Buridan and Skepticism

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DESPITE JOHN BURIDAN'S REPUTATION as the foremost Parisian philosopher of the fourteenth century and the predominant role played by his teachings in European universities until well into the sixteenth century,[1] our understanding of his thought in a number of areas remains sketchy. Epistemology is a case in point. Only a handful of studies have touched on this topic over the past five decades,[2] and most of these have been interested not in explaining Buridan's epistemology *per se*, but in sorting out the complex relationship between Buridan's remarks on knowledge and a number of skeptical propositions associated with Nicholas of Autrecourt. Because I feel that this relationship has never been properly understood, and that Buridan's reply to Nicholas is as good a place as any to begin discussing his epistemology, the present study will likewise be addressed to this issue. But it should serve as well to illustrate Buridan's general position on the question of human knowledge, since, as we shall see below, his reply to Nicholas makes no sense unless certain doctrines implicit in his brief remarks are made explicit.

As far as Buridan and Nicholas are concerned, two facts stand in need of explanation: on the one hand, the fact that Buridan and Nicholas were con-

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[1] As the late Jan Pinborg once observed, Buridan's "way of doing philosophy and his main tenets affected all European universities for the next 150 years or more, often to the degree that his works were used as primary textbooks at important courses" (Preface to *The Logic of John Buridan: Acts of the Third European Symposium on Medieval Logic and Semantics* [Copenhagen: Museum Tusculanum, 1976], 7).

[2] See, e.g., Ernest A. Moody, "Ockham, Buridan, and Nicholas of Autrecourt," *Franciscan Studies* 7.2 (June 1947): 113–46, rpr. in Moody, *Studies in Medieval Philosophy, Science, and Logic* (Berkeley: University of California Press, 1975), 127–60; T. K. Scott, Jr., "Nicholas of Autrecourt, Buridan and Ockhamism," *Journal of the History of Philosophy* 9 (1971): 15–41; J. M. Thijssen, "John Buridan and Nicholas of Autrecourt on Causality and Induction," *Traditio* 43 (1987): 237–55. Another group of studies has examined Buridan's epistemology from the standpoint of his logic and theory of demonstration: Scott, "John Buridan on the Objects of Demonstrative Science," *Speculum* 40 (1965): 654–73; Sten Ebbesen, "Proof and Its Limits according to Buridan: *Summulae 8*," *Preuve et raisons à l'Université de Paris: Logique, ontologie et théologie au XIVe siècle*, ed. Z. Kaluza et P. Vignaux (Paris: J. Vrin, 1984), 97–110; Peter King, "Jean Buridan's Philosophy of Science," *Studies in History and Philosophy of Science* 18 (1987): 109–32.

temporaries at Paris, making it improbable that Buridan did not at least have some acquaintance with Nicholas's notorious skeptical theses (several of which were formally condemned in 1346); on the other, Buridan's apparent failure, despite his philosophical reputation and stature at the University, to attempt anywhere in his known corpus of writings a serious, sustained defense of the possibility of knowledge against Nicholas's skeptical challenges. Portions of questions in two different works are thought to contain replies to Nicholas's arguments,[3] but neither discussion seems to do much more than merely gainsay Nicholas's position by rejecting his criterion of certainty. Not surprisingly, commentators have been disconcerted by Buridan's silence on the matter. It has been suggested that Buridan had not read enough of Nicholas's work to understand it,[4] and that his reply may have been directed not against Nicholas but "some anonymous, or perhaps illusive [*sic*], opponents."[5] One commentator even finds in Buridan a "schizophrenic attitude" towards articles of the faith, accounting for his failure to take seriously the implications of divine omnipotence in developing his theory of knowledge.[6]

My aim here is to rehabilitate Buridan by showing that his failure to rebut Nicholas's arguments is part of a broader and perfectly sensible antiskeptical strategy rooted in his theory of evidentness and certainty. I think the appearance that Buridan does little to engage Nicholas's arguments is correct, but not because he was unfamiliar with them. Rather, Buridan thinks that some kinds of skeptical doubt are simply not worthy of philosophical consideration, a view supported by various remarks which, when mapped onto a contemporary theory of epistemic justification, show that it *precludes* any direct reply to the skeptic. One consequence of this is that the dispute between Buridan and Nicholas must be located at a different level than has hitherto been appreciated. Most commentators seem to have been expecting some kind of classical foundationalist reply from Buridan, and proceed to judge his view harshly when they do not find it. But that assumption does not fit well with his writings. My thesis is that Buridan's reply to Nicholas's arguments is most charitably seen in an externalist light, and that his views on justification most closely approximate reliabilism, the theory that the justifiability of a belief is a matter of the reliability of the cognitive process(es) which produced it, where reliability is a contingent (and only *a posteriori* determinable) matter of the way

[3] I.e., QM II.1 and QP I.4. See Julius Weinberg, *Nicolaus of Autrecourt* (Princeton: Princeton University Press, 1948), 54, 189; Moody, "Ockham, Buridan, and Nicholas of Autrecourt" (1975 rpr.), 149–57.

[4] Scott, "Autrecourt, Buridan, and Ockhamism," 35.

[5] Thijssen, "Causality and Induction," 255.

[6] Scott, "Autrecourt, Buridan, and Ockhamism," 36.

those processes operate under normal conditions, or as Buridan is fond of saying, "in the common course of nature."

An initial disclaimer, however. It is not my intention to suggest that there is some undiscovered epistemological agenda lurking within Buridan's writings, or to find in them a remarkable anticipation of contemporary reliabilism. On the contrary, even the most cursory examination of the texts reveals that Buridan is far more interested in explaining *how* we come to have knowledge than he is in exploring the grounds for knowledge claims, an orientation his work shares with most pre-Cartesian epistemology. My concern is rather with how best to interpret what Buridan actually says about evidentness and certainty in response to Nicholas's arguments. I think that once his remarks are viewed from a reliabilist perspective, his reply need no longer appear "largely ineffectual," "uncritical," or "primitive."[7]

After reviewing the main skeptical arguments to be found in Nicholas's writings, I shall focus on the principal texts in which Buridan is thought to have replied to those arguments. I shall then review Buridan's remarks that pertain to the justification of causal knowledge, as well as his defense of induction and sense perception as reliable belief-forming mechanisms. Finally, I shall consider Buridan's treatment of skeptical arguments based on divine omnipotence.

1. NICHOLAS OF AUTRECOURT

The skeptical conclusions drawn by Nicholas of Autrecourt are based on his theory of evidentness (*evidentia*).[8] In his second letter to Bernard of Arezzo, he contends that "the certitude of evidentness has no degrees," and that "except for the certitude of the faith, there is no other certitude except the certitude of the first principle, or that which can be resolved into the first principle" (B: 16.8; 18.9).[9] The principle of noncontradiction is his criterion of certitude: on the one hand, he says, we cannot have certain knowledge of any proposition unless it would be contradictory to believe its opposite; on the other, we cannot be certain of any inferential knowledge unless it would

[7] Ibid., 33–34.

[8] For more comprehensive accounts of Nicholas than the one I present here, see Joseph Lappe, "Nikolaus von Autrecourt," *Beiträge zur Geschichte der Philosophie des Mittelalters* 6.2 (Münster: Aschendorff, 1908); Moody, "Ockham, Buridan, and Nicholas of Autrecourt"; Weinberg, *Nicolaus of Autrecourt;* Anneliese Maier, *Ausgehendes Mittelalter*, Vol. II (Roma: Storia e Letteratura, 1967), 367–418; Scott, "Autrecourt, Buridan, and Ockhamism"; Thijssen, "Causality and Induction"; Marilyn McCord Adams, *William Ockham* (Notre Dame: University of Notre Dame Press, 1987), 607–25.

See n. 30 below for remarks on the proper translation of *evidentia*.

[9] Unless otherwise indicated, all translations in this paper are my own.

be contradictory for the premiss(es) of that inference to be true and its conclusion false.[10]

The consequences of this view are far-reaching, to say the least, and Nicholas is only too happy to enumerate them for Bernard. In his First Letter to Bernard, Nicholas argues that "every appearance we have of objects existing outside our own minds can be false," since the awareness can exist whether or not the object does. For the same reason, "we cannot be certain by the natural light [of reason] when our awareness of the existence of external objects is true or false" (B: 2.2). It follows that there can be "no evident certitude about the existence of external objects," including objects of the five senses (B: 4.2; 8.10). In response to Bernard's suggestion that inferences from appearances to the existence of external objects are valid when the former are naturally caused, Nicholas challenges Bernard to identify those instances in which that is not the case, i.e., when God intervenes in the natural order to impede the effects of natural causes (B: 4.3–6.9).

In his Second Letter to Bernard,[11] Nicholas uses this same criterion of certainty to place the conclusions of Aristotelian metaphysics in jeopardy. From "the fact that some thing is known to exist, it cannot be evidently inferred, by evidentness reduced to the first principle, or to the certitude of the first principle, that some other thing exists," Nicholas argues that "Aristotle never had evident knowledge of any substance other than his own mind, meaning by 'substance' a thing other than the objects of the five senses, and other than our formal experiences" (B: 13.13; 28.22).[12] This is because substances neither appear to us intuitively (since if they did, Nicholas contends, even "rustics" would know that they exist), nor can their existence be inferred from antecedent perceptions (since "from one thing it cannot be inferred that another thing exists," as the above application of the principle states) (B: 28.22). Furthermore, Aristotle did not even have *probable* knowledge of any such consequence, since for that one must be "evidently certain" that the antecedent and the consequent will at some time be true together. But no such certainty is possible. Thus, it is never probable to me that if I put my hand into a fire, I will be hot, since no inferential connection between distinct things, e.g., fire and feeling hot, is ever evidently certain (B: 30.25). Nicholas notes further that the assumption that an omnipotent God may at any time intervene in the

[10] Nicholas presents his criterion as a necessary condition for certainty without actually stating that it is also a sufficient condition. Nevertheless, as Marilyn McCord Adams has noted, "he does not here mention any other necessary condition" (*William Ockham,* 611).

[11] Nicholas makes some of the same points in a letter (also extant) replying to a certain Aegidius (B: 60–72).

[12] By "formal experiences," Nicholas is presumably referring to our ability to form a concept of substance, though cognitions of this sort are without epistemic warrant.

natural order blocks any appeal to the evident reliability of natural processes in the formation of beliefs: "And that we do not possess certitude about any substance conjoined to matter (except for our own soul) is apparent, because when one is pointing to a piece of wood or a stone, this will be most clearly deduced from a single belief accepted at the same time. For by some power, e.g., divine, it can happen that, together with the appearances and prior to any reasoning of this sort, there is no substance there. Therefore, by the natural light [of reason], it is not evidently inferred from those appearances that a substance is there" (B: 30.26). As for Bernard's apparent objection that such consequences can be made evident if we add the antecedent premiss, 'God is not performing a miracle', Nicholas refers to his First Letter's challenge to show how we can be evidently certain when God is intervening in the natural order and when he is not (B: 30.26). Nicholas concludes that "in the whole of his natural philosophy and metaphysics, Aristotle had such [evident] certainty of scarcely two conclusions, and perhaps not even of one" (B: 28.24).

