1. Medieval Scepticism and Its Limits

When we engage in philosophical debates, it seems quite easy to present sceptical arguments that cast doubt on our entire body of knowledge. We simply need to put forward a hypothesis according to which we might be wrong about all the things we think we know. Since the time of Descartes, philosophers have been quite familiar—some would even say, obsessed—with this kind of reasoning.Could it not be that a malicious demon is constantly deceiving us, causing all kinds of beliefs about an external world, while no such world exists? Given that this hypothesis looks so simple, it is surprising that pre-Cartesian authors do not seem to have worried about it. Medieval philosophers committed to the Aristotelian tradition do not seem to have asked the fundamental question whether or not we can have knowledge of an external world. Their main concern was not to establish that we can have knowledge but to explain how we acquire it. They entered into lengthy discussions about the following problems: What kind of cognitive processes are required for the acquisition of knowledge? What kind of knowledge do we gain by means of these processes? And what are the objects of our knowledge? In all these debates, they seem to have taken for granted that we are able to have knowledge and even a solid theory of knowledge.

Why did they not radically question our knowledge claims? There are at least three apparently simple answers to this question. First, until the sixteenth century, medieval philosophers had only little knowledge of ancient sceptical sources that could have inspired them to formulate sceptical hypotheses. In particular, it is said that they were not familiar with Sextus Empiricus's *Outlines of Scepticism*, translated
into Latin in 1562, which sparked what R. Popkin famously called a 'sceptical crisis' in the early-modern period.\(^1\) Second, one might refer to the all-embracing theological culture in which medieval philosophy was practised. Given the dominant Christian belief that God is a benevolent creator who endows all human beings with reliable cognitive capacities, it would have been odd to ask whether or not knowledge is possible. The appropriate question to pose was how human beings can make best use of their natural cognitive capacities and thereby acquire knowledge. Third, one might mention the institutional framework that excluded radical sceptical debates from the outset. Medieval philosophers were supposed to comment on authoritative texts, especially on Aristotle's writings, and therefore dealt with sources that were inspired by epistemological optimism.

Given these arguments, which have often been mentioned in the scholarly literature, it seems clear that radical scepticism could not be an issue for medieval philosophers.\(^2\) Yet a closer look at these arguments shows that they are far from being convincing. First, it is necessary to acknowledge the simple fact that ancient sceptical sources were available in the Middle Ages. Sextus Empiricus's *Outlines of Scepticism* were translated into Latin in the late thirteenth century already; three manuscripts from this time have been transmitted.\(^3\) Thanks to this work, scholastic authors were familiar not only with a number of sceptical arguments, but also with Agrippa's famous trilemma that seems to exclude successful justification of knowledge claims: justification leads to an infinite regress, is circular or ends with a dogmatic assumption. Even more influential was the Academic tradition, which was well known thanks to Cicero's *Academica* and Augustine's *Contra Academicos*.\(^4\) In these works medieval interpreters could find a number of sceptical hypotheses that appealed to illusions, dreams and deceptions.

Second, the all-embracing theological culture did not prevent medieval philosophers from taking sceptical arguments seriously. On the contrary, this culture gave rise to radical hypotheses that went beyond the arguments formulated by pagan philosophers. The most influential hypothesis was what might be called 'the argument from divine omnipotence'. Theologians from the twelfth century onwards claimed that God can use his potency not only by acting according to the 'ordained power' (*potestas ordinata*), which respects the natural laws, but also by making use of the 'absolute power' (*potestas absoluta*), which is only bound to the law of non-contradiction and does not need to respect the natural laws.\(^5\) Thus, using his absolute power, God could cause in me a cognitive state presenting a tree and make me believe right now that I am standing in front of a tree even though no tree is present. He could do it in such a perfect way that I would not be able to distinguish the naturally caused belief from the superaturally induced one. A number of medieval authors (especially Duns Scotus and his followers) took this possibility very seriously, thus pondering the possibility of radical deception.\(^6\) In addition, they were familiar with Christian demonology, according to which 'fallen angels' can use their supranatural power and intervene in natural cognitive processes in order to deceive human beings. It would therefore be erroneous to assume that the Christian context somehow blocked all attempts to formulate sceptical hypotheses.
Third, the Aristotelian tradition was not as dismissive with regard to sceptical arguments as it might seem at first sight because interpreters did not uncritically repeat Aristotle's epistemological claims. A number of late-medieval Aristotelians did not begin their commentaries on the *Posterior Analytics* with the question of what knowledge is, but with the more fundamental question of why we are entitled to attribute knowledge both to ourselves and to other human beings. For instance, John Buridan opened his extensive commentary with the question whether knowledge of a demonstration is possible. This led him to the more fundamental question whether human knowledge is possible at all. Only after discussing this question and evaluating a long list of sceptical arguments, ranging from cases of sensory illusion to dreams and divine deception, did he tackle the classical Aristotelian problem of explaining the structure of demonstrative knowledge. This procedure clearly shows that he was not only interested in the questions of what knowledge is and how it can be acquired, but also in the genuinely sceptical problem whether or not we are justified in making knowledge claims.

