

# Duns Scotus's Epistemic Argument Against Divine Illumination\*

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## 0 Preliminaries

Sometimes we have true beliefs that do not amount to knowledge. And one reason a belief can fall short of knowledge is because it is at risk of being false. There are many ways to eliminate the relevant kind of risk of falsity that is incompatible with knowledge, some of which are very familiar. Sometimes the actions of outside agents can eliminate these risks. For instance if you are in a room with a broken clock, you might fix the clock before I walk in and form a belief about the time by looking at the clock. This eliminates the risk that I form a false belief about the time, by looking at a broken clock. But to what extent is it possible for an outside agent to eliminate the risk that makes true beliefs fail to be knowledge? On some plausible assumptions about the nature of risk that is incompatible with knowledge, even an omnipotent God is not always in a position to manipulate the environment to ensure knowledge.

I will develop this idea by looking at a late medieval debate over “divine illumination” between Henry of Ghent and Duns Scotus. Roughly, the issue arises in the following form: both Henry and Scotus are interested in how the human faculties of cognition are capable of producing knowledge. Henry thinks that these processes are only knowledge-producing if a kind of divine illumination occurs: we avoid ignorance only because God intervenes and illuminates our minds with materials that eliminate epistemic risks. Scotus gives several arguments against this position. I will focus on one that is particularly interesting and relevant to the question

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posed earlier: he claims that even if illumination were to occur as Henry claims, it would fail to eliminate the relevant risk of false belief. In other words, even if God does illuminate cognition as Henry claims, he does nothing to ensure that humans are capable of having knowledge. This I will call Scotus's "epistemic argument" against divine illumination.

Although I will explore the issue of the ways in which divine illumination can eliminate epistemic risk in its medieval context, the issue is not merely a historical one. I will show how an anti-risk "safety" condition on knowledge which is popular in contemporary epistemology can be used to formulate Scotus's argument against illumination. But the epistemic argument Scotus raises against Henry also points to refinements required by the contemporary versions of safety principles. I will sketch how these principles should be understood, in a way which both advances the contemporary understanding of the relationship between risk and knowledge, and bolsters Scotus's epistemic argument against divine illumination.

Before proceeding, some caveats are in order. First, although question of the ways in which epistemic risk can be eliminated arises in this historical context, my aim is not primarily to make contributions to the existing sophisticated and well-developed literature on the thought of Duns Scotus. I believe that what follows contains some helpful ways of thinking about Scotus's thought that might benefit future scholarship, and sketch some potential benefits in §3. But I will rely primarily on the work of others to outline the basics of Scotus's views on cognition and Henry's argument for divine illumination.<sup>1</sup> My intent is not to focus on the details of these issues here; rather, I intend to introduce them primarily to set out a novel and interesting approach to the debate over divine illumination between Duns Scotus and Henry of Ghent.

Second, as in any discussion of the relationship between historical and contemporary philosophy, issues of translation arise. While most of contemporary epistemology is conducted using the term 'knowledge', the medieval Latin discussions of broadly epistemic issues are conducted variously using the terms *scientia*, *notitia*, and *cognitio*. Each of these terms can be used with different meanings, and even the same term can be used with different meanings on different occasions (See for example the discussion of Aquinas's use of the term *scientia* in Hawthorne (2013)). Moreover in

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<sup>1</sup>In particular I will rely on Adams (1987, Ch. 14), Cross (2014a), Pasnau (1997), and Rombeiro (2011).

the passages I will be discussing, Scotus begins by discussing “certain knowledge” (*certae cognitionis*, *Ordinatio* I.3.4 n.219<sup>2</sup>), and then thereafter limits his discussion to “certitude” (*certitudo*, n.221) and applies the same conclusion to *scientia*, knowledge had by means of a demonstration (n. 224).

For simplicity I will treat Scotus’s discussion as one primarily about what we would use the English term ‘knowledge’ for, noting only where important which Latin term Scotus is using.<sup>3</sup> I won’t in general be advancing any arguments that this translational strategy is best, and will instead be more interested to show the connection between Scotus’s discussion so interpreted and some outstanding issues in the contemporary discussion of knowledge. But there is one point that is worth making at the outset, since it will be crucial to what follows that we do not misinterpret Scotus as interested in some epistemological notions that are very different from knowledge.

*Certitudo* might, on its own, appear to be best thought of as something akin to high credence in the sense of modern epistemology of partial belief (credences), or alternatively to a state of having access to one’s knowledge by knowing that one knows. (Or perhaps a combination of the two ideas: having high credence that one knows.) Since we sometimes use the English word ‘certain’ to mark either high credence or access to one’s knowledge, it can be tempting to treat the *certitudo* as equivalent to certainty in this sense. Some medieval discussions of *certitudo* might carry these connotations.<sup>4</sup> But my focus below will be on a debate where, I will suggest, that use of the term by Scotus and his medieval interlocutors tie *certitudo* to the *absence of the possibility of error*—something that can exist (or not) independent of

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<sup>2</sup>For quotations of Scotus I primarily rely on the translation of the *Ordinatio* in Wolter (1962) and translations from commentators, and will mark which translation I am relying on in particular quotations. For quotations from *The Quodlibetal Questions* I will rely on Cross (2014a). Occasionally where relevant I will note which latin words are used in the original text, and here I rely on the Vatican edition of the *Ordinatio*, which can be found online at [http://www.logicmuseum.com/wiki/Authors/Duns\\_Scotus/Ordinatio](http://www.logicmuseum.com/wiki/Authors/Duns_Scotus/Ordinatio).

<sup>3</sup>For a relevant discussion of translational issues regarding ‘scientia’ and ‘knowledge’ in Aquinas, see Stump (1991).

<sup>4</sup>For an early discussion see Alfarabi’s discussion of the notion of *yaqīn* in *The Book of Demonstration*. Alfarabi’s notion of certitude has some knowledge like properties: “there is nothing certain whatsoever in false assent. In fact, only the assent to something that is true can be certain.” But Alfarabi also requires higher-order certainty: “Certainty means that we are convinced, with respect to the thing to which assent has been granted, that the existence of what we are convinced about with respect to that thing cannot possibly be different from our conviction.” (McGinnis and Reisman, 2007, 64). Also see Black (2006) for discussion. So his notion of certitude appears to be distinct from the ordinary notion of knowledge, and (I will argue) distinct from the notion deployed by some of his Latin successors. Thanks to Jon McGinnis for discussion and references.

whether one knows that it exists, or has a high credence. As we will see below, this makes medieval arguments about *certitudo* especially relevant to contemporary issues surrounding knowledge simpliciter, rather than certainty or awareness of knowledge.

I will briefly mention two points in favor of this claim, though there is no doubt that much more should be said on the issue. The first is from Aquinas's *Summa Theologica*, in a context where he is discussing the relationship between Sacred Doctrine (which deals with matters of faith) and ordinary "speculative" science:

Now one speculative science is said to be nobler than another, either by reason of its greater certitude (*certitudinem*), or by reason of the higher worth of its subject-matter. In both these respects this science [viz., Sacred Doctrine] surpasses other speculative sciences; in point of greater certitude, because other sciences derive their certitude from the natural light of human reason, which can err (*potest errare*); whereas this derives its certitude from the light of divine knowledge, which cannot be misled (*decipi non potest*).<sup>5</sup>

Here Aquinas argues for the presence or absence of certitude to the possibility of error (and importantly not to high degree of confidence, or higher order knowledge): since the light of divine knowledge is the source of Sacred Doctrine, it cannot err and thereby counts as certain.

Scotus talks about certitude in a similar way. He explicitly says that certitude is incompatible with false belief (and hence the possibility of error, when it is so strong that it occurs in the actual world, is enough to destroy certitude).<sup>6</sup> Scotus also directly connects certitude with absence of possibility of error by inferring the presence of the former from the latter.<sup>7</sup> Although he grants that there are higher degrees of certitude (for instance,

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<sup>5</sup>*Summa Theologica*, 1a.q1.a5.