Nicholas draws other skeptical conclusions from his use of the principle of noncontradiction as the criterion of certainty,[13] but the main thrust of his attack is against the claim that we have certain and evident knowledge of causes and substances. Still, as Marilyn McCord Adams has argued,[14] one must be cautious about seeing Nicholas as a medieval Descartes or Hume. For one thing, Nicholas does assume the reliability of human reason. He also states unequivocally that no power, including a divine power, could make contradictories simultaneously true, or make the opposite of the consequent in a valid consequence compatible with its antecedent (B: 16.7). For another, he represents his skeptical conclusions as a *reductio* of Bernard's position, rather than as part of some broader philosophical program to which he himself subscribes (B: 12.14). I think it is clear that Nicholas would not have viewed himself as a skeptic. But that still leaves the interesting question of how Nicholas's arguments actually played in mid-fourteenth-century Paris, since his conclusions have obvious skeptical consequences when lifted from their epistolary context. In Buridan's hands, they are fashioned into several *bona fide* skeptical arguments, including a rather virulent form of skepticism based on divine omnipotence.

2. BURIDAN'S PRESENTATION OF NICHOLAS'S ARGUMENTS

In Book II, Question 1 of his *Questions on Aristotle's Metaphysics*, Buridan considers no fewer than eighteen arguments against the thesis that it is possible for

[13] For example, he argues against Bernard that if (as Bernard assumes) your intellect has no intuitive knowledge of your own acts, then you cannot be certain about the existence of those acts (B: 8.10). Nicholas himself appears to reject this assumption.

[14] See especially *William Ockham*, 607–10.

us to comprehend the truth of things. Most of these arguments point to various ways in which cognitive mechanisms such as sense perception can and do fail naturalistically, causing conflicting or erroneous judgments in the course of their ordinary, i.e., nonmiraculous, operations. Buridan gives many classic examples in this vein: the healthy person judging something to be sweet which the sick person judges to be bitter; the appearance, to a man on a moving ship, that the ship is standing still and the trees on the shore are moving; and the reddish appearance of the sun at dawn versus its whitish appearance at midday (QM II.1: 8ra–b; QDC II.22: 227, 11. 17–22; QDA II.11: 165–67). Nevertheless, he does not see any of these examples (which he sometimes calls *instantia*, or 'counterinstances') as raising doubts about the possibility of knowledge. While he concedes that perceptual judgments are often in error, reliability is restored once the intellect passes judgment on the situation: "I say that if the senses are naturally deluded, the intellect has the power to inquire when a man is and when he is not [in error], and also the power to correct illusory judgments" (QM II.1: 9rb; cf. QNE VI.11: 126vb; QAnPo I.2; QDA II.5: 67; QDA II.11: 172). Thus, the intellect may appeal to other beliefs, more reliably produced, in order to correct the mistaken judgments of sense: it is known, for example, that the presence of a certain humor in the sick man's tongue inhibits his gustatory powers (QM II.1: 9ra; QDA II.11: 169); that judgments of vision are affected by the position of the eye relative to the object(s) seen (QM II.1: 9ra; QDA II.10: 173); and that the refraction and diffusion of light in a mixed medium affects its propagation (QM II.1: 9ra–b; QDA II.11: 173–76). Buridan concludes that none of the naturalistic *instantia* he considers gives us any reason to doubt the possibility of knowledge based on sense perception.

But he also mentions three arguments that look to have been inspired by Nicholas of Autrecourt, two of which correspond directly to objections raised by Nicholas in the Bernard correspondence. First, observes Buridan, (here presenting the skeptical argument):

> as is commonly said, the senses can be deluded, and it is certain that the species of sensible things can be preserved in the organs of sense in the absence of sensibles, as is mentioned in *De somno et vigilia*. And then we judge about what does not exist as if it existed, and so we err through the senses. And the difficulty is greatly augmented by the fact that we believe on faith that God can form sensible species in our senses without the sensible things themselves, and preserve them for a long time. In that case, we judge as if there were sensible things present. Furthermore, since God can do this and greater things, you do not know whether God intends to do this, and so you have no certitude and evidentness [regarding the question] whether there are men before you while you are awake or while you are asleep, since in your sleep God could make a sensible species as clear as—indeed, a hundred times clearer than—what sensible objects could produce. And so you would then judge formally that there are sensible

objects before you, just as you do now. Therefore, since you know nothing about the will of God, you cannot be certain of anything. (QM II.1: 8rb–va; cf. QAnPo I.2)

The possibility of divine interference in the natural order is one of Nicholas's main points against Bernard in the second letter. It renders any appeal to the reliability of cognitive processes moot, for there can be no certainty if God can make me believe that I am perceiving something when I am not, and do so in ways undetectable to me.

A second argument, which reprises a skeptical argument also considered in Buridan's *Questions on Aristotle's Physics,* is based on the thesis that because only consequences reducible to the principle of noncontradiction are evident, the existence of one distinct thing cannot be demonstrated with evidentness and certainty from the existence of another. This thesis is readily applicable to our claim to know causes and effects, as Buridan's version of the argument recognizes: "neither a conclusion nor an effect can be known through a cause, nor a cause through an effect, since a cause is neither essentially nor virtually contained in an effect; nor is an effect known through a cause, since causes are less known to us . . . it seems that we can never have evident [cognition] about one thing through another, since the only evidentness is by reduction to the first principle, which is founded in [the nature of] contradiction. But we can never have a contradiction where two diverse things are concerned" (QM II.1: 8va; cf. QP I.4: 4vb–5ra).

Finally, there is a third argument not found in the Bernard correspondence,[15] though it does closely resemble a skeptical conclusion drawn by Nicholas in his independent treatise, *Exigit ordo executionis.* There Nicholas argues that we can have no certainty about things known by experience, but only what he calls a "conjectural habit" (*habitus conjecturativus*), such as that rhubarb cures cholera or that magnets attract iron.[16] The reason for this is that we can never be certain that those causes will be accompanied by those effects in the future: "when it is proven that certitude [arises] through a proposition at rest in the mind, i.e., that what is produced in many cases by a nonfree cause is its natural effect, I ask what you mean by 'natural cause'. Is it that which has produced [the effect] in many cases in the past, and which will, if it continues

[15] I should perhaps mention that in the text of the *Questions on Aristotle's Metaphysics,* this argument is presented before the argument just mentioned concerning the possibility of causal knowledge. For the record, the arguments I take to have been inspired by Nicholas are numbers 11, 14, and 17 in the series of eighteen arguments given at the beginning of QM II.1. No great significance, of course, should be attached to the particular order in which Buridan presents opposing arguments.

[16] For the Latin text of the *Exigit,* see J. Reginald O'Donnell, "Nicholas of Autrecourt," *Mediaeval Studies* 1 (1939): 179–280 (237, ll. 39–41 for this reference). For the significance of the term *habitus conjecturativus,* see Weinberg, *Nicolaus of Autrecourt,* 70, n. 32.

to exist and be applied, still produce [the effect] in the future? Then the minor premiss is not known. Even if [one assumes] that something has been produced in many cases, it is not certain that it must be likewise in the future."[17]

Buridan's version of this argument focuses on the question of whether universal conclusions can be justified by induction from particular experiences. Inductive inferences are fallacious, it is said, because "experiences only have the force of establishing a universal principle by way of induction from many, and a universal proposition never follows by induction unless every singular of that universal is included, which is impossible" (QM II.1: 8va; cf. QNE VI.11: 127ra; QP I.15: 18vb–19ra; QAnPo II.11). Thus, the conclusion that every fire is hot is unwarranted if it is based solely on experiences of particular fires, each of which has been judged to be hot. It would be warranted only if that judgment has been made as regards each and every particular fire, and, as Buridan puts it, "we know that those are all of them." But no human intellect is ever in that position (QAnPo II.11). Buridan notes further that the validity of inductive inference is not saved by the addition of the clause, 'and so on for the others', since that clause is itself neither known nor certain to the intellect (QAnPo II.11). Thus, our claim to have generalized *a posteriori* knowledge about the world is undercut, a prospect which threatens the possibility of natural science.

As we saw above, the suggestion that Nicholas actually subscribed to a position as radical as the one implied by his arguments in the Bernard correspondence is dubious at best. Though Nicholas's real views are difficult to discern, his arguments are compatible, for example, with the straightforwardly rationalistic demand that all empirical knowledge be founded with deductive certainty on self-evident principles. But it is also clear that regardless of Nicholas's own philosophical views, or his own reason(s) for challenging Bernard's position in the way he does, Buridan sees Nicholas's arguments as having dangerous skeptical consequences. I shall therefore call 'Ultricurian

[17] *Exigit*, 'An omne illud quod apparet sit', Tertia decima conclusio, in O'Donnell, "Nicholas of Autrecourt," 237, ll. 41–47. The Latin text is worth quoting in full: "cum probatur quod certitudo per propositionem quiescentem in anima quae est illud quod producitur ut in pluribus a causa non libera est effectus eius naturalis; quaero quid appellas causam naturalem; vel illam quae produxit praeteritum ut in pluribus et adhuc producet in futurum si duret et applicetur? Et tunc minor non est scita, etsi [etsi/esto] quod aliquid sit productum ut in pluribus; non est tamen certum an sic debeat esse in futurum."

Nicholas might well have been thinking here of Duns Scotus, who not only subscribes to the principle that what occurs in most cases by means of an unfree cause is its natural effect, but also expresses it in a way strikingly similar to the wording used by Nicholas: "tamen expertus infallibiliter novit quia ita est et semper et in omnibus—et hoc per istam propositionem qui est quiescentem in anima: 'quidquid evenit ut in pluribus ab aliqua causa non libera, est effectus naturalis illius causae' " (*Ord.* I, d.3, p.1, q.4, n.235 in *Opera omnia*, ed. P. Carolo Balic, Vol. III [Vaticana: Typis Polyglottis Vaticanis, 1954]: 141–42).

skepticism' (after the Latinized version of Nicholas's name) the position which Buridan takes himself to be opposing in Book II, Question 1 of his *Questions on Aristotle's Metaphysics*. Buridan's versions of Nicholas's arguments reveal its main tenets, viz.: (1) We cannot judge veridically about the existence of any object of the senses, since God could at any moment choose to deceive us in ways we could never detect. And we know nothing about the will of God.[18] (2) Causes and effects cannot be known through each other with certainty, since causes are distinct from their effects. (3) No conclusion reached by induction is certain unless the induction is based on every singular covered by that universal. It is not difficult to see how each tenet can be generated if one insists, as Nicholas does, that we can be certain only of what is equivalent or reducible to the principle of noncontradiction. On that criterion alone, Buridan notes, we could never with certainty infer the existence of one thing from another, for "if A and B are distinct, it would never be a contradiction for A to exist and B not to exist" (QP I.4: 4vb–5ra). The result surely counts as a skeptical position, because although it does not imply that we have no knowledge at all, it does imply that we have a lot less knowledge than we think we have, which is why Buridan wants to reply to it. It is of course possible that Nicholas himself was not an Ultricurian skeptic, but again, since Buridan is replying to Nicholas under the guise of Ultricurian skepticism, Nicholas's own views, whatever they were,[19] are not directly relevant to the debate.