Given these replies to the traditional interpretation, it would be misleading to claim that medieval philosophers simply ignored sceptical problems or that they dismissed challenges to knowledge claims as irrelevant. They clearly saw that sceptical arguments need to be taken seriously and paid close attention to their consequences. Yet, they also realised that these arguments are to be discussed in a metaphysical context, and they attempted to dissolve sceptical arguments by showing that they are in conflict with a number of basic metaphysical principles. I intend to elucidate this close connection between epistemological and metaphysical issues by presenting two case studies, namely Thomas Aquinas's analysis of the demon hypothesis and John Buridan's reaction to the argument appealing to divine omnipotence. I hope that an examination of these two cases will make clear that one cannot understand how and why radical doubts were rejected or neutralised by medieval authors unless one pays attention to their explicit and implicit assumptions about the nature of knowledge claims and the methods for evaluating them.

2. **Thomas Aquinas**

Like every Christian author, Thomas Aquinas assumes that there are not only good angels who protect and support human beings, but also bad ones who attempt to hurt them. He ascribes supernatural powers to these demons, arguing that the use of their powers enables them to have access to human thoughts. In fact, Aquinas contends that they can grasp these thoughts in two ways: either by directly seeing them in each human intellect, or by apprehending external signs that indicate the presence of internal thoughts. A demon can therefore read, as it were, all the thoughts in my intellect right now, or he can listen to my words, as other human
beings are doing, and understand that these spoken sounds express certain thoughts. But what exactly does a demon read? In Aquinas’s view, he grasps so-called ‘intelligible species’, which are produced on the basis of phantasms and present the essence of material things to the intellect.¹¹

Let me explain this scholastic jargon by means of an example. Suppose that I am standing in a garden and admiring a tree covered with fresh snow. Being in this situation, I receive a number of visual and other sensory impressions that enable me to form a sensory image, which presents the tree with a certain shape, size and colour. This image, the so-called ‘phantasm’, is produced in the inner senses and changes as soon as I get new sensory information. On this basis my intellect is able to abstract a special cognitive entity, the ‘intelligible species’, which presents the essence of a tree—not just the essence of the particular tree in front of me, but of every tree. Thanks to this species, the essence comes to exist in my intellect and can be inspected by an angel that scrutinises my intellect.

This inspection, taken as such, does not have sceptical implications. As long as the demon merely watches the way I am thinking without intervening, I do not need to worry about the reliability of my cognitive process. The fact, however, that Aquinas takes an inspection to be possible is far from being trivial. It shows that he subscribes to what is nowadays called ‘the transparency thesis’. The human intellect is conceived of as some kind of glassy thing in which inner objects can be perceived—not only by the thinking person who is using that thing, but also by an external observer who can look at it and detect various objects, namely, the essences of external things. But Aquinas does not confine himself to the transparency thesis. He adds what may be called ‘the manipulation thesis’, for he unmistakably holds that a demon can intervene in the cognitive process and make a person apprehend things that do not actually exist. Thus, a demon may act upon me right now and make me believe that a tree covered with snow is standing in front of me. How can he do that? In Aquinas’s view, a demon is able to manipulate the material basis of a thought, that is, he can rearrange the sensory impressions I have stored in my brain (according to his physiology, these are ‘spirits and humours’), thereby creating a phantasm that does not correspond to anything real in the material world.¹² Since the phantasm always provides the basis for intellectual activity, an erroneous phantasm will inevitably give rise to an erroneous thought.

This is a genuine sceptical hypothesis. How does Aquinas deal with it? First of all, one should note that he is not claiming that a demon directly acts upon the intellect. He does not ponder the possibility that Lucifer or some other bad angel can tamper with my intellect and implant an intelligible species that presents the essence of something that is not actually the case. Why not? The problem is not, as one may suspect, that the intellect as something immaterial is immune to external manipulation. An angel is an immaterial being that can very well stand in a causal relation to another immaterial being. The problem is more complex. If a demon were manipulating the human intellect, it would act against a principle of perfection that regulates every intellectual activity. Aquinas describes this principle as follows:
One should note that the intellectual activity of a human being is brought to perfection in accordance with two things: the intelligible light and the intelligible species. This happens in such a way that the apprehension of things occurs according to the species. But the judgement about apprehended things is brought to perfection in accordance with the intelligible light. This natural intelligible light is intrinsic to the human soul.\textsuperscript{13}

Obviously, the problem is not that a demon would lack the power to bring about a species in the intellect, say a species that presents the essence of a tree. The real problem is rather that this action alone would not cause a judgement about a tree. The so-called natural light would prevent such a judgement. (To use a computer analogy, one could say that it would be like receiving a computer virus. The consequences of this action would be blocked by the antivirus firewall, and no damage would be done.) But why, one may ask, should we assume that there is a natural light that brings the intellect to perfection and therefore neutralises demonic actions? Why could it not be the other way round, namely, that the demon somehow neutralises the natural light? (After all, there could be a new virus that passes the firewall and produces all kinds of strange transactions.) It is in his answer to questions on this line that Aquinas makes clear how strongly he is committed to a metaphysical principle. He claims:

In corporeal things, the higher power supports and strengthens the lower one. In the same way, the intellectual light of a human being can be strengthened by the angelic light so that it makes better judgements. This is what a good angel intends to do, but not a bad one. Therefore, good angels, but not demons, can set a soul in motion so that it has an understanding.\textsuperscript{14}

It is clear that Aquinas appeals to a certain hierarchy of beings, which is given in nature and cannot be violated, not even by demons. According to this hierarchy, a higher being like an angel can help a lower being like a human being in its natural actions. In particular, it can support humans in their natural striving for cognition. But it cannot annihilate this striving or act against it by radically deceiving the intellect and causing in him false judgements. That is why only good angels, but not bad ones, can have an impact on the intellect and set it in motion. And even good angels cannot intervene unless there is some sensory material; they cannot act out of nothing.

Two aspects in this argument deserve attention: First, it is noteworthy that Aquinas does not adduce an epistemological argument in order to block the sceptical hypothesis. He is not saying, for instance, that a demon could bring about an intelligible species but that this species would be qualitatively different from a naturally produced one so that the intellect could always distinguish them. Instead, Aquinas appeals to a genuinely metaphysical argument, claiming that there is a hierarchy of beings and that higher beings must support lower ones. This is, of course, a disputable argument. Why should there be a hierarchy? And why should it be impossible for higher beings to deceive lower ones? The answer to these questions is to be sought in Aquinas's metaphysics of creation, which relies on the crucial thesis that one cannot understand the world of created things unless one sees them
as being part of an all-embracing order in which each thing has a certain function that cannot arbitrarily be destroyed by other things. Without such an order, the world would be completely unintelligible. Admitting radical demonic deception would amount to giving up the intelligibility of a well-ordered world.

There is yet another aspect in Aquinas's argument that deserves attention. Claiming that the intellect is perfected by the so-called 'intelligible light', he takes for granted that there is a state of perfection for the human intellect, as there is one for every natural thing. More precisely, he subscribes to a principle of natural teleology according to which the intellect naturally develops its cognitive capacity and thus produces an increasing number of true judgements. Any restriction or impediment on this natural development is corrected by the 'intelligible light'.

Taking into account these two points, one can easily see that Aquinas's use of the demon hypothesis is strikingly different from the later Cartesian use. While he uses a number of metaphysical principles, Descartes does not appeal to such principles, neither to a hierarchy principle nor to natural teleology. In the First Meditation, everything is cast into doubt, including the seemingly harmless theses that our intellect is part of an overall order and that it is meant to be used in a correct way so that it produces true judgements. Given an all-embracing metaphysics of creation that assigns a natural perfection to human intellects, this is not an option for Aquinas. He introduces the demon hypothesis as a radical challenge to our knowledge claims but then neutralises it by means of metaphysical principles, which, in turn, are not questioned.

However, even if demons are not able to manipulate the intellect, they can intervene on the level of the inner senses. As we have seen, they can rearrange spirits and humours in the brain, thereby producing new phantasms. We have also seen that phantasms are the indispensable basis for intellectual activity. This line of reasoning can easily lead to a radical sceptical argument: If it is possible that every phantasm is supernaturally produced and deceptive, every thought can be deceptive as well. Since we lack a neutral criterion that would enable us to distinguish deceptive phantasms from nondeceptive ones, we can never tell whether our thoughts are based on erroneous phantasms or not. Consequently, all of our thoughts are exposed to doubt.

A closer look at Aquinas's texts reveals, however, that he does not draw this conclusion. Why not? Does he simply overlook the sceptical potential in his own remark about the possible manipulation of phantasms? Let me explain why I do not think that this is the case by returning to the tree example. Suppose that a demon is tampering with my brain and producing a phantasm that presents a tree that, surprisingly, has wings and is flying through the air. The presence of this phantasm triggers my intellect and makes me have the strange and obviously false belief that there is a flying tree. However, having a thought amounts to grasping the essence of a thing. In Aquinas's view, the object of the intellect is not the individual material thing, but its essence. Grasping the essence amounts to understanding the constitutive features of a thing. Of course, one might not understand in detail what these features are, but one has at least a dim understanding. Thus, when I am grasping the essence of a tree, I roughly understand that a tree is a plant, that it has a trunk and
that it is blooming in spring, even though I may not understand all of its biochemical features. As dim and vague as my grasp of the essence may be, I realise that a tree cannot have wings. Consequently, I understand that the essence of a tree excludes the property of being a flying thing. So, I may have a deceptive phantasm that makes me spontaneously have the thought of a flying tree, but my grasp of the essence makes me immediately realise that this is the thought of something that is not the case and cannot even be the case. The crucial point is that it is not some special phenomenal quality of this thought that makes me dismiss it as a false one. The reason why I am not deceived is that I realise that the thought includes incompatible features.