<sup>6</sup>Scotus's example is ancient physicists with views on first principles:

Every philosopher was certain that what he postulated as a first principle was a being; for instance, one was certain that fire was a being, another that water was a being. Yet he was not certain [...] whether it was first or not first. He could not be certain that it was the first being, for then he would have been certain about something false, and what is false is not strictly knowable (*scibile*). (*Ordinatio* I.3.1, p. 29, in Wolter (1962, 23). See also Cross (2014b) for discussion of this passage.)

<sup>7</sup>Speaking of sense knowledge, he says:

that which comes with a demonstration, viz., deduction from a self-evident principle (Wolter, 1962, 118)), these higher grades mark the *way* in which the claim is known, and not necessarily the presence of a higher degree of confidence or higher-order knowledge.

With these caveats in mind, the plan for this brief paper is as follows. First I outline the basic issue as Scotus sees it: whether cognition requires divine illumination in order to produce judgments that qualify as knowledge (§1). Then I sketch Scotus's central epistemic objection to divine illumination using some contemporary tools from modal metaphysics and anti-risk epistemology. My primary suggestion is that Scotus relies on an analogous connection between knowledge and risk himself (§2). Finally I briefly discuss whether the epistemic objection's success rests on Scotus's interpretation of the issue (§3), and close by sketching some lessons for contemporary anti-risk epistemology that emerge from the discussion (§4).

## 1 Sensation, cognition, and error

Scotus's epistemic argument against divine illumination is not a direct attack on the view. Rather, his argument is that it does no work in addressing the skeptical worries it is designed to avoid. That is, it is an argument for the conditional: *if* skepticism threatens the judgments formed by purely natural cognition, then it also threatens divinely illuminated cognition. Illumination isn't intrinsically problematic, rather it just complicates one's cognitive theory without adding any corresponding epistemological benefits.

Of course Scotus doesn't accept that natural cognition (i.e., cognition without any special illumination) is fraught with skepticism. But for the purposes of giving the epistemic argument against divine illumination, he supposes the antecedent of the conditional. Since Scotus's pessimism about divine illumination relies on a hypothesis about where in the process of natural cognition skepticism supposedly arises, it will be necessary to

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[E]ven though the uncertainty and fallibility in such a case may be removed by the proposition "What occurs in most instances by means of a cause that is not free is the natural effect of such a cause", still this is the very lowest degree of scientific knowledge. (*Ordinatio* I.3.4 n.237; Wolter (1962, 119))

Here I read Scotus as claiming that when a sense perception is caused by a regular and reliable causal process effected by its object, the perception is not likely to be in error and hence is eligible to produce knowledge. Notice that Scotus says nothing about knowing that the perception has this feature; he only requires that it in fact be true that the perception is caused in this way.

sketch some of the details of Scotus's views on sensation, cognition, and judgment.

### 1.1 *Background: cognition and judgment*

Broadly, cognition about sensible objects requires a process with two distinct phases. The first is an activity of sensation (or “intuitive cognition”), where an external object makes an impression on a sense organ. Then, second, there is an active process by the intellect whereby it “abstracts” content for the sense impression and uses it to form judgments about the external world. We can follow Scotus and his contemporaries in introducing some technical terms to highlight certain aspects of this picture that will become important later. Here I will not have anything original to say and will simply defer to others to get the basic picture into view.

The physical picture is one by which an external object interacts with the sense organs by impressing its form, or species, on the sense organ. The species is “transferred” from the object, through an intervening medium, to the sensing individual.<sup>8</sup> The species of the sensed object then takes hold in the sense organ, though exactly how is a delicate matter—clearly by sensing a red thing the sense organ does not take on the species of the thing in the same way and thereby become red. I will skip discussion of this matter here (for more on Scotus's view, see Cross (2014a, 24, *ff.*)). What is produced in the sensing agent is a phantasm: an entity that provides the intellect with the resources for forming concepts and making judgments about the sensible world.

For Scotus, the existence of a phantasm in the mind is not the same as cognizing an object, but the phantasm is used by the intellect to form such cognitions. The intellect can make judgments about things without thinking that such things are present, as they are in sensation.<sup>9</sup> There is,

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<sup>8</sup>From *Ordinatio* II.9.1-2 n. 61, quoted in Cross (2014a, 22):

A visual species and seeing are ordered effects of the same object (e.g., color), such that the species is naturally generated prior to seeing (as first act before a second act), and the species *in medio* or in an organ closer [to the object] is generated before one *in medio* or in an organ more distant . . .

<sup>9</sup>From Scotus, *Quod.* 6, nn. 7-8, quoted in Cross (2014a, 43):

[W]e understand universals or the quiddities of things equally whether they have real extramental existence in some suppositum or not; and it is the same for their presence or absence . . .

Scotus goes on to say, something which is equally present in cognition both in cases where we are sensing something real, and when we are not. The phantasm is simply that which plays this role: it is present in all episodes of sensation, is related to a present object (when such an object exists) and somehow records its features, and provides the resources for the intellect to form (possibly mistaken) judgments.

The process from a species inherent in an object to a phantasm in intuitive cognition is a purely organic, natural process. There is then an intellectual process of abstraction and judgment formation, which is eligible for epistemic evaluation and a candidate producer of knowledge.<sup>10</sup> As the functional role of a phantasm suggests, the intellectual process does not operate entirely independently of sensation. The concepts with which the intellect works are all grounded in sensation.

The agent intellect is a partial cause of the cognizing of universal aspects of the species received through sensory cognition. The phantasm is, necessarily, produced by a particular object. But what it lends to cognition is universal; the agent intellect “abstracts” from the phantasm a purely general concept-like entity, which is called an “exemplar”:

The universal, as universal, is not included among the things that exist, but exists merely in something that represents it under such a description...The agent intellect makes [by abstraction] something that is representative of a universal, out of something that was representative of the singular [the phantasm].<sup>11</sup>

The species that is transferred from objectual form to intellectual exemplar via this process can then be deployed in an act of judgment. These judgments are the sorts of things which represent the world as being a certain way, and which may be true or false.

The standard for truth in such judgments is the “likeness” or similarity between the exemplars used to form the judgment and the worldly objects

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<sup>10</sup>There are substantial accounts of abstraction developed prior to Scotus, for some discussion of its Arabic predecessors see McGinnis (2007).

<sup>11</sup>Cross (2014a, 64-5), *Ordinatio* I.3.3.1, n.360. Also representative is the following quote:

The sense senses the thing that is heat; the intellect cognizes the quiddity, but defining it and attributing the definition to the thing defined, by saying that this is a such-and-such, and so seems to know the quiddity, not just the thing. (Cross (2014a, 66), *In Metaph.* 1.6, n.44)

the judgment is about. Scotus sometimes puts this in the language of ‘measurement’, saying that in knowing there is a relation between the measurable (the cognitive act) and the measure (the object the act is about). (*Quod.* 13, n.11, Cross (2014a, 153)) Cognitive acts intrinsically, or “naturally” have this relation to their objects in virtue of this likeness:

[An act of cognition] is something that is measurable by an object, that is, is naturally apt in its entity to depend on an object with that special dependence which is its which is likeness by imitation [of] or participation in that thing of which it is a likeness.<sup>12</sup>

This all-too-brief discussion of Scotus’s views on the psychology of judgment is in many ways inadequate, and an overly simple representation of Scotus’s views. But it provides a schematic overview of human cognition, which can be evaluated for its ability (or lack thereof) to produce judgments that achieve the statuses of *certitudo*, *scientia*, or knowledge. It is here that one might argue that the process sketched is in fact not capable of producing knowledge by itself, and needs to be supplemented. Below I will sketch Henry of Ghent’s argument that the process in question is in fact not sufficient to do the needed epistemic work, and therefore needs to be aided by divine intervention. This is Henry’s argument for divine illumination. Then I will turn to Scotus’s epistemic argument against Henry’s position, which is the primary focus of this paper.

