CORNEA can be stated very simply. As shown above, CORNEA amounts to a sensitivity restriction on evidence, and much of our inductive evidence is not suitably sensitive. Granting that this insensitive evidence still counts as evidence in favor of the propositions in question (an assumption all non-skeptics should be happy to grant), this implies that CORNEA is false.

Epistemologists have long flirted with sensitivity requirements on knowledge, justification, etc.\(^2\) What I wish to show is that the sorts of problems that plague earlier sensitivity accounts of knowledge, justification, etc. also plague CORNEA.\(^2\) In particular, our inductive evidence is rarely sensitive to the facts in the fashion required by CORNEA. Consider each of the following cases:

Case 1: Though I hold a ticket, I believe that I will lose the lottery. I have inductive evidence for this claim. I know that the odds of winning are one in a million. Is my evidence sensitive to the fact that I will lose the lottery? No. Go to the closest world in which I win. I just get lucky and pull the right ticket. Is it reasonable for me to believe that my cognitive situation in the actual world would be discernibly different from my cognitive situation in the possible world in which I win? No—things would look just the same to me. So, according to CORNEA, my cognized situation in this case is not evidence for the claim that I will lose the lottery.

Case 2: I believe that my son Patrick is asleep. I have inductive evidence for this claim. I know that it is now 3:00 and that my son almost always naps from 2:00–4:00. Is my evidence sensitive to the fact that my son is asleep? No. Go to the closest world in which my son is not asleep. Perhaps he ate spicy food for lunch, or perhaps my wife took him out on a last-minute errand, or perhaps he’s just not sleepy. Is my cognitive situation in the actual world discernibly different from my cognitive situation in the possible world in which Patrick is not asleep? No—things would look just the same to me. So, according to CORNEA, I have no evidence for the claim that my son is asleep.

Case 3: I believe that all crows are black. I have inductive evidence for this claim. All the crows I’ve seen (and I’ve seen a lot!) have


Faith and Philosophy

been black. Is my evidence sensitive to the fact that all crows are black? No. Go to the closest world in which it is false that all crows are black. Perhaps a crow suffers from a gene mix-up that causes him to be an albino. Is it reasonable to believe that my cognitive situation in the actual world would be discernibly different from my cognitive situation in the possible world in which not all crows are black? No—things would look just the same to me. So, according to CORNEA, I have no evidence for the claim that all crows are black.

In each case, it is not reasonable for me to believe that my cognitive situation would be discernibly different in the closest world in which the claim in question is false. In fact, quite the opposite is true: I know full-well that my cognitive situation would look the very same to me in the closest world in which the claim in question is false. But CORNEA requires that for my cognitive situation to have any epistemic potency, it must be reasonable for me to believe that my cognitive situation would be discernibly different in the closest world in which the claim in question is false. So, according to CORNEA, my cognitive situation in each case is epistemically impotent. Put in the "appears" locution of the original CORNEA: I am not entitled to claim that it appears to me that I will lose the lottery. I am not entitled to claim that it appears to me that my son Patrick is asleep. I am not entitled to claim that it appears to me that all crows are black. But, intuitively, I am entitled to claim all these things. My belief that I will lose the lottery is justified for me because of my inductive evidence. The same goes for case 2 and 3. CORNEA gives us the wrong answer in each case. If so, then—unless we want to be skeptics about inductive justification—we should conclude that CORNEA is false. Note that this objection is not based on a mere technicality but an important fact: humans have serious cognitive limitations. Our evidence is not counterfactually dependent on facts in the strong way required by a sensitivity constraint. We have to make our way through the world with evidence that is good enough despite the fact that it could be better in a number of ways.

An immediate objection to my portrayal of CORNEA and argument against it is that I have focused on a straw man. In its initial formulation, CORNEA was intended as a restriction against evidence simpliciter, but in more recent formulations, Wykstra has limited the scope of CORNEA to what he calls "levering" evidence.24 Evidence is levering when it warrants a belief revision from what Wykstra calls "one square state" to another. For example, if evidence warrants a change from square disbelief to square non-belief or from square non-belief to square belief, it is levering evidence. On this construal of CORNEA, it is not true that CORNEA implies that I have no evidence in cases 1–3 but only that I have no levering evidence in 1–3.25

24Wykstra, "Rowe’s Noseeum Arguments."