3. BURIDAN'S REPLY TO ULTRICURIAN SKEPTICISM

After examining Buridan's replies to the second and third tenets of Ultricurian skepticism, I shall turn to its first and perhaps most important tenet, as expressed in skeptical arguments based on God's omnipotence and absolute freedom.

a. Causal Knowledge

To the argument that causes cannot be known through their effects, or vice versa, since causes are neither contained in their effects "essentially or virtu-

[18] As we shall see below, this last sentence is crucially important for understanding Buridan's reply to the corresponding skeptical argument.

[19] The scholarly confusion over what Nicholas's views actually were is discussed in William J. Courtenay, "John of Mirecourt and Gregory of Rimini on Whether God Can Undo the Past," *Recherches de théologie ancienne et médiévale* 39 (1972): 224–34. The main problem is that there are simply not enough of Nicholas's writings extant to support confident judgments about the nature of his teachings, the most crucial piece of missing evidence being his *Sentences* commentary. For more recent discussions of Nicholas and the official opposition to his teachings, see Katharine Tachau, *Vision and Certitude in the Age of Ockham* (Leiden: Brill, 1988), 355–52; J. M. Thijssen, "The 'Semantic' Articles of Autrecourt's Condemnation," *Archives d'histoire doctrinale et littéraire du moyen âge* 57 (1991): 155–75.

ally" (ruling out demonstration from effect to cause), or at least as well known to us as their effects (ruling out demonstration from cause to effect), Buridan replies as follows:

> I say that the explanation for effects are known through the cause, since the cause is more known to us than the reason why the effect exists. Likewise, the cause is known through the effect as to the fact that it exists, since the effect bears a certain likeness to the cause. Therefore, it can represent the cause together with the natural inclination of the intellect to the truth. When it is also said that one thing cannot be conclusively known through another, I deny it and say that there are almost infinitely many principles known in themselves or known through sense, experience, or the inclusion of terms, without needing to be demonstrated by [reduction to] the first principle. (QM II.1: 9rb; cf. QAnPo I.2)

Buridan replies in similar fashion to this argument in his *Questions on Aristotle's Physics,* denying that every premiss in a demonstration must be made evident by reduction to the principle of noncontradiction because knowledge is also justified by *a posteriori* principles, which we acquire through sense, memory, and experience (QP I.4: 5vb). Thus, he says, we may evidently conclude the existence of a heart from the existence of a man, once we understand that it is physically impossible for a man to exist without a heart (QP I.4: 6ra).[20]

Likewise, although effects do not essentially or virtually contain their causes, Buridan asserts that they do resemble them, so that we may acquire evident knowledge of causes on the basis of that resemblance together with the natural inclination of our intellect to the truth. But what evidential status does Buridan assign to the uniformity of nature principle? According to one commentator, Buridan's "assumption of the existence of causal routines is in reality an *a priori* assumption," necessary "for maintaining the possibility of induction."[21] Because of this, his account of causal knowledge is said to miss the point of Nicholas's argument completely, which is to question such "gratuitous assumptions about causality."[22] But this interpretation is based on the mistaken assumption that Buridan's view of causal knowledge is similar to that

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[20] Thus, when Buridan remarks elsewhere that the heart "is necessarily constitutive [*de necessaria constitutione*] of a man himself, since he cannot exist without a heart" (QM VII.11: 48ra), he is talking about natural and not logical necessity. The latter cannot be at issue, since it follows from Buridan's conception of divine omnipotence that there would be nothing contradictory in God's choosing to operate outside the common course of nature to preserve the life of a man whose heart had been removed. As he concedes in his reply to skeptical doubts about the veridicality of the senses, "if God operates simply miraculously, it must be concluded that he can" (QM II.1: 9rb).

[21] Thijssen, "Causality and Induction," 255.

[22] Ibid. This is one of the reasons Thijssen suggests that a direct confrontation between Buridan and Nicholas probably never took place.

of Scotus, who regards it as self-evident that causes resemble their effects.[23] The passage quoted above, however, indicates that Buridan departs from this position. The uniformity of nature principle cannot be self-evident for Buridan because he contends that there is only one type or "mode" of universal principle to which the intellect can assent immediately, without experience or demonstration, i.e., those expressed in propositions whose terms have nominal definitions either manifestly including each other, or manifestly excluding each other (QNE VI.11: 127rb).[24] The examples Buridan gives of first-mode principles indicate that this category covers what have come to be known as analytic or definitional truths: e.g., 'Being is being'; 'Whiteness is a color'; 'Man is an animal'; 'Whiteness is not blackness'; 'No rational thing is irrational'; 'Nothing dead is alive'; 'The same thing cannot at the same time both be and not be'; 'It is necessary for each and every thing to be or not be'; 'There is something'; 'Every horse is an animal'; 'Iron is a metal'; and 'No hot thing is cold' (QNE VI.11: 127ra; QM II.2: 9vb; QAnPo II.11).

Universal principles belonging to the second mode, however, have terms whose nominal definitions neither manifestly include nor manifestly exclude each other (QNE VI.11: 127ra). Buridan describes these as follows:

there are also some universal principles that the intellect concedes on the basis of experience with many similar singulars and its natural inclination to the truth: e.g. that every fire is hot, that the sun is a warming agent, that all rhubarb purges bile, that everything produced is produced from something already existing, that every mixture is corporeal, and so on for many natural principles. And these principles are not cognized immediately from the beginning, but we are able to have doubts about them for a long time. But even so, they are called principles because they are indemonstrative and cannot by any means be demonstrated or even proved as the formal conclusion of an argument. Indeed, they are conceded only because we have seen many

[23] Cf. Scotus: "I say that even though one does not experience all singulars, but many, nor experience them at all times, but often, nevertheless one infallibly knows that it is so always and in all cases. This is by means of the proposition reposing in the mind, 'Whatever happens in many instances [*ut in pluribus*] by a nonfree cause is a natural effect of that cause', which is known to the intellect even though its terms have been taken from an erring sense" (*Ord.* I, d.3, p.1, q.4, n.235 in *Opera omnia*, Vol. III: 141–42). Recall that it is Scotus's version of the uniformity principle to which Nicholas apparently objects in the *Exigit*. See n. 17 above.

[24] Buridan appears to have changed his mind about whether the will necessarily assents to propositions expressing first-mode principles. On at least one occasion, he states that such acts of assent are necessary (QNE VI.11: 127rb; cf. ibid. VII.6–7: 142va–144vb), but he elsewhere makes the weaker claim that when the intellect apprehends a first-mode principle, a man is "compelled without necessity" to assent to it "in such a way that he cannot dissent" (QM II.1: 8rb; cf. QAnPo I.2). The latter description, of course, allows for the possibility of deferring judgment by neither assenting nor dissenting. Even Nicholas concedes that "someone could, on the basis of custom or for some other [reason], stop short [*resilire*], so that he doesn't assent indubitably to it, i.e. to the truth of the first principle" (O'Donnell, "Nicholas of Autrecourt," 237, ll. 25–29).

singulars [to be] like that, and we have been unable to find a counterinstance in any of them. (QM II.2: 9rb)

Second-mode universal principles are made evident to the intellect through experiential acquaintance "with many similar singulars," by the process of induction (QM I.8: 7va; QP I.15: 18vb–19ra; QNE VI.10: 127ra; QAnPo II.11; Summulae VIII.5.4).

Buridan clearly regards the uniformity of nature principle as second mode.[25] His reply to the skeptical argument about causal knowledge is based on the assumption that causes are neither essentially nor virtually contained in their effects. If he held the opposite view, we would surely find him rebutting the skeptic by arguing that since causes and effects are not really distinct entities, there is no reason why the existence of one could not be demonstrated from the existence of the other by means of an a priori definitional principle stating their essential connection.[26] It worth noting that Buridan

[25] Moreover, Buridan does not think Scotus's interpretation of the uniformity of nature principle, according to which the actions of causes and effects are to be explained in terms of their specific or generic similarity (a view he associates with Plato), is universally applicable. For in his view, "it is not necessary that the thing made be similar to the maker in either species or nearest genus," since animals are produced from nonanimals by putrefaction, fire is produced by light and by striking a stone together with iron, and the first motion is produced by the prime mover (QM VII.8: 46rb). The most he is willing to concede is that it is necessary for there to be a certain likeness between any given cause and its effect, where 'likeness' is taken "broadly and figuratively [*large vel improprie*]," as referring "not to some quality, but only to a certain agreement belonging properly to the agent as regards the effect [*non pro eadem qualitate, immo solum pro quadam appropriata convenientia agentis ad effectum*]." But Buridan sees the latter agreement as applying only to particular causal events, i.e., to "the concurrence of singular passive dispositions and agents," and not to causation in general. Furthermore, he does not regard it as an a priori principle on the basis of which one can arrive at evident knowledge of causes and effects. The likeness which explains a causal event, be it specific, generic, or a matter of "a certain agreement," is still knowable only by experience.

This interpretation of the uniformity of nature principle can also be found in Buridan's psychology, where he argues that no generic or specific similarity between cause and effect suffices to explain sense perception. In the case of vision, for example, he notes that "the species of colors in the eye and the representation of color in the imagination or intellect do not seem to be of the same or of a similar nature, nor of the same kind and species [*non videntur esse eiusdem vel consimilis naturae, nec eiusdem rationis et speciei*]" (QDA II.18: 261; cf. QDA II.6: 77).

[26] Thus, following Buridan's model of first-mode principles, one might argue that the existence of a cause is implied by and contained in the very idea of an effect, a view famously attacked by Hume in *Treatise* I.iii.III.