Now one might object that this line of reasoning relies on the strong assumption that I am able to understand what belongs to the essence of a tree and what is contrary to this very essence. But why should that be so? Could it not be that I am utterly incapable of having the slightest idea of what is constitutive of a tree? Could it, therefore, not be that I have no clue whether or not a tree can have wings? If a demon were making me have the phantasm of a flying tree, I would immediately think that there is a flying tree in this room, without realising that this is impossible. Why should that be ruled out?

Here, Aquinas once more makes use of a metaphysical principle. He assumes that the human intellect is built in such a way that it cannot but correctly grasp the essence of a thing. In fact, he claims:

The intellect's proper object is the quiddity of a thing. So the intellect makes no mistakes, strictly speaking, with respect to the quiddity of a thing. But the intellect can be mistaken with respect to what surrounds the thing's essence or quiddity, namely when it orders one thing to another, either through composition or division or else through a process of reasoning.¹⁷

Applied to the tree example, this means that I cannot be mistaken when I think that a tree is a plant, that it has a trunk and that it can grow and die. These features belong, as it were, to its metaphysical make-up and are constitutive of its essence. But I can be mistaken when I think that a particular tree has one thousand leaves or that it has a height of eight meters. When I proceed in this way 'through composition or division', I predicate accidental features of a tree—features that do not belong to its essence. The crucial point is, of course, that Aquinas clearly distinguishes thoughts about accidental features from thoughts about the essence of a thing, assuming that the latter ones are never mistaken. This enables him to counter the objection that one may never know whether or not there can be a flying tree. Since we correctly grasp the essence of a tree, we immediately realise that this essence excludes the property of having wings.

I hope this makes clear what kind of argumentative strategy Aquinas chooses when dealing with the demon hypothesis. He first accepts it as a possible scenario but then rules it out by appealing to an essentialist principle according to which the cognitive structure of the human intellect and the structure of cognizable objects match perfectly. The intellect is, as it were, by nature designed to grasp the essence of a thing.¹⁸ Does this mean that error and deception are completely ruled out? Not
at all. At least two types of error are still possible. First, I may make a false existential judgement due to demonic intervention. For instance, Lucifer may cause in me a phantasm of a tree when no tree is present. Then, I will come up with the false judgement that there is right now a tree in front of me. This type of judgement does not violate the essentialist principle because even when my judgement about the existence is wrong, my grasping of the essence is correct. Second, the demon may also alter my phantasm and add some features to it so that I think, for instance, that the tree has red flowers although it, in fact, has blue ones. This, once more, would not violate the essentialist principle because false judgements about accidental features are always possible. As we have seen, Aquinas concedes that there may be a so-called false 'composition or division', that is, a judgement in which an accidental property is mistakenly attributed to a thing exhibiting a certain essence. But this judgement can be compared to other ones and eventually be corrected. I can, for instance, compare my actual judgement about the tree to judgements I have made yesterday and last week, and I can evaluate whether or not I have collected a consistent bundle of judgements. Should it turn out that one of them does not fit into this bundle, it can be eliminated. That is why a false judgement caused by demonic intervention is not more threatening than a judgement that is based on a sensory deception. Such a deception (for instance, when I see a stick partly submerged in water and judge that it is broken) only occurs under special circumstances and can be corrected when judgements made under other circumstances are taken into account.\textsuperscript{19} Likewise, demonic deception only occurs under special circumstances and can be corrected when assessed against the background of judgements made under other circumstances.

Of course, this line of reasoning is far from being innocent. It may give rise to worries about the famous criterion problem. How can we distinguish normal circumstances from exceptional ones? What criterion can we use in order to tell which judgements are correct and which ones should be discarded? Aquinas never addresses these problems, presumably because he subscribes to some form of reliabilism, as Eleonore Stump convincingly argued.\textsuperscript{20} That is, he takes it for granted that the cognitive apparatus, including both senses and intellect, is built in such a way that it reliably produces correct cognitions when working under normal circumstances. Given this reliability, we do not need to evaluate each and every judgement. Only judgements that do not fit into the coherent net of our judgements ought to be evaluated and eventually excluded.

It might help to compare Aquinas's position to contemporary reliabilism in order to understand its specific point. Nowadays, there are many forms of reliabilism, but all of them assume that beliefs and other kinds of cognitive states are like well-constructed instruments that are designed to produce the right kind of result. David Armstrong compared beliefs to a thermometer that reliably indicates the temperature in a room.\textsuperscript{21} Of course, a thermometer may make mistakes, but only if it is broken. A well-functioning thermometer is designed to indicate the temperature as it really is. Likewise, beliefs are somehow designed to indicate what is really the case. Only 'broken beliefs' that is, beliefs occurring in a dysfunctional mind, are
false and lead us astray. And these beliefs only make sense if they are understood against the background of a large number of true beliefs. They are, as it were, the exception to the rule. It is precisely this idea that can also be found in Aquinas when he emphasises that our judgements are in principle correct because they are formed by an intellect that is designed to function correctly. We have an intellect in the image of God, as Aquinas repeatedly says, and therefore all the cognitive means we need to cognise things as they really are. Of course, our intellect is not as infinite and perfect as the divine one. That is why we incidentally make mistakes. But given that our intellect is built in the image of God, mistakes can only be exceptional cases. It would be absurd to assume that all of them are wrong.