## 1.2 *Why illumination?*

The main motivation for divine illumination, according to Scotus’s understanding of Henry’s position, is that without some sort of divine assistance, this process would fail to produce knowledgable representations. There is agreement among both parties that truth in a judgment (and hence a prerequisite for knowledge) requires a match or likeness between cognition and object. The paradigm is God’s knowledge, which deploys perfect exemplars:

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<sup>12</sup>Cross (2014a, 154), *Quod.* 13, n. 13. Scotus says more on accurate representation in the following passage:

Truth is an act that compares one simple concept to another—that they belong to the same thing in affirmative [propositions] and to different things in negative ones. (Cross (2014a, 176), *In Metaph.* 6.3, n.65)



It is this that the truth of a creature requires insofar as it is a creature—namely that it is in its essence that which is its idea perfection in the divine wisdom, which is to say that it entirely agrees, matches, and is conformed to it.<sup>13</sup>

The problem, for Henry, is that the abstractive process in human cognition fails to provide the intellect with an adequate exemplar. While the ideas in the Divine Mind are perfectly similar to the essences of objects—and hence can apprehend truth in creatures—the abstractive process fails to do this. When the mind abstracts ideas from a phantasm produced by the sensation, the resulting idea might be deformed and inadequate—and hence unable to provide the needed “match” for a truthful judgment.<sup>14</sup>

If abstracted exemplars will be inadequate in this way, the only way we can form knowledgeable judgments about sensed objects is by forming judgments using the divine exemplars. They are not subject to the deformities that can infect natural cognition, and so can be relied upon to provide the match with reality needed for a truthful judgment. This is the sense in which divine illumination is required for Henry: God must somehow place divine exemplars in our mind if we are to have knowledge.

Of course, there is another possibility: to have knowledge, we would need the divine exemplars, but since the only exemplars available to us are imperfect, we have no knowledge. This is skepticism. But Henry wishes to avoid skepticism, as Pasnau summarizes:

Henry ... thinks that in our current state we not only need but in fact receive divine illumination. His account entails that if God had been withholding such illumination from us over the years, we would be in a severely impoverished epistemological state. (Pasnau, 1995, 69)

The claim, then, is that if we are to avoid skepticism, we must hold that divine exemplars, and not only naturally formed exemplars, are available to cognition. The only way for this to be is if God continually acts to impart the divine exemplars to us, so that they are available to use to form judgments that are candidates for knowledge. Since skepticism is false, it divine illumination follows.

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<sup>13</sup>Summa 32.4, v. 27, 175-6; quoted in Pasnau (1995, 58-9)

<sup>14</sup>Summa 1.2, 5vE; see also Pasnau (1995, 57) on the two ways of forming exemplars.

## 2 Scotus's epistemic argument

We will return below to the question of *why* judgments formed with created or natural exemplars are supposed to be unreliable. The basic picture is simple enough: exemplars arrived at through abstraction are not guaranteed to “match” the reality they represent. But the existing sketch we have gives us enough to outline Scotus's epistemic argument against divine illumination, and to make a *prima facie* case that it is quite compelling.

The core of Scotus's reply to Henry's argument is in the following passage:

[N]o certitude is possible where something incompatible with certitude occurs. For just as we can infer only a contingent proposition from a necessary and contingent proposition combined, so also a concurrence of what is certain and what is uncertain does not produce certain knowledge.<sup>15</sup>

I will give a reading of this passage which, using tools from contemporary modal metaphysics and anti-risk epistemology, makes Scotus's analogy between knowledge and necessity very apt. Specifically, the purely logical fact—that conjoining a necessary proposition to a contingent one does not thereby produce a necessary proposition—is (I will argue) structurally analogous to the epistemic fact that adding certitude via divine ideas to unreliable human judgment does not thereby produce a certain judgment. This makes for a compelling reading of Scotus's reply to Henry's view.

### 2.1 *Logical structure*

To make the analogy precise, I will rely on resources from modern modal and epistemic logic.

First begin with the modal case. In a standard possible worlds framework for analyzing necessity and possibility, we begin with a set of indices  $w_1, w_2, \dots$  (these are “worlds”) and an assignment of a truth-value to each atomic proposition  $p_1, p_2 \dots$  at each world. Non-atomic non-modal propositions at an index have truth values that are truth-functions of the truth-values of their constituent atomic propositions at the same index. And modal propositions (containing ‘necessarily’ and ‘contingently’) are determined by the status of the embedded propositions across all indices.

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<sup>15</sup>*Ordinatio* I.3.4 n. 221, Wolter p. 112

'necessarily  $p$ ' is true iff  $p$  is true at every index; 'contingently  $p$ ' is true iff neither  $p$  nor  $\neg p$  is necessary.<sup>16</sup>

With this framework in hand, we can illustrate the modal claim in Scotus's analogy. If  $p$  is necessary, then  $p$  is true at every index. And if  $q$  is contingent, then  $\neg q$  is true at some index. Call this index  $w$ . Since  $p$  is true at  $w$  and  $q$  false at  $w$ , the conjunction  $p \& q$  is false at  $w$  as well. And since  $p \& q$  is false at  $w$ , it is not necessary, since it is not true at every index. So adding contingent  $q$  to necessary  $p$  produces a contingent proposition.

This is a simple point from modal logic. But Scotus clearly thinks, in the passage stating the epistemic argument quoted above, that an analogous principle holds for epistemic notions. Spelling it out in detail can help elaborate a reading of the analogous principle in epistemic logic. And, we will see, Scotus's main criticism of the going version of divine illumination is that it runs afoul of this point in epistemic logic.

We can begin the analogy by taking the indices  $w_1, w_2, \dots$  not to be points in modal space, but rather points in epistemic space. Epistemic space is relativized to an individual; we can think of each index in the space as a world that could easily obtain, and is consistent with what the individual knows. Hence if it is unknown whether  $p$ , and  $p$  could easily have obtained or not obtained, there is an index in epistemic space where  $p$  holds, and an index where  $\neg p$  holds. As before, atomic propositions  $p_1, p_2 \dots$  have a truth value at each index, and values of logically complex propositions are a truth function of the values of atomic propositions. The distinctive epistemic aspect enters when we add belief-propositions at each index—propositions  $Bp_1, Bp_2, \dots$  about whether the agent in question believes  $p_1, p_2 \dots$  at the index. Whether  $Bp$  is true at an index depends on whether  $p$  is true at the index. Also, beliefs agglomerate, so if  $Bp$  holds at an index and  $Bq$  holds at the same index, then  $B(p \& q)$  holds as well.

Just as the modal framework settles questions about necessity and possibility by looking at what happens across the space of indices, the epistemic framework settles questions about what is known by looking at what happens across the space of indices. A proposition is known at an index just in case it or its negation is truly believed at every other index where there is a belief about the subject-matter. That is,  $Kp$  holds at  $w$  iff at every world  $w^*$ , (i) if  $Bp$  holds at  $w^*$ ,  $p$  holds as well, and (ii) if  $B\neg p$  holds at  $w^*$ ,  $\neg p$  holds as well. Thus a belief is not knowledge just in case there is some index where there is a belief about the subject-matter but the belief

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<sup>16</sup>Cf. Kripke (1963). Here I ignore the "accessibility relation" on worlds in the standard Kripke framework, and assume that every world is accessible from every other world.

is false.<sup>17</sup>

The analogy with necessity and contingency is straightforward in this setting. A piece of knowledge (a certitude—*cf.* our discussion of knowledge and certitude in §0) is a belief that is true at all indices; a belief that is not knowledge (an uncertainty) has some index where that belief is held but is false. Let  $w$  be an index where both  $Bq$  and  $\neg q$  hold—hence, a world where a false belief is held.  $q$  is not known. If  $p$  is known on the other hand, then  $Bp$  and  $p$  both hold at  $w$ . But, since beliefs agglomerate,  $B(p\&q)$  is held at  $w$  as well, and by the truth table for  $p\&q$ ,  $p\&q$  is false at  $w$ . So the belief  $B(p\&q)$  is false at  $w$ , and  $p\&q$  is not known. Adding an unknown (uncertain) belief to a known (certain) belief produces an unknown, and not a known, belief. The reason why this is so is exactly the same as in the modal case.