Buridan may look to be headed in this direction as far as the demonstration of effects from causes is concerned, since he states at least once that the existence of an 'actual' cause is sufficient for the existence of its effect, so that the effects of such causes may be posited of necessity. But he adds that a cause is only called 'actual' when it is "taken together with some other causes or circumstances": e.g., fire is the actual cause of burning only if it is sufficiently close to a combustible object that lacks the power to resist being burned (QAnPo. II.9; cf. QM V.6: 30va; QM VI.5: 35vb; cf. also Arist. *Phys.* II.3.195b16–17). But these sufficiency conditions also suffice to block any attempt to demonstrate the existence of effects from causes a priori, since their satisfaction is

elsewhere shows no hesitation in appealing to the principle of noncontradiction under the appropriate circumstances. In his reply to this skeptical argument in the *Questions on Aristotle's Physics,* he begins by pointing out that it is possible to demonstrate the existence of something by reduction to the first principle, if the consequent of the demonstration contains an existential claim implied by the antecedent (QP I.4: 5vb; cf. QM IV.9: 19vb). But he employs no such strategy here to defend our claim to have causal knowledge.

But if beliefs about causal relations are justified only if the intellect is justified in assenting to inductive generalizations about them, then the skeptical problem about causal knowledge turns out to be a special case of another skeptical problem, i.e., concerning induction, to which Buridan offers a separate reply.

b. Induction

To the argument that inductive inferences are fallacious because "experience is not valid for concluding to a universal principle," Buridan replies as follows:

> I say that this is not an inference on the basis of the form, but the intellect, predisposed by its natural inclination to the truth, assents to the universal principle by experiences. And it can be conceded that experiences of this sort are not valid for absolute evidentness, but they are valid for the evidentness that suffices for natural science. And with this there are also other principles [arrived at] from the inclusion or opposition of terms or propositions, which do not require experiences, as is the case with the first principle. Indeed, it is evidently true that a chimera exists or does not exist; that a goat-stag exists or does not exist; and that man is an animal, if the signification of the terms is known. (QM II.1: 9rb; cf. Summulae 8.5.3)

This reply concedes that no inductive inference is absolutely evident. But Buridan rejects reduction to the principle of noncontradiction as the sole criterion of certainty. Behind this claim lies his theory of evidentness.[27]

Buridan indicates that all knowledge or *scientia* must satisfy three conditions: assent, evidentness, and truth. Assent and evidentness, however, come in degrees, some of which fail to yield knowledge: "it must be noted that certitude and evidentness are required for knowledge. And there are two further requirements, namely, certitude of truth and certitude of assent. I say 'certitude of truth' first, because if we assent most firmly and without any hesitation to a false proposition, as heretics do, who would sometimes rather

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evident only a posteriori, or as Buridan would say, through the evidence of sense, memory, and experience: e.g., we can only tell whether or not a piece of wood is dry enough to burn by examining it. So it is not surprising that this argument does not form part of Buridan's reply to skepticism about causal knowledge.

[27] The details of this theory are discussed in QM II.1: 8vb–9ra; QAnPo I.2; QP I.15: 18vb–19ra; QNE VI.11: 126ra–127vb; and Summulae 8.5.

die than deny what they have assented to, there is still no knowledge on account of assent of this kind, since it lacks truth, and the certitude and firmness of truth" (QAnPo I.2; cf. QM II.1: 8vb). Buridan defines belief as the disposition to assent to an appearance or state of affairs apprehended by the intellect.[28] The cognitive act "through which we assent or adhere to a true proposition" is then proposed as one of the means through which it is possible for us to comprehend truth (QM II.1: 8vb).[29] Assent is a necessary condition for knowledge because, as Buridan observes, "we can have doubts about a proposition of the most firm and certain truth, and thus not assent to it firmly, and so in that case we would have no knowledge of it" (QAnPo I.2).

But in addition to assent and truth, knowledge must also meet the requirement of evidentness, for evidentness is what separates known propositions from those that are merely believed.[30] The latter category includes propositions expressing opinions, which can be true, and those expressing articles of the faith, which must be true. We cannot know such propositions because in neither case do we assent "on the basis of the evidentness [*per evidentiam*]." The assent we give to opinion is said to be "derived by human reason from the senses," whereas that which we give to articles of the faith arises from an act of the will, "on the authority of sacred scripture alone" (QAnPo I.2; cf. QM II.1: 8rb).

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[28] QDA III.16: 181, ll. 123–24: "opinio est habitus assentivus, omne enim quod opinamur assentimus, si proponitur." Cf. QAnPo I.32; QM II.1: 8vb–9ra; QNE VI.6: 122ra.

[29] For Buridan, the comprehension of truth comes to "nothing other than the comprehension of a true proposition." Besides the act of assenting to a true proposition, this can also be understood as "the formation or existence of a proposition in the mind," or "the true proposition itself" (QM II.1: 8vb).

[30] Some commentators persist in translating *evidentia* as 'evidence' despite the fact that Buridan understands *evidentia* more narrowly as a way of being appeared to, i.e., as the quality or condition appearances have of *being evident*, rather than more broadly as the ground/reason used to justify beliefs. Indeed, if *evidentia* were not a quality of this sort, it could not be a proper object of the assenting or dissenting judgmental dispositions Buridan takes to be definitive of belief. In Buridanian terms, we would express the distinction by saying that the evidentness of an appearance is evidence that our assent to it is justified. Cf. Cicero, who introduces the Latin term *evidentia* (along with *perspicuitas*) in philosophical contexts to translate the Greek term *enargeia* (*Ac. Quaest.* 2, 6, 17), *testimonia* being the preferred term for proof or grounds. Current usage of the English word 'evidence' blurs the distinction, of course, though it is interesting to note that 'evidence' did not come to mean the condition of being evident until the seventeenth century. Hume, for example, is obviously thinking of evidentness when he remarks, "Though there never were a circle or triangle in nature, the truths demonstrated by Euclid would for ever retain their certainty and evidence" (*Enquiry* IV.1).

One might wonder how construing *evidentia* as a quality of appearances is compatible with the claim that Buridan's epistemology also has externalist features, but this would pose a problem only if Buridan holds that evidentness of an appearance is the only circumstance relevant to the justification of its corresponding belief/judgment, which he does not. As we shall see, not all evident judgments are justified: e.g., my evident judgment while dreaming that Socrates is standing before me.

Buridan states further that there are three kinds of evidentness pertaining to acts of assent,[31] two of which figure in his reply to Ultricurian skepticism.[32] First, there is absolute evidentness, which commands our assent immediately, such that "a man is compelled without necessity, on the basis of sense and intellect, to assent to a proposition in such a way that he cannot dissent from it" (QM II.1: 8rb; cf. QAnPo I.2).[33] This is the sort of evidentness we have for the principle of noncontradiction, and indeed, for any first mode principle. As Buridan says, our assent to such propositions does not require experience, since they are evident as soon as they are put forward in the intellect and the signification of their terms is known (Summulae 8.5.3; cf. QM II.1: 8vb; QAnPo I.2).

Second, there is relative evidentness (*evidentia secundum quid*), or evidentness on the assumption (*evidentia ex suppositione*).[34] We are told that this

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[31] The fields of inquiry to which Buridan applies each of his degrees of evidentness correspond to Aristotle's threefold division of problems and propositions into those concerned with ethics, natural philosophy, and logic (see *Topics* I.14.105b19–26).

[32] There is also a third, weaker kind of evidentness, which suffices for acting morally well, "even though the judgment [on which our action is based] is false, due to invincible ignorance of some circumstance" (QM II.1: 9ra). But evidentness of this sort concerns standards of rationality in practical judgment rather than standards of knowledge in scientific judgment. Buridan says, for example, that it is possible for a judge to act well and meritoriously in hanging an innocent man, provided witnesses and other evidence make it sufficiently apparent to him that the man is a murderer (QM II.1: 9ra). It is in the hope of providing formal criteria for such judgments that Buridan elsewhere speaks of the need for a "moral logic" to govern reasoning in the practical sciences (QNE Proemium: 2rb).

King argues that in practice, the same evidentness considerations that apply to moral judgments will also apply to scientific judgments, which are supposed by Buridan to exhibit the stronger variety of relative or *secundum quid* evidentness; thus, Buridan "gives up the question of truth for physical principles, offering instead a theory of warranted assertibility" ("Buridan's Philosophy of Science," 125–28). As will become clear below, I disagree with King's interpretation, since, quite apart from the question of divine intervention in the natural order, Buridan does think that *external* conditions pertain to the justification of scientific judgments, whereas the criteria for acting "well and meritoriously" are fully internal, i.e., based on evidence one is consciously aware of when the judgment is made. Thus, Buridan's judge may be praised from a prudential point of view for hanging an innocent man, even though he is not in what we would now describe as a "strong epistemic position." The judge may, for example, nonculpably believe that the legal traditions of his community are authoritative as regards the guilt of the condemned man, even though that may be a very poor reason for believing that he is guilty. For discussion of this and related problems with deontological conceptions of epistemic justification, see William P. Alston, "Concepts of Epistemic Justification," *The Monist* 68 (1985): 57–89.

[33] Although Buridan may have changed his mind on this point. See n. 24 above.

[34] As we shall see, the assumption in question is that the common course of nature holds. I have avoided translating *evidentia ex suppositione* as 'conditional evidentness' or 'hypothetical evidentness', however, since Buridan refuses to make the corresponding claim that scientific judgments are only conditionally or hypothetically necessary. Instead, in what represents a significant departure from Ockham, he dusts off the notion of natural supposition from thirteenth-century logic to give truth conditions for propositions expressing scientific judgments. See QNE VI.6: 122vb; QAnPo I.16; Maria Elena Reina, "Giovanni Buridano: *Tractatus de suppositionibus*," *Rivista*

kind of evidentness "would be observed in entities in the common course of nature. And in this way, it would be evident to us that every fire is hot, and that the heavens are moved, even though the contrary is possible through God's power" (QM II.1: 8vb–9ra). To this Buridan adds the same qualification we find accompanying his reply to the skeptical argument about induction, i.e., that relative evidentness, or evidentness on the assumption that the common course of nature holds, suffices for the principles and conclusions of natural science.

To absolute and relative evidentness there correspond different levels or degrees of certainty. Absolutely evident principles afford us the highest degree of certainty and the only degree accepted by Nicholas in the Bernard correspondence: certainty of the principle of noncontradiction, or that which can be reduced to it. Absolutely evident principles meet this requirement because it would be contradictory to believe the opposite of propositions whose terms have nominal definitions manifestly including each other, such as 'Whiteness is a color', or conversely, to believe propositions whose terms have nominal definitions manifestly excluding each other, such as 'Whiteness is not blackness'.