Here again, it is an underlying metaphysical assumption that enables Aquinas to deal with cases of local deception. Given that our cognitive apparatus has a natural function that it fulfils correctly under normal circumstances, errors and deceptions are exceptional cases that can be detected and corrected. That is why Aquinas never worries about demonic intervention, even though he acknowledges that this kind of manipulation is possible. The important point is that this antiscceptical stance is not due to an ignorance or a dismissal of sceptical arguments. Instead, it is based on a number of metaphysical principles that serve as an overall antiscceptical framework. This framework allows for local doubts about the correctness of this or that judgement, but not for a global doubt.

3. **John Buridan**

Aquinas is well aware of the fact that God, unlike an angel, can manipulate every cognitive process. In principle, God could arbitrarily implant an intelligible species in my intellect and make me have a false belief. Should he do so, he would clearly deceive me, which is bad, and a bad action is always a deficient action. But God is a perfect being, as Aquinas points out, and therefore always brings about perfect actions that are in no way deficient. That is why Aquinas never considers the possibility that God might deceive human beings.

This argument, later repeated by Descartes in the *Meditations*, is not as evident as it may look at first sight. Why should deceiving necessarily be something bad? Perhaps God implants false thoughts in human beings in order to support and protect them, like a good father who lies to his children in order to protect them from brutal truths. In the fourteenth century, Robert Holkot already made this objection, pointing out that deceiving is only a bad action when it is done with a bad intention. But who knows—perhaps God is having the best intentions when implanting false thoughts in our intellect. This kind of reasoning made a number of fourteenth-century philosophers reconsider the possibility that God may use his 'absolute power' and directly intervene in cognitive processes. John Buridan was familiar with this hypothesis and reported it as follows:
the intellect could be deceived by a supernatural, cause with respect to evident propositions, because God could make a fire without heat, and he could create as well as maintain in your sense a sensory species without there being an object. Based on this evidence, you would judge as if an object were present. And so you would make a false judgement.  

How does Buridan react to this hypothesis? Unlike Aquinas, he does not dismiss it by claiming that this would contradict God's perfection; he takes it to be a real possibility. Moreover, he does not try to refute it by appealing to a criterion that would allow us to distinguish the supernaturally produced species from the naturally produced one. He concedes that God could cause a cognitive act that is qualitatively indistinguishable from a naturally produced one. Nevertheless, he does not draw the conclusion that we can never trust our acts and that we therefore need to give up all our knowledge claims. He rather states that we still have so-called 'natural evidence' that is not threatened by a possible divine intervention:

This natural evidence is still aptly called natural, because on the basis of this evidence a human being cannot be deceived in the common course of nature, even though one may be deceived by a supernatural cause. This evidence is sufficient for natural knowledge.

Obviously, Buridan does not claim that natural evidence, which is the kind of evidence provided by the senses, is insufficient and that it needs to be supplemented by another form of evidence. He, rather, contends that this evidence is sufficient for a certain domain of knowledge, namely, natural knowledge, and that it would be erroneous to look for another evidence that is more robust and that enables us to eliminate cases of divine deception. In the context of daily life and scientific investigations, natural evidence is all the evidence we need and can strive for. Let me explain this point with a modern example.

Suppose that a friend is asking you how old you are. You indicate your age and seem to have fully answered the question. But then your friend is replying: 'Are you sure? Could it not be that you were misinformed about the date of your birth?' So you contact your parents and other people who were present at your birth, get a confirmation about the date and tell your friend that you are certain. But your friend is still not satisfied. 'Could it not be that your parents lied to you or that they simply mixed up the dates?' So you go to the hospital you were born at and ask for official documents. But your friend is still not satisfied and asks: 'Could it not be that the authorities in the hospital mixed up the documents?' So you go to the town hall and ask for a copy of the birth certificate that confirms the hospital documents. 'But could it not be,' your friend then says, 'that the authorities in the hospital and in the town hall want to deceive you? Could it not be that they all lie to you?' At this point you may lose your temper and reply that this crazy hypothesis simply does not make sense. A friend who suggests that the entire world conspires to deceive you does not need an argument, but psychological help. Trying to stay calm and friendly, you respond: 'Theoretically, it may be possible that everybody is lying to me. However, in this situation it does not make sense to take this possibility seriously. Having
checked all the documents, I have all the natural evidence I need to be sure about my date of birth. This kind of evidence suffices as a justification for my everyday belief. It does not need to be supplemented or strengthened by another kind of evidence that rules out every deception. It would be inappropriate to raise the standard of justification up to a point where I need to have a knock-down argument against every possible objection.