Of course in both cases the formal model is just that—a formal representation of some structural features of metaphysical and epistemic modality. We haven't yet made the case that the formal structure maps on to any interesting, substantive modal or epistemic notions. Fortunately there is a natural interpretation of the machinery in the epistemic case which is especially illuminating of the epistemic model. And the substantive understanding of the model is at least suggested by the arguments from Henry of Ghent that beliefs formed using purely natural exemplars will be uncertain. Thus in relying on an epistemic model that parallels the model case, Scotus is relying on common ground with Henry. Henry's own principles about what constitute knowledge thus imply that his own argument that divine exemplars are imparted via illumination, and thereby secure knowledge, is unsound.

Since the common principles can be elucidated by what is called “anti-risk” epistemology in contemporary debates, I will briefly sketch the basics of the relevant epistemology below. Once the outlines are in order, I will then argue it can be used to show that Scotus's epistemic argument against Henry relies on some very natural connections between knowledge and risk that both parties agree to.

## 2.2 *Anti-risk epistemology*

The basic insight behind anti-luck approaches in epistemology is that in many cases where true (and even justified) belief is present but no knowledge, there is an intuitive sense in which the true belief is the result

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<sup>17</sup>For more sophisticated frameworks see Hintikka (1962) and Williamson (2013).

of a kind of accident of luck. For instance: take the familiar stopped clock case from Russell (1912). If you form a belief about the time by looking at a broken clock, and happen to form a true belief on that basis, you do not know what time it is. This inspires the thought that what knowledge requires, in addition to true belief, is a belief that could not easily have been false—after all, one could easily have looked at the clock at a different time, or it could have stopped earlier or later. In either case, one would have had a false belief on the basis of looking at the clock. So knowledge seems to require the absence of risk of a false belief. Often this is formulated as the claim that knowledge is subject to a “safety” condition, according to which knowing requires not being at risk of having a false belief.<sup>18</sup>

One point of emphasis about the relationship between these substantive points and the modal framework from §2.1 is in order. For a belief to not be knowledge, we need a belief at some world which is about the same subject-matter to be false. One way for a belief in  $p$  to be at risk in this framework is for there to be a nearby world where one believes  $p$  but where  $p$  is false. But a false belief in a nearby world can be about the same subject-matter—and hence knowledge-destroying—even if it is not a belief about a proposition *identical* to  $p$ . Instead, it is often enough for the belief to be sufficiently similar. For instance, if I am a geographical neophyte and come to believe that Denver is in North America by guessing, I am in the relevant sense lucky to be right. But this isn’t because Denver could easily have been on a different continent. Rather, it is because if I am guessing, I could easily have formed a suitably similar but distinct belief that is false; my guessing might have led me to believe that Denver is in Europe. The belief that Denver is in Europe is similar enough to my actual (true) belief that the fact that it puts my actual geographical beliefs at risk of error.

To sum up: the crucial element here is the idea that beliefs are not knowledge when they are at “risk” of being false. This is a “safety” constraint on knowledge. And risk in the relevant sense requires beliefs in nearby worlds that are about the same subject-matter, but false.<sup>19</sup>

Of course it is something of an anachronism to read modern safety principles into Scotus’s work. Scotus had no knowledge of the history of post-Gettier epistemology (he was, after all, very much pre-Gettier) and

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<sup>18</sup>A similar point could be illustrated with the famous Gettier cases from Gettier (1963). See also Unger (1968), Sosa (1999), Williamson (2000) and Pritchard (2004) for elaboration on the issue.

<sup>19</sup>More refinements are needed, though for simplicity I will not explore them here. See Dunaway and Hawthorne (Forthcoming) and Dunaway (Forthcoming) for more discussion of fully refined safety principle, which will look something like this:

would not have thought about knowledge and related notions explicitly in terms of the refined Safety principle I sketched above. So I am not claiming that Scotus was, in replying to Henry, actually deploying in any strict sense a Safety principle.

But the similarities between Scotus's thinking and such a principle should not be overlooked either. Safety is a modal reliability condition on knowledge, and it will become very clear below that reliability—in the form of the absence of possibility of error—of this kind is in the forefront of the debate between Henry and Scotus over divine illumination. They are quite aware that sensory judgments might be true, but the epistemic status of a these beliefs depends on more than their truth in the actual world. That is, the epistemic statuses of certitude or knowledge are sensitive to whether judgments across *nearby* worlds are true as well. If this kind of reliability cannot be secured, Scotus and Henry are not prepared to confer honorifics like *certa notitia* on true beliefs.

Henry's argument for divine illumination rests on the claim that the account of cognition outlined above implies that this kind of reliability is unavailable without illumination. Scotus's reply is that, if Henry is right about this, then the reliability cannot even be achieved *with* divine illumination. The form of the argument for this is exactly as I sketched in abstract form above. We could read this argument in terms of a modern Safety constraint on knowledge, but much of the substance of this viewpoint can be retained even if we dispense with the anachronism of modern safety-theoretic approaches.

### 2.3 Risk in abstraction

At the end of this section I will use the above epistemic framework to explain why Scotus thinks that divine illumination fails to help with skeptical worries. The first part of this project, however, is to say what Scotus takes the skeptical worry to be—that is why, according to Henry of Ghent, skepticism follows if there is no divine illumination.

The short answer is that the process of abstraction from a phantasm introduces the kind of risk that precludes knowledge. Beliefs formed using exemplars abstracted from the natural process of sensation will have false

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SAFETY An agent  $a$  knows  $p$  in  $w$  only if, for all nearby worlds  $w^*$  where  $a$  has a belief in  $p^*$  that is similar to the belief in  $p$  in  $w$ , and the token causal process that produces  $a$ 's belief in  $p^*$  in  $w^*$  is sufficiently similar to the token causal process that produces  $a$ 's belief  $p$  in  $w$ ,  $a$ 's belief in  $p^*$  is true in  $w^*$ .

nearby beliefs.

We can add more detail concerning why this is supposed to be so. Scotus understands this argument to begin with the distinction between a “created” exemplar (*exemplar creatum*) and an “uncreated” exemplar. The former is “the species of the universal caused by the thing”, the latter is “the idea in the divine mind.”<sup>20</sup><sup>21</sup> In order to count as “knowing the truth”, or “knowledge of a thing”, which Scotus uses the terms *cognitione veritatis*, and *infallibilis notitia veritatis*<sup>22</sup>, one must deploy an exemplar by the intellect. According to Henry, *cognitione veritatis* cannot be had when the intellect deploys an *exemplar creatum*.

Scotus attributes to Henry the following (related) arguments for this conclusion:<sup>23</sup>

But it seems wholly impossible that such an acquired exemplar should give us infallible and completely certain knowledge of a thing. [...] The first reason runs something like this. The object from which the exemplar is abstracted is itself mutable; therefore it cannot be the cause of something unchangeable. But it is only in virtue of some immutable reason that someone can be certain (*certa notitia*) that something is true. An exemplar such as this, then, provides no such knowledge (*certa notitia*) [...]

The second reason goes like this. Of itself the soul is changeable and subject to error. Now a thing which is even more changeable than the soul itself cannot correct this condition or prevent the soul from erring. But the exemplar which inheres in the

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<sup>20</sup>Wolter (1962, 108), *Ordinatio* I.3.4 n.210

<sup>21</sup>As an aside, Scotus acknowledges Henry’s concession that there is a sense in which the senses ‘know’ a thing when they sense it. This isn’t cognitive act, but is rather the existence of a thing’s species imprinted on the sense organ. For this kind of knowledge purely in the senses, Scotus uses the term *notitia* (209) and denies that the operation of the intellect is involved.