The principles and conclusions of natural science also afford us certainty, but in a degree that is less than absolute. It is here that Buridan takes his stand against Nicholas's single criterion of evidentness and its consequences in the form of Ultricurian skepticism. Second-mode principles such as 'Every fire is hot' and 'The sun is a warming agent' are expressed in propositions not reducible to the principle of noncontradiction, and such principles, he says, are evident not absolutely, but relative to the assumption that they "would be observed in beings in the common course of nature" (QM II.1: 8rb).[35]

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critica di storia della filosofia 12 (1957): 206, ll. 231–42. See also, for discussion (of the history of doctrine) L. M. de Rijk, "The Development of *Suppositio naturalis* in Mediaeval Logic," *Vivarium* 9 (1971): 71–107; 11 (1973): 43–79; "The Origins of the Theory of the Properties of Terms," *The Cambridge History of Later Medieval Philosophy*, ed. Norman Kretzmann, Anthony Kenny, Jan Pinborg (New York: Cambridge University Press, 1982), 168–70; (of the doctrine as used by Buridan) Scott, "Buridan on the Objects of Demonstrative Science," 669–73; King, "Buridan's Philosophy of Science," 119–21.

[35] Although God's miraculous action is the only source of *secundum quid* judgmental error mentioned in QM II.1, Buridan elsewhere shows much interest in the question of how scientific judgments go wrong in practice. For one thing, he says, although we naturally assent to 'Every fire is hot' and 'The sun is a warming agent', "this must be understood [in every demonstration in which those principles appear]: 'if no impediment occurs'." Impediments are part of the natural order, occurring when natural phenomena are prevented from turning out as nature intended because of deficiencies in matter or interference by other agents. Thus, Buridan explains, plants are sometimes destroyed by heat, cold, or wind before they bear fruit; the fetus of an organism can die *in utero;* and some creatures are born with eyes that will never see or feet that will never walk. Buridan discusses the extent to which nature can be impeded in QDA III.19: 211–12 (from which these examples are taken), and QP II.12: 38vb.

Returning to the problem of induction, how can our assent to such principles as 'Every fire is hot' be warranted unless it is based on "every singular of that universal"? Buridan denies that induction alone is sufficient to cause the intellect to assent to second-mode principles (QNE IV.11: 126vb). The reason is that induction does not reach conclusions universally, or on account of the form (*gratia formae*).[96] It is in this connection that Buridan posits "a certain innate power in us, naturally inclined and determined to assent to the truth of principles, if they have been properly presented to it, just as fire is naturally inclined to burning when it has been placed next to something combustible. And that innate power in us is the human intellect" (QAnPo II.11; cf. ibid. I.2; I.12; QM I.5: 6ra; I.8: 7va; QP I.15: 18vb–19ra; QNE VI.10: 127ra; cf. also Arist. *An. post.* II.99b20 ff.). Buridan's idea is that our knowledge of second-mode principles is produced by (1) an inductive inference based on the particular evidence of sense, memory, and experience; and (2) the act of assenting to the universal proposition arising from that inference. In practice, the process of knowing begins when induction presents empirical generalizations to the intellect. Then, if there are no counterinstances or other reasons for deferring judgment, the intellect naturally assents to those which are true. Under those conditions, Buridan speaks of the intellect as "rising up to assent" to universal propositions such as 'Every fire is hot', and even as being "compelled by its natural inclination to the truth to concede the universal proposition" (QM I.8, f. 7va; cf. QP I.15, f. 19ra).

Buridan thus agrees with the skeptical argument that no absolutely universal conclusion follows by induction unless the induction is from every singular covered by that conclusion, "and it is known that those are all of them" (QAnPo II.11). Accordingly, he concedes that "induction is not sufficient to determine the intellect [to assent] unless the intellect is of its own nature so inclined and determined." But even so, we are not naturally disposed to assent to principles unless our intellect has first been primed by particular experiences. Buridan states that before they can be known, second-mode principles "first need the judgment of sense, both by memory and experience. For example, the intellect does not immediately concede that every fire is hot and that all rhubarb produces bile. That is why it would not be known by your intellect whether every fire is hot, if we suppose that you had never seen a fire, or if you had seen one, you did not touch it. Therefore, it must be firmly conceded that as far as this sort of principle is concerned, the intellect needs sense,

[96] Again, for the reason that it is not possible to experience every singular covered by an inductive generalization. In the case of 'Every fire is hot', no one can bring all singular fires into account, since no one can touch all of them, and know that those are all of them. See QAnPo II.11; cf. QM I.8: 7va; QP I.15: 18vb–19ra; QNE VI.11: 127ra.

memory, and experience first, in such a way that you first cognize by sense that this fire is hot, and consequently, the intellect immediately judges fire to be hot" (QAnPo II.11; cf. QM I.8: 7va; QP I.15: 18vb–19ra; QNE VI.11: 126vb–127ra). In other words, there can be no knowledge that all fires are hot without at least some acquaintance with particular fires, which is why Buridan claims that "actual knowledge of principles is not innate in us, but acquired" (QAnPo II.11).

But if induction alone "does not causally constitute an intellective cognition, nor its certitude" (QNE VI.11: 126vb), neither does the intellect's natural inclination to assent to truth. It is tempting to follow one commentator in supposing that this "natural inclination" is intended by Buridan to justify induction,[37] if only because Buridan's own remarks on the way in which the mind recognizes truth also have an Augustinian ring to them.[38] This natural inclination is taken, for example, to explain the observed fact that everyone immediately assents to first principles, i.e., those principles that are equivalent or reducible to the principle of noncontradiction, and dissents from their opposites (QM I.5: 6ra).[39] We assent to 'Whiteness is a color' as soon as we see that the nominal definitions of its constituent terms manifestly include each other. We are then said to know such propositions because our assent to them

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[37] See, e.g., Thijssen, "Causality and Induction," 248: "for Buridan the ultimate ground for justifying the truth of the inductively known principle was an '*inclinatio naturalis ad veritatem*'."

[38] See, e.g., *Enchiridion* 17 (tr. Dods): ". . . error in the soul is hideous and repulsive just in proportion as it appears fair and plausible when we utter it, or assent to it, saying, 'Yea, yea; Nay, nay'. . . . Yet so much does a rational soul shrink from what is false, and so earnestly does it struggle against error, that even those who love to deceive are unwilling to be deceived" (*The Essential Augustine*, ed. Vernon J. Bourke [Indianapolis: Hackett, 1974], 41–42). Cf. Buridan, QM I.5: 5vb: "man as regards his intellect naturally desires to know, since each and every natural being desires and is inclined towards its perfection." According to one view, Buridan says, the capacity to assent to truth is not acquired by the intellect, but "naturally implanted" in it: some call this capacity the agent intellect; others, such as Averroes, refer to it as "the intelligible light," created by the divine intellect in the human soul at the same time as the soul (QNE VI.11: 127rb). On another view, this capacity is an acquired habit identified with actual or habitual knowledge (QNE VI.11: 127rb–va). Buridan himself opts for the first view, but sees no need to posit an intellectual light infused from above, apart from the agent intellect which, according to Aristotle in *De anima* III.5 (430a15–16), is like a light with respect to the objects of our act of understanding (QNE VI.11: 127va).

[39] Buridan notes elsewhere that the immediacy of assent should not be confused with immunity from doubt, especially where uneducated persons are concerned. He relates on three different occasions an anecdote in which he asks some old women whether "they can be sitting and not sitting at the same time" (QM II.2: 9vb)—or "running and not running" (QM IV.12: 21va); "eating and not eating" (QNE VI.11: 127vb) (he appears to have tried this several times)—to which they all immediately reply in the negative. But when Buridan mentions God's omnipotence and ability to annihilate the entire world, asking them rhetorically, "Surely you believe that God could do this [i.e., cause you to be sitting and not sitting]?" their reply is "We don't know: God can do everything, and it must be believed that God can do the impossible." See also n. 52 below.

is based on their evidentness, which is in this case absolute or unqualified. But no evident assent follows our understanding of second-mode principles because the nominal definitions of their constituent terms neither include nor exclude each other. Rather, our evident assent to such principles is caused from without, through judgments based on sense, memory, and experience. Thus, although it is possible for the intellect to assent to 'Every fire is hot' before being acquainted with particular hot fires, that proposition would not be known by it, since its assent would be based solely on an act of the will, and not on the evidentness of the proposition.[40]

The hypothesis that the intellect's natural inclination to the truth suffices to make our beliefs certain also does not explain the fact that it is possible to be in error about even evident acts of assent. For even assuming the common course of nature, Buridan contends that assent based on the evidence of books and teachers is more prone to error than that based on direct acquaintance with the objects of our belief.[41] Furthermore, he agrees with Aristotle that the firmness of assent is no mark of knowledge, since some people "do not hesitate, but think they know exactly," based on reasons they only believe to be evident (QAnPo I.2; cf. Arist., *Nic. Ethics* VII.3.1146b25). Finally, he notes that it is possible to draw mistaken inferences from the natural experiences that make our assent to scientific propositions evident. "Although poor and insufficiently examined experiences often lead to error," he says, "much experience well examined in a wide variety of cases never leads to error" (QAnPo I.2).

But if neither inductive inference nor the intellect's natural inclination to assent to truth suffices to make our assent to second mode principles certain, the only candidate left would appear to be both capacities working in tandem. And herein lies Buridan's justification of our claim to know such principles. Our knowledge of 'Every fire is hot' or 'The heavens are moved' is justified because the intellect, together with the evidence of sense, memory, and experience, is a reliable detector of the truth of propositions expressing second-mode principles. Moreover, Buridan clearly regards the reliability of induc-

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[40] Buridan recognizes that people often assent to propositions (e.g., those expressing articles of faith) which are evident to them neither absolutely nor assuming the common course of nature (QM II.1: 8vb; QAnPo I.2).

[41] The direct acquaintance of the knower with the object known is an extremely important principle in Buridan's theory of scientific knowledge. He denies, for example, that scholars who have only heard or read that rhubarb cures or purges bile have certain knowledge (*certa scientia*) of that principle, since "teachers are capable of saying what is false and even textbooks may contain falsehoods" (QM I.8: 7va; see also Ebbesen, "Proof and its Limits," 103). Buridan seems here to be following Augustine, who concedes in *De magistro* xi.37 that he "must believe rather than know" about the men who "vanquished King Nebuchadnezzar and his fiery furnace by their faithfulness and religion," since his acquaintance with that event is through written records rather than by his own direct experience.

tion and assent as something that cannot be settled a priori, but that depends upon contingent facts about both human cognition and the nature of the external world.