It is on this line that we can understand Buridan's appeal to natural evidence. He does not make the dogmatic claim that natural evidence guarantees infallibility and that it rules out any possible deception. Nor does he simply deny that, theoretically speaking, there could be divine manipulation. But he chooses what might be called a contextualist strategy: In the context of everyday life and natural science, it is perfectly legitimate to make knowledge claims that are based on sensory information. The standards of justification should not be raised to a point where just any absurd hypothesis must be refuted. That is why natural evidence is perfectly sufficient for natural knowledge. It is not the person having and using natural evidence who needs to present a further justification, but the objector who presents a bizarre and artificially constructed hypothesis. He should be urged to explain why his hypothesis is relevant in an everyday situation and why we must take it seriously.28

If we understand Buridan's reply on this line, we can see that he rejects an assumption implicitly made by his contemporaries who refer to God's possible intervention in order to weaken or reject everyday knowledge claims. They assume that one should start with the most bizarre scenario and look for the most general justification, thereby ignoring the fact that justification is always required in a certain context and that it should be relevant in that context. In the situation of everyday life and of scientific investigations, nothing but natural evidence is relevant and nothing else is to be sought.

This contextualist strategy gives rise to at least two objections. First, one may ask if natural evidence is, in fact, sufficient for everyday life. Given that this kind of evidence is based on sensory experience, there can be many illusions and deceptions due to the imperfection of our senses, even without there being divine intervention. Why is Buridan so confident that sceptical worries disappear in the light of natural evidence? Second, one may point out that it hardly helps to refer to the context of everyday life because this context can always be changed. One can always move to the context of theoretical discussions, in which the possibility of divine intervention ought to be taken seriously. So how can Buridan be content with natural evidence that is adduced in a context that can always be challenged, namely, when one leaves the situation of everyday discussions and engages in philosophical debates?

Let me look at Buridan's reply to these objections. As to the first, he concedes that our senses are fallible and that they sometimes give rise to false judgements; in his Commentary on the Posterior Analytics he mentions fourteen cases of possible deception.29 But the fact that sensory information can sometimes be misleading should not give rise to the worry that it might always be deceptive. For this type of information causes an entire net of judgements that can be compared and tested. If
it turns out that a particular judgement does not fit into this net because it has a special cause, it can be corrected. Buridan illustrates this with the famous example of a person travelling on a ship who sees the trees on the shore and falsely thinks that they are moving. This error occurs because this person is moving and therefore receives visual inputs that go up and down on his eyes. Consequently, he forms images of moving trees, which give rise to the judgement that the trees are moving. As soon as this person realises that it is this special situation that makes him have images of moving trees, he can compare the judgement made in this situation with judgements made in other situations, namely, when he was standing on the shore. He then notices that there is a certain reason for his judgement made on the ship and that it does not cohere with all the other judgements about the very same trees. The decisive point is, of course, that the person’s intellect can detect the reason for his erroneous judgement and correct it. Admittedly, it may not be able to do this in every situation, and it may take some time to compare and evaluate different types of information, say, about the location of the trees as well as of oneself. But in principle the intellect is able to correct an error by locating a single judgement in a net of judgements and by testing the coherence of the entire net. In any case, there can only be particular judgements that turn out to be false, but it cannot be the case that the entire net of judgements is mistaken.

Why not? What makes Buridan so confident that our senses are in principle reliable and that they cause judgements that, for the most part, are true even if some of them may turn out to be false? Buridan is not at a loss for an answer. Responding to the sceptic who suggests that the senses are never to be trusted, he firmly holds:

For nature, taken as such, always acts in a correct and perfect way. But sometimes, due to an impediment, a deficiency occurs in nature or in the way it is operating.

Buridan obviously assumes that there can only be local error because only a local impediment can prevent nature from bringing about a perfect action, that is, a true judgement. As soon as the impediment is removed (say, one leaves the ship and looks at the trees while standing on a firm ground), the error can be corrected. What is striking here is that Buridan does not doubt that the senses as part of nature are in principle designed to provide correct information. Consequently, he is convinced that the senses yield natural evidence that is sufficient for natural knowledge. Justification is not required for sensory information as a whole, but only for this or that particular sensory judgement made in a special situation.

Lurking in the background of this reasoning is the teleological assumption that all the capacities in nature have a natural goal, namely, to be actualised correctly. If they are triggered in the right way, they achieve their goal. Senses and intellect as natural capacities are designed to produce true judgements unless there are external obstacles that prevent them from actualising their potential. In Buridan’s view, the reliability of our cognitive processes is nothing more than an example for the reliability that is somehow built into all natural processes. He explicitly holds that the intellect has a ‘natural inclination’ to form true judgements:
The intellect, which by its natural inclination is ordered toward the true, gives its assent to a universal principle on the basis of experiences. Here, again, we see that the antisciptical strategy relies upon a metaphysical principle: The application of a teleological principle leads Buridan to the conclusion that global error is excluded and that natural evidence can therefore be trusted.