<sup>22</sup>*Ordinatio* I.3.4 nn.210-211

<sup>23</sup>Scotus here lists three arguments from Henry. Since his goal is to show that divine illumination does not help with avoiding skepticism, it will be sufficient for Scotus’s purposes to show that, if one of Henry’s arguments for the impossibility of knowledge with created exemplar is any good, then that argument will also show that knowledge with an uncreated exemplar is impossible. For this is sufficient to show that Henry must either revise his position to hold that knowledge with a created exemplar is in fact possible (i.e., Scotus’s position), or embrace widespread skepticism. So I will not discuss the third argument here, which concerns the ability to distinguish truthful from erroneous judgments. For discussion of Scotus’s position on this matter, see Adams (1987, 574 ff.).

soul is even more mutable than the soul itself. Consequently, such an exemplar does not regulate the soul so perfectly that it makes no mistake.<sup>24</sup>

Both of these arguments aim to show that there is something changeable in created exemplars which renders them incapable of producing knowledge. The alleged source is different in each case: first, it is said that since the objects of sense perception are changeable, the exemplars abstracted from the sensory process must be changeable as well. And second, it is said that since the process of abstraction is an activity of the soul, and the soul is changeable, the abstracted (created) exemplar must be changeable as well. But fundamentally what these arguments have in common is that they allege that changeability in the material that constitutes the exemplar-forming process prevents created exemplars from being deployed in reliably true beliefs.

With the framework laid out in previous sections, it is easy to see why changeability in the created exemplar would threaten to lead to skepticism. First, recall the semantic role of the exemplar: it is a component in the cognitive act of judgment-formation, and judgments are true just in case they resemble their subject matter in the appropriate way. If the exemplar changes, then what it resembles will change, and hence whether it represents truthfully can change. Changeability in an exemplar thus subjects cognitive judgments with the kind of risk of error that is incompatible with knowledge.<sup>25</sup>

Scotus's epistemic argument against divine illumination provisionally grants this premise: judgments formed using a created exemplar cannot be knowledge. The problem is that they are at risk of being false, since the intellect makes use of an exemplar that is at risk of changing and failing to match its subject matter. Of course the judgment in the nearby world that is false isn't *identical* to the judgment in the actual world that fails to be knowledge. This is because they contain an exemplar that has changed from the exemplar abstracted in the actual world. But nonetheless

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<sup>24</sup>Wolter (1962, 108-9), *Ordinatio* I.3.4 nn. 211-212

<sup>25</sup>Note that this doesn't amount to the argument that every such judgment actually is false. Even if we are fortunate to find our exemplars relatively unchanged, change could easily have happened, and that is enough to destroy knowledge. Adams (1987, 563) says of the created exemplar on Henry's view that "even if an image or a species provided us with an accurate cognition of things as they are or of their truth, it would not provide us with a stable grasp of them. For, as mutable, such an image or species is apt to go out of existence at any time and to be replaced by another that might perhaps misrepresent things."



the judgments will be quite similar—similar enough that their falsity will prevent the actual judgment from being knowledge, even if no change has actually occurred.

This sets the stage for the argument that divine illumination does nothing to avoid skepticism here. For even if judgments formed using uncreated exemplars are not mutable in the same sense, a divinely supplied provision of such exemplars won't do anything to eliminate the risk of false judgments. This is, I will argue, the basis for Scotus's main criticism of divine illumination: just as adding a contingent proposition to a necessary one produces a contingent proposition, likewise adding a judgment using an uncreated, risk-free exemplar to a judgment using a created, risk-prone exemplar only produces a judgment that is at risk of error.

#### 2.4 *The epistemic argument, explained*

Scotus summarizes (what he takes to be) Henry's conclusion from the unreliability of created exemplars:

From all this they conclude that if man can know the infallible truth and possess certain knowledge (*certam scientiam*) it is not because he looks upon an exemplar derived from the thing by way of the senses [...] It is necessary that he look upon the uncreated exemplar.

It is this conclusion that Scotus contests with the passage I quoted at the beginning of this section, and repeat below:

[N]o certitude (*certitudo*) is possible where something incompatible with certitude (*quod repugnat certitudini*) occurs. For just as we can infer only a contingent proposition from a necessary and contingent proposition combined, so also a concurrence of what is certain and what is uncertain does not produce certain knowledge (*cognitio*).

We are now in a position to say exactly what the certainty and the uncertainty Scotus is referring to are, and why it is plausible that, for essentially logical reasons, divine illumination does not do the epistemic work set out for it.

What is uncertain are, given Henry's arguments, the judgments formed with created exemplars. In the framework outline above, the uncertainty in these judgments consists in these judgments, or some very similar

judgments, being false somewhere in the space of nearby worlds. The falsity of the nearby judgments is a product of their easily taking form that makes them inaccurately represent their subject matter.

Scotus's illuminationist opponent holds that there are also some exemplars that are not susceptible to error in this way. These are the judgments formed with uncreated exemplars. Such exemplars are not at risk of change, so any judgments made with uncreated exemplars can be highly reliable. Does this show that an actual true judgment formed using an uncreated exemplar can be knowledge? No, it does not: the existence of judgments formed in nearby worlds using created exemplars prevents this.

The nearby worlds where there are false judgments containing mutated created exemplars contain judgments which are *similar enough* to any true judgment formed with an uncreated exemplar. So adding an uncreated exemplar to the picture, which is available to the intellect for judgment-formation, does not remove the risk of similar false beliefs about the relevant subject-matter. The nearby worlds with similar but false beliefs do not go away. This is the crux of Scotus's epistemic argument.

To illustrate, take the following simple application of the epistemic framework. For any judgment about a sensory proposition  $s$ , there are nearby worlds where an agent suffers the misfortune of having her acquired exemplars mutate, and forms a false belief similar to belief in  $s$ . Let  $w_1$  be a nearby world where this happens, i.e., a world where the agent believes something similar to  $s$  using a created exemplar, and owing to the vicissitudes of mutation has a false belief in  $w_1$ . Next let's add divine illumination to the picture. Supposing divine illumination occurs in the actual world  $w$ , and an agent forms a belief in  $s$  using an uncreated exemplar in  $w$ . There are no nearby worlds where she forms a false belief *with that created exemplar*. But the problem is that this does nothing to eliminate the false belief in  $w_1$ . The true belief in  $w$  still has a similar belief in  $w_1$ —this is the belief with the created exemplar. So even beliefs with uncreated exemplars will have false counterparts, and hence will not be knowledge. Divine illumination does nothing to eliminate risk. The beliefs formed with uncreated exemplars will be cases of true but unknown beliefs.

Notice that this style of argument works regardless of the precise account on offer of why exactly beliefs formed using created exemplars are unreliable. Scotus summarized two arguments for this conclusion. On one, it is the mutability of the objects, which produce the phantasms from which created exemplars are extracted, that explains the unreliability of the

resulting beliefs. And on the other, it is the mutability of the soul which performs the abstraction which explains the unreliability. Regardless, so long as the unreliability manifests itself in the form of false beliefs in some nearby worlds, beliefs formed using uncreated exemplars will suffer a downgrade in epistemic status just as beliefs formed using created exemplars. Divine illumination fails to provide the promised epistemic payoff.

### 3 A closer look

So far I have presented the argument against divine illumination in fairly specific terms, using notions of *abstraction*, *exemplar*, and *true judgment* that are understood in fairly specific ways. But I wish to emphasize that the argument is in fact is very powerful. The purely logical point that Scotus is concerned with makes a wide variety of approaches to the illuminationist position vulnerable to what is essentially the same objection. Nothing here hinges on the details of Scotus's psychology or precise understanding of Henry's arguments.