Buridan's reliability claims fall into two general categories. First, he argues that while not infallible, intellectual judgments of assent do tend to produce beliefs that are free from doubt and error. The disposition to assent to truth helps secure the reliability of such judgments: "in connection with second-mode principles, there is evidently no doubt that in order to state the truth promptly, easily, and firmly, we need an acquired disposition [to assent to the truth] in addition to the [assenting] power of the intellect, since a power dealing with things in connection with which it is naturally suited to guide and never err is not sufficiently determined, on its own, without a supplementary disposition to guide firmly, promptly, and easily, and never err" (QNE VI.11: 127rb). Buridan then argues for the reliability of this added disposition on a posteriori grounds. In the case of scientific knowledge, we all know by experience that the intellect's inclination to assent to inductive generalizations is stalled as soon as it apprehends a counterinstance (*instantia*), or sees some other reason for deferring judgment.[42] For example, its inclination to assent to 'All swans are white' would be blocked by the appearance of a black swan, or it would at least defer judgment upon reading or hearing accounts of black swans. Buridan's view is that while sense and intellect have the power to apprehend similarities in sensible particulars and group them together by means of induction, no knowledge is produced unless the intellect itself judges which of those collections represent principles.

Second, Buridan argues that the particular sense perceptions upon which inductive generalizations are founded are reliably produced.[43] We are not deceived, he says, if our senses are at an appropriate distance from their objects, if the medium of sensation is clear, and if our sense organs are properly disposed (QDA II.11: 169).[44] Furthermore, as we saw above, we can also

[42] Thus, the intellect assents to induction "when it sees no reason why it should not be so in all of the others" (QNE VI.11: 127ra; cf. QM II.2: 9vb; QP I.15: 19ra; QAnPo I.2; I.12; II.11). Likewise, principles of natural science are not demonstrably or absolutely evident, but are rather made evident by induction, "through which the intellect, not seeing a counterinstance [*instantia*], or any reason for deferring judgment [*ratio instandi*], is compelled by its natural inclination to the truth to concede the universal proposition" (QP I.15: 19ra).

[43] This is important for Buridan to establish, since he argues that the senses are good for us in two ways (QM I.6: 6ra): "first, for the care [*procuratio*] of what is necessary and also useful in this life; second, for cognition and knowledge, since none of our intellective concepts can be produced in us without the aid of the senses [*sine ministerio sensuum*]."

[44] Buridan indicates that he is in general agreement with the reliability conditions for sense perception proposed by Themistius, but he rejects the idea that it is ever possible to judge infallibly, or "with perfect certitude [*cum perfecta certitudine*]," about proper sensibles, since that would require that the sense organ, intervening medium, and object of sensation all be perfectly

know when each of these external conditions has been satisfied: we know that sense perception becomes less reliable the farther its objects are from the actual organs of sense (QDA II.11:169);[45] that because vision is ordinarily disposed to see any color at all, placing a colored glass between the eye and the object of vision will make color judgment unreliable (QM I.7: 7ra; QDA II.11: 174); and that certain illnesses can affect the disposition of bodily humors and hence the judgmental capacity of physical organs.[46] In short, Buridan finds no reason within the natural order to suppose that inductive inference, together with the intellect's natural inclination to the truth, does not justify our claim to have scientific knowledge.

c. Perceptual Knowledge and Divine Omnipotence

Buridan replies to the skeptical argument about sensory delusion and the possibility of divine interference in the natural order by first noting, as we saw above, that the intellect has the power to correct illusory sensory judgments, provided the source of error is also part of the natural order. But he concedes that it is not possible to correct for errors that have a supernatural cause: "if God operates simply miraculously, it must be concluded that he can [do so]; and so there is only evidentness on the assumption [viz., that the common course of nature holds] which, as was previously stated, is sufficient for natural science" (QM II.1: 9ra). Of course, if God could produce in me a cognition of something that does not actually exist, causing me to affirm mistakenly that it does, our entitlement to treat the ordinary operations of sensory and intellectual cognition as justifying knowledge claims would seem to be destroyed. Nevertheless, Buridan insists that at least in the natural sciences, belief claims

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disposed—something which almost never happens, or if it does, happens only, as Buridan nicely puts it, "*in tali momento*." He prefers to say that while not infallible, judgments about proper sensibles such as black or white, sweet or bitter, and so on, under the proper (not perfect) circumstances, are "certain and without any defect [*certe et sine aliquo defectu*]." Accordingly, he interprets Aristotle's remark in *De anima* II.5 (418a12) about the impossibility of error with respect to the proper sensibles as a claim about the degree to which they produce error relative to accidental sensibles: we are never completely mistaken about proper sensibles; about accidental sensibles, however, it is possible to be mistaken "not only in a few [degrees] or in part, but completely [*contingit non solum in pauco vel in parte sed in toto errare*]." This would be the difference between being mistaken about a shade of color and mistaking bile for honey, or copper for gold. See QDA II.11: 170–72. For Themistius's reliability conditions, see *Thémistius: Commentaire sur le traité de l'ame d'Aristote*, ed. G. Verbeke (Louvain: Publications Universitaires, 1957), 132–33.

[45] Buridan treats the existence of something in the prospect of the perceiver as the paradigm case of perceptual reliability, claiming that the existence of some entity manifestly appearing before us "could not be proven more evidently than by the fact that it appears in the prospect of sense [*in prospectu sensus*]" (QAnPo I.4). Likewise, he argues that we know the existence of motion, colors, and the stars more evidently by sense than by reason (QM IV.12: 21vb).

[46] These examples suggest that Scott is mistaken in claiming that Buridan does not mention any means for correcting erroneous sensory judgments ("Autrecourt, Buridan, and Ockhamism," 34).

that are not absolutely evident are still justified. How is this a reply to Nicholas's argument?

There is one kind of response to skeptical doubts about perceptual knowledge easily constructed from an epistemological theory that was both known and defended in fourteenth-century Paris, but to which Buridan did not himself subscribe. This is the direct realist view that there are certain sensory and/or intellectual states through which we are directly and noninferentially aware of the existence of external objects. For example, although neither employed it to rebut skepticism, both Scotus and Ockham maintained that there is an unmediated act of sensory or intellectual apprehension, the intuitive cognition, which produces an evident judgment of existence when its object exists, and of nonexistence when it does not.[47] These judgments are evident because the cognitions from which they are formed are caused in the natural order only by objects that exist and are present to the cognizer.[48] It is accordingly possible to have evident knowledge of contingent things whenever the intellect assents to propositions whose terms stand for intuitively apprehended objects.

Buridan, however, cannot take this route. Although his psychology posits an act of simple apprehension, the singular cognition of something as present to the senses (QM VII.20: 54va; cf. QP I.7: 8vb; QDA III.8: 75–79), it will not work against the skeptic. The reason is that it fails to be veridical even within the natural order, for we can experience this most evident act of cognition even while dreaming. Buridan is well aware of the implications for veridi-

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[47] For Scotus, see *Quodl.* q.6, a.1; q.7, a.2; q.13, a.2 in *God and Creatures: The Quodlibetal Questions*, tr. F. Alluntis and A. Wolter (Princeton: Princeton University Press, 1975), 135–37 (6.18–19); 162–72 (7.9–38); 290–96 (13.27–47). For Ockham, see *Ord.* I, Prologue, q.1, a.1 in *Opera Theologica I*, ed. G. Gál and S. Brown (St. Bonaventure: The Franciscan Institute, 1967), 31.

Scotus indicates that our knowledge of the existent as such may be either sensory or intellectual (*Quodl.* q.13, a.2 in *God and Creatures*, 290–91 [13.27–28]). Likewise, Ockham says that we can intuitively cognize both sensible particulars and particular mental acts, such as the acts of belief and love that are elicited from the dispositions of faith and charity, respectively (*Ord.* I, Prologue, q.1, a.6 in *Opera Theologica* I: 69).

How did Scotus and Ockham view skepticism? Scotus was concerned to reply to Academic skepticism, but only insofar as he took the views of Henry of Ghent to have the same consequences. But even so, his dialectical strategy is to reject the skeptics' criterion of certainty, rather than reply to their arguments on a point-by-point basis (see *Ord.* I, d.3, p.1, q.4, nn.229–45 in *Opera omnia* III: 138–48). And as for Ockham, there is simply no good evidence that he was interested in refuting skepticism, or even aware of some of the skeptical consequences of his own views. For further discussion of Scotus and Ockham on this issue, see Adams, *William Ockham*, 572–601; John Boler, "Intuitive and Abstractive Cognition," *The Cambridge History of Later Medieval Philosophy*, 469–75.

[48] According to Ockham, experience certifies our capacity to cognize intuitively (*Ord.* I, Prologue, q.1, a.1 in *Opera theologica* I: 23), though the epistemic picture is complicated by his admission that God could cause us to have an intuitive cognition of a nonexistent object. See Boler, "Intuitive and Abstractive Cognition," 467–70.

cality: "often those concepts [of dream-objects] are fictitious, because they do not have a consistent correspondence to any external thing, for there is no absurdity in there being fictitious singular concepts, just as there are fictitious common concepts" (QM VII.20: 54va; cf. QP I.7: 9ra). No criteria are offered, however, for distinguishing dreaming from waking states, nor does Buridan appear sensitive to the difference between fictitious dream-objects, such as chimeras, and dream-objects which could actually be present to my senses as objects of waking singular cognitions, such as Socrates or Plato.

This points to an important difference between Buridan's singular cognition of something as present to the senses, and intuitive cognition as defined by Scotus and Ockham. Intuitive cognition is the direct, unmediated awareness of an object as present to the senses or intellect, whereas Buridanian singular cognition is an *indirect* operation through which the intellect or sense apprehends an object by means of a species representing it. In Buridan's view, both sensory and intellectual singular cognition must occur through the medium of a species: "although exterior sense cognizes Socrates, or whiteness, or white, this is only in connection with a species representing it confusedly with the substance, the whiteness, the magnitude, and the location in which it appears in the presence of the person cognizing it. And sense cannot sort out this confusion: i.e., it cannot abstract the species of substance, whiteness, magnitude, and the location from each other, and so it can only perceive the whiteness, or the substance, or the white in the manner of something existing in its presence. Therefore, it can only cognize the aforesaid things singularly" (QDA III.8: 76, 11. 308–17). "I say that when the intellect receives the species or intellection of Socrates from the phantasm with this kind of confusion of size and location, making the thing appear in the manner of something existing in the presence of the person cognizing it, the intellect understands him in a singular manner" (QDA III.8: 79, 11. 391–95; cf. QP I.7: 8vb: QM VII.17: 52va).[49] Unlike Scotus and Ockham, then, Buridan does not subscribe to a direct realist position in the theory of knowledge. It is therefore not open to him to appeal to a capacity to cognize certain objects directly as a means of replying to skeptical doubts about the reliability of perceptual judgments.