What about the second objection I have mentioned? Could a sceptic not respond that appealing to natural evidence may suffice in everyday life but that it is questionable in philosophical debates where stronger justification is needed? Buridan grants that one could leave the context of everyday life and introduce the hypothesis of divine manipulation. But as far as he is concerned, this hypothesis is nothing but the product of theological speculation and has no relevance whatsoever for the assessment of our knowledge. At one point he disparagingly refers to ‘these very bad people who want to destroy the natural and the moral sciences’ and talk about a deceiving God. These people are not only bad because they ascribe to God a malicious intention, but also because they transfer the standard of justification that may be appropriate for the rather artificial context of theological speculation to the context of everyday life and natural science. Even if it is conceivable that God could intervene and deceive us in a special situation, the natural capacities still preserve their function of producing judgements that are in principle true. The natural order is not annihilated by a punctual intervention. Therefore, there may only be a local doubt about the correctness of this or that judgement, a doubt that can be refuted when the entire net of judgements is evaluated. But there cannot be a global doubt that puts all our judgements on trial. This kind of doubt would simply ignore our ‘natural inclination’ towards cognitive perfection.

4. Metaphysics and Medieval Scepticism

This brings me back to my initial remarks about the reasons why medieval philosophers did not discuss radical scepticism. The main reason was not that ancient sceptical sources were not available to them. Thanks to Cicero’s *Academica* and Augustine’s *Contra Academicos*, they were familiar with a number of sceptical strategies, including arguments about sensory illusion, dreams and supernatural deception. Nor was the main reason that Christian dogmas ruled out radical scepticism. On the contrary, a number of genuinely Christian assumptions—among them the assumption that demons and the omnipotent God can intervene in cognitive processes—stimulated sceptical thoughts and provided the material for sceptical hypotheses. Finally, the main reason was not that Aquinas, Buridan and many other medieval philosophers were so much in the grip of Aristotelianism that they were only interested in the question of how knowledge is acquired without raising the basic question if knowledge is possible at all. The main reason is, rather, to be sought in the metaphysical principles that formed the framework for their epistemological
debates. If one operates within Aquinas's principles, namely, that there is a hierarchy of beings, that higher beings have the function of supporting lower ones and that human beings occupy a special place in this hierarchy, a place that guarantees reliable capacities, radical scepticism cannot be an issue. And if one uses Buridan's principles, claiming that there is natural teleology and that our senses are designed to provide us with natural evidence, global doubts cannot arise either. The metaphysical system sets limits to sceptical worries.

But why then, one may ask, did the metaphysical system not become the object of sceptical attacks? Why did medieval philosophers not radically question the principle of natural teleology or the idea that there is a hierarchically ordered world? The obvious answer would be that philosophers committed to Aristotelianism could not raise radical doubts because it is precisely the principle of teleology and the idea of a cosmological structure that are at the bottom of Aristotelian metaphysics. Yet this answer would be too simple because the commitment to Aristotelianism was itself motivated by at least two fundamental reasons. The first one appealed to the principle of intelligibility, which I already mentioned when quickly explaining Aquinas's dismissal of radical demonic deception. If one were conceding that there is no order in the world and that supernatural beings can suspend or destroy all natural cognitive mechanisms, one would admit that there are no metaphysical structures that govern the relationship between different types of beings in the world—anything could be. But if this were the case, we could never make sense of the world, that is, we could never explain certain facts and events by referring to certain structures. For instance, we could not say that someone knows what a tree is because he or she has seen trees and learned about their typical features. We could never refer to the use of natural capacities but would be condemned to describe a mere fact by saying: 'There is no explanation for this knowledge. Perhaps this person knows what a tree is because she has been in contact with trees, perhaps because a demon has intervened, perhaps because of something else. We cannot say why.' It is precisely in order to avoid this kind of collapse of all explanations that medieval philosophers were committed to the principle of intelligibility. Only a world in which certain structures regulate the behaviour and development of various things is an intelligible world. And only in such a world can we provide explanations for facts, including epistemic facts.

There is still another reason for the appeal to basic Aristotelian principles. As I repeatedly pointed out, both Aquinas and Buridan take it to be of crucial importance that we have natural cognitive capacities that are correctly actualised under normal circumstances. Now these capacities are important not only for the acquisition of knowledge. They are also required for the evaluation of knowledge and for the reflection on the possibility of knowledge. We could not engage in philosophical debates about the range and possibility of knowledge if we were not equipped with cognitive capacities that enable us to develop sceptical and anti-sceptical arguments. And we would not be able to put forward coherent and sound arguments if we did not have reliable capacities that make it possible to develop a well-ordered series of premises and conclusions. Should we have no such capacities, we could always ask:
'But why should I trust my own way of arguing for or against the possibility of knowledge? If I lack reliable cognitive capacities, nothing can be taken for granted, not even my reflection upon sceptical arguments. It is precisely to refute this kind of self-destruction of philosophical debates that medieval philosophers subscribed to the metaphysical principle that human beings are endowed with more or less reliable cognitive capacities. Every rational debate presupposes the use of these capacities.

It is important to pay attention to these metaphysical principles that formed, as it were, the framework for sceptical debates, not only when looking at epistemological discussions in the later Middle Ages, but also when studying the evolution of sceptical debates from the thirteenth to the seventeenth century. What made radical scepticism in the early-modern period possible was not so much the invention of new arguments. All the relevant arguments, ranging from sensory illusions to dreams, hallucinations and demonic as well as divine deception, were already present in the medieval period. What made a radicalisation possible was the use of these arguments in a new theoretical setting. This is most obvious in Descartes, who introduced the famous radical doubt by bracketing seemingly uncontroversial metaphysical principles concerning the structure of a well-ordered world and the general reliability of our cognitive capacities. What is so radical in the First Meditation is not the appeal to an omnipotent demon but the fact that Descartes discusses this hypothesis without neutralising it by invoking the principle that a demon cannot destroy the natural capacities of subordinated beings.