I will illustrate this with brief discussions of two sympathetic portrayals of Henry's position in the contemporary literature.<sup>26</sup>

#### 3.1 Pasnau on mutability in objects and exemplars

Robert Pasnau, after a lengthy and highly nuanced discussion of Henry's views on cognition and divine illumination, moves to discuss Scotus's criticisms. He quotes Scotus as objecting to Henry in the following passage:

[T]his does not follow: if the object is mutable, then what is produced by it is not representative of anything under the aspect of immutability. For it is not the object's mutability that is the basis of the production. Instead, the basis of production is the mutable object's nature, which is, actually, immutable. Therefore, that produced by the object represents the [object's] nature per se. (Pasnau (1995, 72), quoted from *Ordinatio* I.1.4 n.246, also found in Wolter (1962, 124))

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<sup>26</sup>My aim is not to give an extensive overview of the literature on Henry of Ghent's theory of divine illumination, but I will try to sketch briefly some passages where commentators have picked up on possible infelicities in Scotus's understanding of Henry's position. My point will simply be that, with the logical structure of Scotus's argument in mind, some possible errors in Scotus's interpretation do not undermine the force of his argument, as commentators suggest.

Here Scotus is discussing his reading of the first of Henry's arguments for divine illumination: since sensed objects are mutable, the exemplars abstracted from the sensory process must be mutable too. Pasnau treats the quoted passage from Scotus harshly:

Scotus's reply misunderstands the argument. First, he wrongly takes Henry to deny that we can have universal concepts, which is not the issue at all [...] Next, Scotus simply asserts, without argument, that the basis of the resultant cognition is the object's nature. Then he makes an unwarranted inference: the object's immutable nature is the basis of the resultant cognition; therefore, the resultant cognition "represents the [object's] nature per se". (Pasnau (1995, 73))

Pasnau goes on to describe in more detail where he thinks Scotus has misread Henry on this final point. At issue is whether the immutable nature of an object can be a causal component in the sensory process; Pasnau says (rightly, it would seem) that Henry accepts this: the immutable natures are somewhere present in the causal chain. That is:

Henry, as we have seen, agrees that there are such [immutable] natures in physical objects. He might also be willing to accept that these natures are the basis of our cognitions of those objects—if this means only that that nature is the remote cause of the resultant cognition. Henry wants to claim, however, that the proximate cause of the cognition of, say, a human being is not a human nature. Indeed, Henry would think of that nature as being several steps removed from the resultant cognition. (Pasnau, 1995, 73)

So, according to Pasnau, Scotus has not taken into account Henry's views about whether the natures in objects are merely remote causes in sensation, or if they are proximate causes that (eventually) become available as intelligible species in cognition.

But Scotus's epistemic argument can be seen as an *argument* that Henry is wrong as to whether an object's nature is a proximate cause of sensation. At least, it is an argument if we grant the additional premise that skepticism is false. For the epistemic argument shows that positing a divine proximate cause of cognitions is not enough to avoid skepticism—such proximate causes do nothing to eliminate objectionable risk of error.

So if skepticism is false, a natural proximate cause of cognition *must* be able to produce a knowledgeable judgment. Scotus is entitled to this much as a result of his epistemic argument; his ignoring it does not, as Pasnau suggests, give rise to an unconvincing attack on Henry.

Moreover Scotus appears to explicitly claim that he is not directly attacking Henry in the passage Pasnau quotes from. This argument occurs in paragraph 246 of *Ordinatio* I.3.4. But Scotus's original criticism, which was the focus of §2, occurs much earlier than that. It is in paragraph 221 (also I.3.4), and Scotus explicitly says that he is doing very different things in these two passages.

[I]n the first [article] I show that these arguments are not a basis for any true opinion [...] Instead they lead to the view of the Academicians. In the second [article] I show how the view of the Academicians, which seems to follow from these reasons, is false. In the third, I answer these arguments in so far as they are inconclusive. (Wolter (1962, 111))

Scotus's epistemic argument, which was the focus of §2, is contained in the "first article": in that passage, Scotus takes himself to be showing that the arguments cannot be correct, since they support skepticism (i.e., Academic skepticism, the "view of the Academicians"). And as we have seen, this is exactly what Scotus does: he shows that, if Henry's argument that created exemplars cannot produce knowledge is sound, then even if divine illumination occurs, skepticism still follows. But the passage Pasnau quotes is from the "third article", where Scotus provides his own replies to the arguments. Thus here Scotus is essentially developing his own account of sensation which does not lead to skepticism. (Scotus can fairly assume that divine exemplars are not a proximate cause here, since according to his own previous arguments, divine illumination does nothing to solve skeptical worries.) Thus Pasnau's passage, in paragraph 246, appears to be one where Scotus doesn't take himself to directly refute Henry's position, and has instead moved on to other tasks. He thinks he has already provided the needed refutation, by giving the epistemic argument in paragraph 221 and surrounding passages.

### 3.2 *Adams on the mutability of the soul*

Marilyn McCord Adams (1987, Ch. 15, §5) adopts a different line of defense of Henry's position. We noted, in the §2.3 discussion, two

arguments from Henry that suggest judgments which are purely the products of natural processes will be unreliable. Both have to do with mutability: in the first, it is the mutability of the proximate causes of sensation—namely sensory objects—that produce mutability (and hence unreliability) in cognition. This is the subject of Pasnau’s discussion above. The second argument is different: since the *soul* is mutable, and the soul is what is responsible for cognition, the tools with which the soul engages in cognitive activity (e.g., exemplars) will themselves be mutable. It is in the context of this second argument that Adams mounts a limited defense of Henry.

Recall that Scotus summarizes Henry’s second argument as follows:

The second reason goes like this. Of itself the soul is changeable and subject to error. Now a thing which is even more changeable than the soul itself cannot correct this condition or prevent the soul from erring. But the exemplar which inheres in the soul is even more mutable than the soul itself. Consequently, such an exemplar does not regulate the soul so perfectly that it makes no mistake.<sup>27</sup>

Scotus goes in for a particularly strong attack on divine illumination in response to this alleged unreliability of naturally produced cognition. In addition to the main “epistemic argument” I have discussed at length here, he (in the passage immediately preceding the epistemic argument) says:

Likewise, if the mutability of the exemplar in our soul makes certitude impossible, then it follows that nothing in the soul could prevent it from erring, for everything inhering in such a subject is also mutable—even the act of understanding itself.<sup>28</sup>

The implication is that even divinely provided exemplars will not be epistemically helpful given this view. For the relevant exemplars will be stored in the soul, and if everything in the soul is mutable, then the divine exemplars will be mutable too.

This is actually just a particularly strong version of the epistemic argument I have been focusing on. For the mutability of divinely provided exemplars will be a barrier to knowledge because there will be some nearby worlds where those exemplars (or very similar exemplars) are deployed

<sup>27</sup>Wolter (1962, 108-9); *Ordinatio* I.3.4 n.211-212

<sup>28</sup>Wolter (1962, 111); *Ordinatio* I.3.4 n.220

in false judgments about a subject matter. Thus even true beliefs using divine exemplars will not be knowledge: there will be false nearby beliefs and, what is more, these false nearby beliefs will be formed using divinely provided exemplars!

Adams raises a natural reply in response to this argument on behalf of Henry. She says:

Henry can reply here by granting that divine action cannot alter the fact that an effect produced in the soul has the ontological status of being an accident inhering in a mutable substance. But he can maintain that it is only as a result of the natural order of causes that the existence of such accidents in the soul is less stable than the existence of the soul itself. Hence, the latter fact can be altered by divine intervention: if God wills an accident to have uninterrupted existence in the soul, that accident will so persist. Nevertheless, Scotus's objection calls to our attention at least one thing divine illumination must do, if it is to remove the defect of instability from our knowledge.<sup>29</sup>

As a response to the strong version of Scotus's argument, Adams's suggested reply on behalf of Henry is surely helpful. If the causes of non-natural processes in the soul are not mutable—perhaps by a further act of divine intervention—then there is no argument that even the exemplars provided from divine illumination will be mutable, and hence involved in nearby false beliefs.

But it should be clear from how we have set out Scotus's argument in §2 that this does not substantially improve Henry's position. Adams has shown how Henry can eliminate *one* form of risk in divinely illuminated sensory judgment, but Scotus's argument is sufficiently general to show that other risks remain. In particular, it might be that, as Adams suggests, the non-naturally caused effects in the soul are not mutable, owing to continued divine intervention. But the *naturally* caused effects will be mutable. And among these effects are the created exemplars derived from the natural process of sensation and abstraction. Judgments formed with these exemplars will be false in nearby worlds, owing to their mutability. So there will still be the possibility of error. Adams has shown how Henry might rule out one source of this possibility, but not all of them.