Still, the real problem Buridan faces in this Ultricurian argument is the *logical* possibility of our being deceived by an omnipotent being. Now the traditional reply to such arguments is to block the skeptical implications of one divine attribute with another, which is what Descartes does when he argues that a deceiving God would be doing something he cannot do, viz., violating

[49] For discussion of Buridan's theory of singular cognition, see Richard H. Miller, "Buridan on Singular Concepts," *Franciscan Studies* 45 (1985): 57–72.

his essential goodness.[50] Buridan cannot adopt this strategy, however, because he subscribes to both main assumptions of the Ultricurian argument, i.e., to the doctrine of divine omnipotence ("since God can do this and greater things"), and the belief that God's will is inscrutable ("since you know nothing about the will of God, you cannot be certain of anything"):[51] "God would not be acting badly in [deceiving us], even if he annihilated all human beings and the entire world, since all of it belongs to him absolutely. And so if he would not be acting badly in annihilating human beings, it also seems right that he would not be acting badly if he creates a false belief in someone, since that false belief would not then be bad" (QM IV.12: 21vb).

But this means that in Buridan's hands, the first tenet of Ultricurian skepticism has the same epistemological force as a Cartesian evil demon. Buridan's first reaction to it is predictably visceral: he refers to those who improperly use the concept of divine omnipotence as "wicked men" who, by means of their insistence that principles and conclusions "can be falsified through cases supernaturally possible," are bent upon destroying the natural and moral sciences (QM II.1: 9ra). Even if this is not a reference to Nicholas, it applies to his argument that no evident inference from appearance to substance can be drawn by the natural light of reason, if the notion of divine omnipotence is taken seriously.

But Buridan has another, more considered, response to this argument, which begins with his assertion that we can have knowledge, or as he puts it, that "the comprehension of truth with certitude is possible for us" (QM II.1: 9ra). But this is possible only if relative evidentness, or evidentness on the assumption that the common course of nature holds, is accepted as an adequate ground for most knowledge claims. Supernatural considerations are omitted from discussion because they wreck the justificatory enterprise in two ways. First, as Buridan argues (departing here even from Nicholas), not even absolutely evident judgments, i.e., those equivalent or reducible to the principle of noncontradiction, are secure in view of God's power, for there is no reason why God could not, if he wished, make us assent to a contradiction.[52]

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[50] Descartes, *Fourth Meditations:* "I can see the impossibility of God's ever deceiving me. Any fraud or deception involves imperfection; the ability to deceive may to some degree argue skill or power, but the will to deceive is a sign of malice or weakness, and so cannot occur in God" (*Descartes: Philosophical Writings,* ed. and tr. by Elizabeth Anscombe and Peter Geach [Indianapolis: Bobbs-Merrill, 1971]: 92–93).

[51] For Buridan, the inscrutability of God's will is a consequence of his belief that "the will of God is infinitely more free and powerful than our will" (QP VIII.2: 110va; cf. QM IV.12: 21vb).

[52] See QM IV.12: 21va; cf. QM II.2: 9vb (discussed in n. 39 above): "Aliomodo errare mente circa primum principium est ipsi dissentire vel eius opposito assentire. Et de hoc dico cum Aristoteli quod impossibile est sic circa primum principium errare, saltem naturaliter" (Aristotle argues in *Metaph.* IV.3.1005b23 that it is impossible for anyone to believe the same thing to be and

Second, by casting doubt upon the possibility of empirical knowledge, supernatural considerations hinder and obstruct the primary activity of the natural philosopher, which is to explain natural phenomena.[53]

Buridan's writings make it clear that he thinks supernatural considerations are too easily misapplied in natural philosophy. In his *Questions on Aristotle's Meteorology,* for example, he suggests that appealing to the miraculous is not only unphilosophical, but also base and unlearned: "There are several ways of understanding the word 'natural'. The first [is] when we oppose it to 'supernatural' (and the supernatural effect is what we call a miracle). . . . And it is clear that meteorological effects are natural effects, as they are produced naturally, and not miraculously. . . . Consequently, philosophers explain them by the appropriate natural causes. But common folk, ignorant of these causes, believe that these phenomena are produced by a miracle of God, which is usually not true."[54] Likewise, although Buridan concedes that God could bring about directly any effect caused by a secondary agent, he does not see this as having any relevance to natural science. His discussion of the operation of the agent intellect, for example, begins with the following proviso: "It must be noted that although the agent which is God can bring about each and every thing determinately and without anything else being determined, that action would not be called natural but miraculous. In natural actions, however, it must be the case that in addition to the universal agent, particular and determinate agents play a role in the fact that this rather than that happens, as when an agent fire determines the fact that a fire comes to be, or is produced, and

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not to be, though, unlike Buridan, he does not restrict this claim to the natural order). The example which follows asks whether God could make us assent to a contradiction. Buridan concedes that he could, but denies that his doing so would violate his essential goodness because of the absolute dependency of all creatures upon God, an assumption which blocks any appeal to ordinary (i.e., human) moral constraints on divine action (see QM IV.12: 21vb). Buridan is noncommittal on the related question of whether God could produce contrary qualities in the same subject at the same time: "if this is possible by divine power, then one must say that contraries are not absolutely incompatible in being in the same thing at the same time, but incompatible in being [in the same thing] at the same time by a natural power" (QM III.3: 43va–vb).

[53] Nevertheless, as Edward Grant has shown ("The Condemnation of 1277, God's Absolute Power, and Physical Thought in the Late Middle Ages," *Viator* 10 [1979]: 211–44), Buridan is not above discussing the consequences of God's absolute power with respect to the possible existence of void space either beyond the cosmos or within the material plenum, the kind of motion exhibited by bodies in a vacuum, and the possible existence of other worlds distinct from our own, although he does not believe that any of these circumstances in fact obtains. Rather, his motivation for discussing the theological ramifications of certain questions in natural philosophy arises from his understanding of the fact that certain tenets of the faith make the natural order contingent in a way not recognized or accepted by Aristotelian physics.

[54] Here following Edmond Faral's French translation of an excerpt from Buridan's as yet unedited *Quaestiones de libris Meteorologicorum Aristotelis* in "Jean Buridan: Maître ès arts de l'Université de Paris," *Histoire littéraire de la France* 38 (Paris: Imprimerie Nationale, 1949): 554.

not water, and the semen of a horse determines the fact that a horse is produced, and not a goat" (QDA II.10: 154). Buridan here recognizes the fact that considerations based on divine omnipotence do nothing to *explain* natural phenomena.[55]

In keeping with this naturalistic tendency in his natural philosophy, Buridan defines epistemic error relative to the natural order. Thus, when asked whether one could be in error about first principles such as the principle of noncontradiction, he replies that "it is impossible to be in error about a first principle, at least naturally" (QM IV.12: 21va). The latter clause reflects his concession that God's power is such that he could "miraculously and supernaturally" produce and conserve contrary beliefs in the same intellect at the same time—a possibility promptly dismissed on the grounds that it is "not naturalistic" (QM IV.12: 21vb). Buridan's inquiry is driven by the question of how error is possible given the way our powers of sensory and intellectual cognition happen to operate, leaving aside the merely logical possibility of divine interference in the natural order. The result would not be such as to satisfy the Ultricurian skeptic, but that hardly worries Buridan, since he rejects the idea that *only* propositions equivalent or reducible to the principle of noncontradiction can be known with certainty.[56]

4. BURIDAN AND FOUNDATIONALISM

A significant problem presents itself if Buridan's remarks about evidentness and certainty are approached with the expectation that he is offering a classical foundationalist reply to the Ultricurian skeptic. For those remarks indicate that Buridan would reject one of its most characteristic assumptions, viz., the doxastic assumption that the justifiability of a belief is exclusively a function of the beliefs one happens to hold (including the belief in question, if it is self-evident). Buridan mentions a number of noninferential cognitive operations which produce evident knowledge, none of which is determined by belief

[55] This same point is eloquently expressed by Buridan's student and disciple, Nicole Oresme: "to have recourse to the heavens is to destroy the knowledge of natural and moral philosophy, indeed, of all philosophy, since if I ask [*queram/queratur*] why Socrates is big, or healthy, or strong, or why this kind of grass grows in that meadow, or why the ass does not breed in Scotland, and so on, and you respond, 'Because such was the constellation in the heavens,' so would I be able to respond even more briefly, 'Since God wants it so' " (Stefano Caroti, "Nicole Oresme: *Quaestio contra divinatores horoscopios*," *Archives d'histoire doctrinale et littéraire du moyen âge* 43 [1976]: 310).

[56] Notice as well that Buridan's reply to Ultricurian skepticism does not commit Locke's genetic fallacy, i.e., by supposing that an account of the origins of various knowledge claims by itself has justificatory force. Buridan's view is rather that our own a posteriori standards of certainty, including our beliefs about how various perceptual and cognitive processes actually do operate, are sufficient for empirical knowledge. This explains why Buridan is generally disposed to ignore skeptical worries rather than reply to them directly, and in that respect, his view has much in common with contemporary reliabilism.

states. Consider the process by which the intellect abstracts a simple concept of substance or accident from a confused and complex concept representing substance and accident together. In Buridan's psychology, my simple concept of whiteness is naturally produced from the appearance of something white in my field of vision, not from the belief that something white is appearing in my field of vision (QP I.4: 5rb–va).[57] Likewise, in the case of singular cognition, if the appearance of a stone in my field of vision naturally gives rise to the belief that there is a stone in front of me, it is not my believing that a stone is appearing in my field of vision that justifies such a belief, but the fact that a stone is appearing in my field of vision. The justification of my belief must appeal to other cognitive states distinct from belief, such as perceptual states and their accompanying external conditions. The reason it cannot be another belief that justifies my belief that there is a stone in front of me is that the latter belief is caused by an appearance, and appearances are not beliefs. Rather, as we saw above, belief is for Buridan the disposition to assent to an appearance or proposition.[58] But if the justification of knowledge claims is not solely a matter of the beliefs one has, then no doxastic theory of justification will apply to Buridan's epistemology. Notice that if one assumes the contrary, then Buridan *does* appear to be merely gainsaying the Ultricurian skeptic. This seems to me the tacit assumption behind one commentator's charge that Buridan fails to appreciate Nicholas's point that factual knowledge is a matter of justified true belief, where "justification consists of supporting the belief by citing other justified beliefs from which that belief can be inferred."[59] On Buridan's view, there is nothing basic or foundational about beliefs in our noetic structure.

But there are, of course, other ways for the foundationalist to justify beliefs. Since Buridan is interested in defending the possibility of empirical

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[57] Thus, Buridan notes that when he perceives white, he does not see whiteness all by itself, but a white thing. And when the white thing moves or changes from white to black, his intellect naturally judges it to be distinct from whiteness.