25This objection is due to an anonymous referee for Faith and Philosophy. The objection can also be lodged using the terminology from Wykstra, "CORNEA, Carnap": evidential support may be static or dynamic (where levering evidence is dynamic), and CORNEA is a regulation only on dynamic support. The reformu-
However, this restriction in the scope of CORNEA does not avoid the criticism. Each of the aforementioned cases can be restructured so that it’s clear that the inductive evidence is levering evidence. For example, imagine that in case 1 I am given a lottery ticket in ignorance of how many tickets are sold. Perhaps I have the only ticket, or perhaps there are a million others. Being rational, I withhold belief concerning the proposition that I will win the lottery. Later I learn that the odds of winning are one in a million. Based on this new information, I disbelieve that I will win the lottery. My cognitive situation in this case warrants a belief revision from non-belief to disbelief. The evidence is therefore levering evidence. However, it remains irrational for me to believe the required subjunctive conditional: I know full well that my cognitive situation would be exactly the same in the closest world in which I win the lottery. And so according to the evidence-levering restriction on CORNEA, my cognitive situation does not warrant the revision from non-belief to disbelief. And so even on the restricted reading, CORNEA is false.

This criticism also applies to a re-formulated version of CORNEA due to Daniel Howard-Snyder. Anticipating a radical skepticism variety of the objection raised here, Howard-Snyder proposes the following emended principle that he calls CORNEA*:

> On the basis of what she has to go on, H is entitled to infer p from ‘so far as I can tell, p’ only if it is reasonable for H to believe that, given her cognitive faculties and the use she has made of them, if p were not the case in relevant alternative situations, what she had to go on in claiming ‘so far as I can tell, p’ would probably be different than it is in some way discernible by her.26

CORNEA* differs from CORNEA by restricting the antecedent of the subjunctive condition to relevant alternatives. The conditions under which a given alternative counts as relevant is a matter of contention, but the restriction is usually introduced to rule out skeptical scenarios like being a brain in a vat. If this is the proper restriction, then the paradigm cases reviewed above also show that CORNEA* is false. This is because my son’s not taking a nap is certainly a relevant possibility for me. Since I see no other way of drawing the distinction between what is relevant and what is not in a way that is not ad hoc, I conclude that it is at least often the case that our inductive evidence fails CORNEA*.

If CORNEA is false, what accounts for its initial plausibility? Here I can only offer a suggestion. In virtually every instance in which an example is offered on behalf of CORNEA, the example uses an appears claim that is perceptual in nature.27 For example, my not seeing any tables in the cluttered hangar is not evidence for there not being any tables in the cluttered

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26Howard-Snyder, “Seeing Through CORNEA,” p. 36 (emphasis mine).
hangar because even if there were a table there, my perceptual experience would be the same. The same goes for seeing fleas on a dog, germs in a room, and viruses on a needle. So perhaps something like CORNEA is true when restricted to perceptual appearances but not as applied to metaphorical appearances. In fact, so restricted, the CORNEA principle looks very much like a necessary condition that Dretske places on primary epistemic seeing in his classic work *Seeing and Knowing*. A case of primary epistemic seeing is a case in which one's perceiving that P is sufficient for knowing that P. The necessary condition of interest here is as follows:

\[
S \text{ sees that } b \text{ is } P \text{ in a primary epistemic way only if the conditions under which } S \text{ sees } b \text{ are such that } b \text{ would not look the way it now looks to } S \text{ unless it was } P. \quad 28
\]

Dretske argues that this restriction provides the perceptual seeming with the kind of non-accidentality necessary for knowledge. Perhaps CORNEA fingers a similar requirement: only perceptual experiences that are suitably non-accidental will count as evidence.

Still, it does seem that something like CORNEA is behind our reluctance to accept *some* metaphorical appearance claims as evidence. But as I have shown here, not *all* metaphorical appearance claims are subject to CORNEA. If it turns out that defenders of CORNEA can isolate the relevant subclass of metaphorical appearances that are subject to the CORNEA constraint, then they might still employ CORNEA against the noseeum argument from evil by showing that the appearance claim used to defend premise (5) is a member of the relevant subclass of metaphorical appearances. Until then, the take-away lesson is just this: CORNEA is strong enough to undermine noseeum arguments from evil, but it does so only by undermining a great many of our inductive beliefs that we intuitively want to hang on to. Accepting CORNEA lands us in an inductive skepticism, but abandoning CORNEA means giving up one of the most successful responses to noseeum arguments from evil. This is a dilemma that all defenders of CORNEA face.\(^29\)

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