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<sup>29</sup>Adams (1987, 564)

#### 4 Conclusion: refining Safety

To facilitate discussion of Scotus's epistemic argument against divine illumination, I have used a contemporary version of a "Safety" principle to capture the anti-risk condition on knowledge.

Of course there are many different ways in which the relevant principle needs to be refined (see §2.2 and especially fn. 19 for some discussion), but here I will focus on one refinement that Scotus's own use of anti-risk principles points to. This not only bolsters Scotus's argument against divine illumination by warding off potential responses, but in addition provides an important direction for further refinement of safety principles in the contemporary epistemology literature.

One important component of a safety constraint on knowledge is the following. We have pointed out that, if a belief is unsafe, there is a nearby similar belief that is false. But it is also important for such principles to require that the token process which produces the false belief be sufficiently similar to the token process which produces the allegedly unsafe belief. If the processes are too dissimilar, then the nearby false belief is no threat to knowledge.

Here is a simple example to illustrate this point. You might have a true belief that I am in town by virtue of having seen me walk by your window a few minutes ago. Presumably you also know that I am in town on the basis of your sensory experience. But there is a sense in which it is a lucky true belief: you could have easily have not looked out your window at the moment I walked by, and (we might suppose) your antecedent background knowledge implies that I am *not* in town. So if you were at risk of not having looked out the window at the right time, you are also at risk of having a false belief about my whereabouts. Why doesn't this show that your belief is not knowledge because it is unsafe?

The reason is that the token process that leads to your belief in the nearby world where you form the false belief is very different. There, your background beliefs and inferences from them are part of a causal chain that produces the belief that I am not in town. But when you form the belief in the actual world that I *am* in town, the process is very different: memory and inference play no role in the token causal process; instead what leads to formation of the relevant belief is a sensory episode. So when we fully flesh out a safety principle as an anti-risk condition on knowledge, it will have to account for the degree of similarity among the processes that produce beliefs in the relevant nearby world, not just the similarity of the beliefs



themselves.

In the context the debate over of divine illumination, one might latch on to this aspect of the safety condition and insist that any belief formed with a divinely supplied exemplar is the product of a very special process. This might appear to save a version of Henry's argument: beliefs formed with divine exemplars could plausibly be claimed to be the products of processes that are very dissimilar from those beliefs that are formed with purely natural exemplars. Then, the case that divine illumination makes some beliefs free from the risk of error can be revived. To illustrate: take some true belief  $b$  that is formed using a divine exemplar. We can assume that  $b$  is true in all nearby worlds, since the divine exemplar is not mutable. Granted, there are other beliefs that are very similar to  $b$  that are formed with mutable natural exemplars, and these beliefs are false in some nearby worlds. But these beliefs will be the products of very different processes than the one that produced  $b$ , since they do not arrive via divine intervention. So divine illumination does eliminate knowledge-destroying risk, since it differentiates the processes which produce some true beliefs from the processes which produce at-risk belief.

This line of response appears promising, but I will argue in closing that there are in fact good independently motivated reasons to refine safety principles in response to somewhat analogous cases. And these refinements will block off the envisaged illuminationist response.

#### 4.1 *Some analogies*

Begin by removing ourselves from a theological context, and consider a case where it appears that there is an analogous case to be made that the token processes that produce true beliefs are sufficiently dissimilar from the processes that produce any nearby at-risk beliefs. Here is one:

GLOW. A prescient neuroscientist is watching a real-time brain scan as you are forming beliefs as to whether it is raining in various distant locations now. (Moreover this neuroscientist is very concerned with your mental state and is watching in all nearby worlds as well.) After you are queried about a particular distant location, the neuroscientist can identify, on the basis of the progression of the brain scan, whether you will form the belief that it is raining at that location or not prior to you actually forming that belief. You have no special insight into the meteorological forecast for any location, so you are more or

less guessing about the matter. But the neuroscientist knows the rain situation for any of the queried locations. And the neuroscientist reliably deploys the following trick: when she sees that you are about to guess the right answer, she presses a button that causes a neurological reaction in your brain that constitutes an imperceptible feeling of a warm glow. When you are about to form a false belief she does nothing. So every true belief is a product of a process that includes the imperceptible glow feeling. And no false belief is a product of such a process.<sup>30</sup>

Here it is fairly clear that you don't know where it is raining (and where it isn't), since GLOW stipulates that all of your beliefs are guesses. So it is a fairly pressing matter to have a diagnosis of why knowledge is absent. Ideally the explanation would proceed by showing why your false guesses in nearby worlds put any true guesses at risk, even if only the true beliefs are produced by token processes that include the imperceptible glow. Of course we should admit that there is a sense in which the causal process leading to true beliefs will be different that any token process which leads to a false beliefs in a nearby world. Safety does not require that the relevant processes be *identical* in order to produce an at-risk belief; only a certain degree of similarity must be reached. So the question is whether the addition of the glow makes the token processes that produce true belief *very* dissimilar from their counterpart processes which lead to false beliefs.

I think there is a strong case that it does not, and will explore the outlines of an explanation for why this is so.

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<sup>30</sup>Here is another:

DEDUCTION LOTTERY. Someone who knows whether it is raining in various locations right now knows that you will draw a ticket at random from a box and come to form a de re belief of the location named on that ticket that it is now raining there. She puts proper names of only places where she knows it is not raining on tickets. And she only puts definite descriptions of places where she knows it is raining on tickets; moreover she puts on such tickets extra identifying information so that you can deduce from the definite descriptions on such tickets the de re fact that it is raining in such locations (e.g., if she knows it is raining in Paris, she puts a ticket that contains 'the capitol of France' and the ancillary information 'Paris = the capitol of France'). She knows that you will always perform the deduction to arrive at the de re belief of such places that it is raining there. So, you will arrive at only true beliefs and no false beliefs via a process of deduction from definite descriptions.

## 4.2 Safety and process manipulation

Why might the token processes that produce true beliefs in GLOW be sufficiently similar to those that produce false beliefs in nearby worlds?<sup>31</sup> The rough answer I will pursue holds that how similar two token processes are depends on the extent to which the differences between the processes are *causally relevant* to the outcome of the processes in question. Differences that are highly relevant to outcome create a high degree of dissimilarity, whereas differences that are causally irrelevant (or not very causally relevant) produce a lower degree of dissimilarity between the relevant processes.

The crucial notion in this proposal is that of causal relevance: processes are overall more dissimilar when their differences are highly causally relevant. This notion could use a substantial amount of elaboration; instead here I will simply make two brief remarks to illuminate the notion I have in mind.

Here is a schematic illustration. Let  $c$  and  $c^*$  be two psychological processes that are nearly identical, except for the fact that  $c$  contains the event  $e$  as a part of its causal chain, whereas  $e$  is absent from  $c^*$ . If  $c$  produces the belief  $b$ , whereas  $c^*$  fails to produce any belief-like episode whatsoever, it follows that  $e$  is highly causally relevant. On the hypothesis I am exploring here,  $c$  and  $c^*$  are thereby highly dissimilar.

This is just a schematic representation of one type of case where causal relevance produces dissimilarity. Here is a more general heuristic: frequently causally relevant factors are also *counterfactually relevant*. That is, if  $e$  is a highly causally relevant component of the causal chain  $c$ , and  $c$  produces the outcome  $o$ , then the following counterfactual is (in general) true:

If  $e$  hadn't occurred, then  $o$  wouldn't have occurred either.

For instance: in a causal chain that begins with my hitting a baseball, and ends with the ball smashing through a window, my swinging the baseball bat is highly causally relevant to the window breaking. The counterfactual relevance claim backs this up: if I hadn't swung the baseball bat, then the window wouldn't have broken.