[58] See n. 28 above. The disposition to assent is manifested in a sequence of distinct cognitive acts: the act of apprehending a certain appearance or state of affairs, followed by the act of judging it to be so (QM II.1: 8vb–9ra; QNE VI.6: 122ra). Although the term 'appearance' (*apparentia*) has sensory connotations, Buridan says that it is used broadly to refer to any occurrent cognition; only in the strict sense does it refer to the actual object of the intellect's assent or dissent. 'Appearance' also has epistemic import, since it is applied to cognitions that 'look good', or have 'the ring of truth'. Thus, the 'readily believable arguments' (*probabiles rationes*) on behalf of a certain position are said to produce an 'appearance', viz., on behalf of the truth of that position (QDA III.8: 200–203). Buridan maintains further that propositions are distinct from appearances, since it is possible to form propositions which may or may not be true, e.g., 'The stars are even in number', for which there are "no arguments on one side or the other naturally suited to cause the appearance of one side rather than the other" (QDA III.18: 202–203).

[59] Scott, "Autrecourt, Buridan, and Ockhamism," 33.

knowledge, he might better be served by the brand of foundationalism Alvin Plantinga ascribes to Aristotle and Aquinas, according to which "a proposition is properly basic for a person only if it is either self-evident or evident to the senses."[60] What would Buridan's reply look like if he is one of Plantinga's "ancient and medieval foundationalists"? Well, since beliefs about self-evident propositions would meet the Ultricurian skeptic's criterion of certainty, the dispute would have to center on the epistemic status of propositions said to be evident to the senses, with Buridan maintaining, and the Ultricurian skeptic denying, that beliefs about such propositions are justified. Although there are no obvious incompatibilities between the way in which Buridan weakens the criterion of evidentness for empirical propositions without making the doxastic assumption, and foundationalist theories which do likewise, one would still have to account for Buridan's externalist-sounding remarks. Obviously, the foundationalism of Aristotle or Aquinas would have to be supplemented in order to accomplish this,[61] since neither confronts justificatory questions in quite the way Buridan does when he replies to the Ultricurian skeptic. For unlike either Aristotle or Aquinas, Buridan *is* forced to confront the Cartesian question of how knowledge can be justified, given the existence of an all-powerful being capable of deceiving us in ways we could never detect. His answer is, as we have seen, very un-Cartesian, but that should hardly provide us with a reason for rejecting it.

Finally, an objection from contemporary epistemology: it might be supposed that using reliabilism as an interpretive model for Buridan's reply to the Ultricurian skeptic is disingenuous because, as has recently been shown, reliabilism appears to have the counterintuitive consequence that none of the beliefs of a person deceived by a Cartesian evil demon would be justified.[62] Therefore, in view of Buridan's strong reading of the divine attributes of

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[60] Alvin Plantinga, "Reason and Belief in God," *Faith and Rationality*, ed. Plantinga and Wolterstorff (Notre Dame: University of Notre Dame Press, 1983), 58.

[61] As Plantinga does when he discusses the justification conditions for properly basic beliefs, though he does not attempt to tie his remarks to anything in Aristotle or Aquinas ("Reason and Belief in God," 78–82). Contemporary foundationalist theories provide the best examples here. See, e.g., William Alston, "An Internalist Externalism," *Synthese* 74 (1988): 265–83. Unlike the classical foundationalist, Alston argues that beliefs are justified, or adequately grounded, by both beliefs *and* experiences (230). He argues further against any internalist constraint on the adequacy of the ground, basing his account of adequacy on the notion that "[t]he world is such that, at least in the kinds of situations in which we typically find ourselves, the ground is a reliable indication of the fact believed" (232). Alston readily concedes the affinities his position has with reliabilism (244).

[62] E.g., Carl Ginet, "Contra Reliabilism," *The Monist* 68 (1985): 175–87; Richard Foley, "What's Wrong with Reliabilism?" ibid.: 188–202; John Pollock, "Reliability and Justified Belief," *The Canadian Journal of Philosophy* 14 (1984): 103–14.

omnipotence and freedom, reliabilism would not offer a suitable basis for a Buridanian reply to the Ultricurian skeptic.

There is, however, a counter to this objection in recent reliabilist literature which also happens to cohere rather nicely with Buridan's views on the contingency of creation. As Alvin Goldman has argued,[63] reliabilism is most plausibly construed as a claim about the reliability of causal and belief-forming processes not in the actual world, but in a range of "normal" worlds. Thus, the massive deception practised by a deceiving demon or an omnipotent God would (even if it turned out to be a feature of the actual world) not be a feature of any normal world, since deception of that sort is paradigmatically abnormal.[64] Goldman's suggestion is interesting because it fits the assumptions underlying Buridan's criterion of evidentness *secundum quid*. Buridan's insistence that all creatures depend upon God absolutely, together with his concession that God could, if he wished, create other worlds besides this one (QDC I.18: 84, 11. 12–17),[65] suggests that 'the common course of nature' may be fairly construed as a feature exhibited by a range of possible worlds (call them "normal worlds") whose causal structure is similar to that of the world we inhabit. Buridan would not suppose that any created feature of the actual world is necessarily unique, of course, since he regards it as a consequence of divine omnipotence that God could create the same feature in other worlds.[66] So, although he in no sense anticipates the sort of antireliabilist objection to which Goldman replies, there are resources at his disposal sufficient to block it.[67]

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[63] Alvin I. Goldman, *Epistemology and Cognition* (Cambridge, MA: Harvard University Press, 1986), 113.

[64] Goldman draws the obvious conclusion for the reliabilist: "So reliability in the actual world just does not matter" (*Epistemology and Cognition*, 113).

[65] Buridan's position on the possibility of other worlds thus upholds the side of orthodoxy with respect to Proposition 34 of the Condemnation of 1277, which condemns the view "that the first cause could not make several worlds."

[66] Indeed, when Buridan does consider the implications of a plurality of worlds, he supposes that each world would be governed by Aristotelian principles of natural motion. See QDC I.18: 84–87.

[67] It is only to be expected, of course, that some aspects of contemporary reliabilist theory do not correspond easily or obviously to anything in Buridan's epistemology. For example, Buridan would presumably want to reject deductive closure in the case of divine deception, since on his view, I can know that there is a stone in front of me without knowing what this implies, viz., that we inhabit a "normal" world. (For other cases pertaining to deductive closure in Buridan, however, see Anthony Willing, "Buridan and Ockham: The Logic of Knowing," *Franciscan Studies* 45 [1985]: 47–56.) Likewise, I have found no indications that Buridan would follow contemporary reliabilists in rejecting the 'KK Principle' (i.e., 'if you know that P, then you know that you know that P'), since my knowing P is for Buridan partly dependent upon both (1) my assenting to P, and (2) the fact that P is evident to me.

5. CONCLUSION

I have argued for a reinterpretation of Buridan's reply to Ultricurian skepticism along externalist and specifically reliabilist lines. The negative evidence for my thesis is that Buridan's remarks about knowledge and justification are incompatible with either the classical foundationalist or direct realist versions of internalism: Buridan cannot be a classical foundationalist because his epistemology rejects the doxastic assumption that the justifiability of a belief is exclusively a function of the beliefs one happens to hold; he also cannot be a direct realist because unlike Scotus and Ockham, he posits no cognitive act through which we are directly aware of the external world. The positive evidence consists on the one hand in his treatment of the principle of the uniformity of nature as evident only a posteriori, and on the other in his justification of induction and sense perception on the a posteriori grounds that both tend to produce beliefs that are free from doubt and error (although not infallible), and with checkable results.

As far as Buridan is concerned, the proper philosophical response to skepticism based on God's power to deceive us is to acknowledge the possibility, and then to ignore it. He is committed to the former by his assumption that God's will is inscrutable; the latter is a product of the view, implicit everywhere in his discussions on scientific knowledge, that it is unreasonable to accept the skeptic's demand that everything we know be equivalent or reducible to the principle of noncontradiction. That is why he argues that evidentness on the assumption that the common course of nature holds is sufficient for our assent to principles of natural science. I think that this is a perfectly valid antiskeptical position, which has the additional virtue of explaining why Buridan is not much gripped by the skeptical arguments he confronts in his writings. And if his approach to questions of knowledge is as naturalistic as I have been suggesting, it should hardly be surprising that his reply to skepticism based on divine omnipotence forms one of the smallest and least significant parts of his epistemology.[68]

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But again, my main thesis is that Buridan's epistemology is most closely approximated and most charitably interpreted by reliabilism, not that Buridan is himself a reliabilist. The latter claim would quite rightly invite the charge of anachronism.

[68] I am grateful to Norman Kretzmann and two anonymous referees for comments on an earlier draft of this paper. An abridged version was presented to a Symposium on Fourteenth-Century Philosophy at the 1991 Annual Meeting of the Canadian Philosophical Association at Queen's University, Kingston, Ontario. I would like to thank the members of the audience on that occasion, especially Calvin Normore, for a number of helpful comments and suggestions. Finally, I would like to thank the College of Arts and Letters, San Diego State University, for support in the form of a research leave during the semester in which this paper was written.

WORKS CITED BY ABBREVIATION

B	*Nicolaus von Autrecourt: Briefe*, ed. Ruedi Imbach and Dominik Perler (Hamburg: Felix Meiner, 1988). Cited by page and section.
QAnPo	Hubert Hubien, "Iohannis Buridani Quaestiones in duos libros Aristotelis Posteriorum Analyticorum," unpublished typescript. Cited by book and question.
QDA II	Peter Gordon Sobol, "John Buridan on the Soul and Sensation: An Edition of Book II of His Commentary on Aristotle's Book of the Soul, with an Introduction and a Translation of Question 18 on Sensible Species" (Ph.D. dissertation, Indiana University, 1984). Cited by question and page.
QDA III	John Alexander Zupko, "John Buridan's Philosophy of Mind: An Edition and Translation of Book III of his 'Questions on Aristotle's De anima' (Third Redaction), with Commentary and Critical and Interpretive Essays" (Ph.D. dissertation, Cornell University, 1989). Cited by question, page, and line.
QDC	Ernest Addison Moody, *Iohannis Buridani Quaestiones super libris quattuor De caelo et mundo* (Cambridge, MA: Medieval Academy of America, 1942). Cited by book, question, page, and line.
QM	*In Metaphysicen Aristotelis quaestiones argutissimae magistri Joannis Buridani* (Paris: 1588 [actually 1518]); rpr. as *Kommentar zur Aristotelischen Metaphysik* (Frankfurt a. M.: Minerva, 1964). Cited by book, question, and folio.
QNE	*Quaestiones Ioannis Buridani super decem libros ethicorum Aristotelis ad Nicomachum* (Paris: 1513; rpr. Frankfurt a. M.: Minerva, 1968). Cited by book, question, and folio.
QP	*Ioannis Buridani subtilissime quaestiones super octo physicorum libros Aristotelis* (Paris: 1509); rpr. as *Kommentar zur Aristotelischen Physik* (Frankfurt a. M.: Minerva, 1964). Cited by book, question, and folio.
Summulae	Ioannis Buridani, *Compendium totius logicae* (Venice: 1499; rpr. Frankfurt a. M.: Minerva, 1965). Cited by treatise, part, and section.