Again, these counterfactuals are mere heuristics. But the same point as before applies: if two token causal processes differ in whether they contain

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<sup>31</sup>I will assume throughout that the answers to similar questions about DEDUCTION LOTTERY will be analogous.

an even in the causal chain that is causally relevant to the outcome at the end of each chain, then this is good evidence that the two causal chain are highly dissimilar.

I won't elaborate further on the notion of degree of causal relevance here. Instead, I will show that these suggestive remarks entail that the differences in the token processes that produce true beliefs in GLOW do not make these processes highly dissimilar from the token processes that produce false beliefs. This is because the glow-producing effect that accompanies true beliefs is not very causally relevant to the formation of these beliefs.

First, the schematic structure that is characteristic of some highly causally relevant events is not present. If we remove the glow-causing neuroscientist from the causal processes that produce true beliefs about the weather (and hence get causal processes that result in glow-free true beliefs), the outputs of the relevant processes are mostly unchanged. That is, if the beliefs that were the products of a process that included mental glow were true in the original case, then they would still be true in the alternative causal processes containing no glow.

Moreover the glow is not counterfactually relevant in a natural sense. Since the presence of neuroscientist-produced glow does nothing to *produce* a true belief (the scientist merely imparts the glow when she foresees that a true belief will be formed), it is very natural to deny the following counterfactual:

If the neuroscientist hadn't caused glow to accompany one's belief about the weather, then one wouldn't have formed a true belief about the weather.

Both of these points reinforce the suggestion that, even though the token processes producing true and false beliefs in GLOW are strictly *different*, they are not highly dissimilar. The differences that do exist between the

relevant token processes are not highly causally relevant.<sup>32</sup>

There is a straightforward upshot in this for Scotus's epistemic argument against divine illumination. We asked at the beginning of this section whether the illuminationist could respond to Scotus by claiming that not only is there *some* difference between the processes that produce beliefs with divine exemplars and the processes that produce purely natural beliefs, but moreover that the processes are highly dissimilar. If so, even someone who grants anti-risk conditions on knowledge will have to admit that beliefs formed with divine exemplars are not necessary at risk of knowledge-destroying error.

But the explanatory contribution divine illumination will be minimal. When illumination occurs, God provides the intellect with an immutable divine exemplar with which to form a belief. But God's intervention here is not highly explanatory for the overall process of belief-formation. After all, both Scotus and Henry explicitly grant that the created exemplar exists via a process of abstraction. Thus if a belief with a divine exemplar were not formed, a very similar belief which employs the created exemplar would have been formed instead. (In fact it is an interesting question how we can ensure that we regularly use the divine exemplars that are provided to us on Henry's view.) So, given the connection between explanatory relevance and similarity of causal processes, the fact that a particular token process uses a divine exemplar will not contribute much to its dissimilarity from processes that use naturally formed exemplars. (This is analogous to the way in which one process including neuroscientist-induced "glow" does not contribute much to the dissimilarity of those processes with non-glowy

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<sup>32</sup>Here is a simple attempt to formulate a more precise claim about the relationship between causal relevance among items in a causal chain, and the overall similarity between two causal chains. Take two token causal chains,  $c$  and  $c^*$ . We want to know how similar  $c$  and  $c^*$  are overall. This is a function of the contribution of the similarity-conferringness of the properties instantiated by both chains, and the properties instantiated by one chain but not the other. A property  $P$  that is instantiated by both  $c$  and  $c^*$  will in general contribute to the resemblance of two things that instantiate it to degree  $S$ . (We can think of this as the degree to which two spacetime regions that instantiate  $P$ , and which are such that no subregion instantiates  $P$ , resemble each other in virtue of instantiating  $P$ .) Moreover  $P$  will contribute to the causal explanation of the belief at the end of  $c$  and  $c^*$  to some degree—call these  $E$  and  $E^*$ . If  $P$  is instantiated by both  $c$  and  $c^*$ , then, the contribution of  $P$  to the overall similarity between  $c$  and  $c^*$  is (on one way of implementing this idea) the average of  $S \times E$  and  $S \times E^*$ . Thus for example if  $P$  confers lots of resemblance in general but is not important to the causal explanation in either case,  $S$  will be high and  $E$  and  $E^*$  will be low. So  $P$  will not contribute nearly as much to the overall resemblance between the chains as it would contribute to the resemblance between minimal spacetime regions that instantiate it. This is, of course, a very incomplete and preliminary sketch of a full account.

processes.)

This kind of refinement on anti-risk “safety” conditions on knowledge is, if ignored in the existing literature, nonetheless independently motivated. And it bolsters Scotus’s argument against divine illumination, since it supports the claim that beliefs formed with non-divinely supplied exemplars are the products of very processes very much like the processes that produce beliefs containing divine exemplars. These mutability and susceptibility to error in the former kind of belief can therefore prevent the later from constituting knowledge, just as Scotus’s epistemic argument claims. Even God can’t ensure that we have knowledge, simply by implanting exemplars from the Divine Mind in our heads.

## References

- Marilyn McCord Adams. *William Ockham*. University of Notre Dame Press, 1987.
- Deborah L. Black. Knowledge (‘ilm) and Certitude (yaqin) in Al-farabi’s Epistemology. *Arabic Sciences and Philosophy*, 16:11–45, 2006.
- Richard Cross. *Duns Scotus’s Theory of Cognition*. Oxford University Press, 2014a.
- Richard Cross. *The Medieval Christian Philosophers: An Introduction*. I. B. Tardus & Co. Ltd. 2014b.
- Billy Dunaway. Luck: Evolutionary and Epistemic. *Episteme*, Forthcoming.
- Billy Dunaway and John Hawthorne. Scepticism. In William J. Abraham and Fredrick D. Aquino, editors, *Oxford Handbook of the Epistemology of Theology*. Oxford University Press, Forthcoming.
- Edmund L. Gettier. Is Justified True Belief Knowledge? *Analysis*, 23(6): 121–123, 1963.
- John Hawthorne. Aquinas on Faith and Knowledge: Response to Robert Pasnau. In John Marenbon, editor, *Continuity and Innovation in Medieval and Modern Philosophy*. Oxford University Press, 2013.
- Jaako Hintikka. *Knowledge and Belief*. Cornell University Press, 1962.
- Saul Kripke. Semantical Considerations on Modal Logic. *Acta Philosophica Fennica*, 16:83–94, 1963.

- Jon McGinnis. Making Abstraction Less Abstract: The Logical, Psychological, and Metaphysical Dimensions of Avicenna's Theory of Abstraction. *Proceedings of the American Catholic Philosophical Association*, 80:169–183, 2007.
- Jon McGinnis and David C. Reisman. *Classical Arabic Philosophy: An Anthology of Sources*. Indianapolis/Cambridge: Hackett Publishing Co., 2007.
- Robert Pasnau. Henry of Ghent and the Twilight of Divine Illumination. *Review of Metaphysics*, 49(1):49, 1995.
- Robert Pasnau. *Theories of Cognition in the Later Middle Ages*. Cambridge University Press, 1997.
- Duncan Pritchard. *Epistemic Luck*. Oxford University Press, 2004.
- Michael Rombeiro. Intelligible Species in the Mature Thought of Henry of Ghent. *Journal of the History of Philosophy*, 49(2):181–220, 2011.
- Bertrand Russell. *The Problems of Philosophy*. Oxford University Press, 1912.
- Ernest Sosa. How to Defeat Opposition to Moore. *Philosophical Perspectives*, 13:141–153, 1999.
- Elenore Stump. Aquinas on the Foundations of Knowledge. *Canadian Journal of Philosophy*, 21(Supplement 1):125–158, 1991.
- Peter Unger. An Analysis of Factual Knowledge. *Journal of Philosophy*, 65:157–70, 1968.
- Timothy Williamson. *Knowledge and Its Limits*. Oxford University Press, 2000.
- Timothy Williamson. Gettier Cases in Epistemic Logic. *Inquiry*, 56(1):1–14, 2013.
- Allan Wolter. *Philosophical Writings*. Thomas Nelson and Sons, Ltd. 1962.