This leads me to a final methodological remark concerning the study of the history of scepticism. When examining the rise of radical sceptical arguments, we should not simply concentrate on isolated arguments or on texts that transmitted these arguments from Antiquity to the early-modern period. Nor should we look for so-called medieval precursors of Cartesian arguments. It is of crucial importance to evaluate the metaphysical framework in which these arguments were situated—a framework that dramatically changed in the early-modern period due to the decline of Aristotelianism. As soon as Descartes and other seventeenth-century authors no longer accepted the claims that there are natural substances in the world, endowed with capacities that are meant to be correctly actualised, the entire picture of the natural world changed—not only the picture of the objects to be investigated, but also the picture of the investigating human subjects. It was no longer possible to assume that human beings are endowed with natural cognitive capacities and that they can correctly actualise them under normal circumstances, thus acquiring knowledge. The first questions to ask were why we are entitled to ascribe reliable cognitive capacities to human subjects and why we are justified in assuming that the use of these capacities yields knowledge. This means, of course, that philosophical enquiries were inevitably driven by a sceptical motivation—a motivation alien to medieval authors inspired by epistemological optimism. It is, therefore, not surprising that Mersenne, Gassendi, Descartes and many other modern anti-Aristotelians did not only ask what the appropriate objects of scientific investigation are and how these objects ought to be studied. They also (and
even primarily) raised the sceptical question whether such an investigation is possible at all. The rejection of metaphysical principles that had been at the basis of Aristotelian optimism inevitably led them to formulate this question. I emphasise this point because it is sometimes argued that radical scepticism is a natural attitude that every philosopher adopts once he or she reflects upon the possibility and limits of knowledge, no matter what his or her metaphysical commitments are. When we look at the way medieval Aristotelians and early-modern anti-Aristotelians dealt with sceptical hypotheses, we see that such an attitude is far from being metaphysically neutral. It was precisely their metaphysical position that motivated them to accept or to question the thesis that knowledge is possible.

NOTES

1. Popkin (2003, 35) claims that ‘prior to the publication of Sextus Empiricus, there does not seem to be very much serious philosophical consideration of scepticism.’

2. Pasnau (2003, 214) neatly summarises the main thesis of this research tradition: ‘Skepticism simply ceased to be a prominent topic of discussion until the end of the Middle Ages. Instead, attention was focused on how knowledge is acquired. Here the issue was not how to define knowledge—the question that Plato originally posed and that dominated later twentieth-century epistemology—but how to understand the cognitive operations that generate it.’

3. See Wittweer (2002). However, there is no sign of a wide reception in the later Middle Ages. It would therefore be misleading to speak about a Pyrrhonian tradition in the Middle Ages. Nevertheless, the simple fact that the text was translated and that manuscripts have been transmitted in three important intellectual centres (Paris, Venice, Madrid) testifies to the interest in sceptical sources.

4. See Schmitt (1972, 18–42). In the second half of the thirteenth century, Henry of Ghent made explicit use of both Cicero’s and Augustine’s texts. For an analysis of this background, see Perler (2006, 33–85).

5. On the origin and development of this theory of twofold power, see Courtenay (1985, 1990).

6. On debates in the Scotist tradition, see Randi (1987). This tradition shaped theological as well as philosophical debates far beyond the medieval period, as Funkenstein (1986, 117–201), convincingly showed.

7. Even when repeating his claims, they did not simply present antisceptical arguments but critically discussed and evaluated them. On the variety of Aristotelian arguments that paved the way for sceptical debates, see Barnes (1987).


9. On the classification of angels and the role bad ones, the demons, play in Aquinas’s metaphysics of creation, see Summa theologicae (= STh) I, q. 63–64. For a comprehensive analysis of Aquinas’s angelology, see Suarez-Nani (2002). On the philosophical impact of angelology, see Irrribaren and Lenz (2008).

10. See Quaestiones disputatae de malo (= De malo, q. 16, art. 8, corp., Opera omnia XXIII, 320–1); STh (I, q. 57, art. 4, corp).
11. Aquinas presents the core idea of this cognitive theory in STh (I, q. 84–86). For a detailed exposition, see Pasnau (2002, 267–329), and Perler (2002, 61–89).

12. See De malo (q. 16, art. 11, corp., Opera omnia XXIII, 330).

13. De malo (q. 16, art. 12, corp., Opera omnia XXIII, 333): ‘Est autem considerandum quod intellectus hominis operatio secundum duo perficitur, scilicet secundum lumen intelligibile et secundum species intelligibles, ita tamen quod secundum species fit apprehensio rerum, secundum lumen intelligibile perficitur judicium de apprehensis. Inest autem animae humanae naturale lumen intelligibile’.

14. De malo (q. 16, art. 12, corp., Opera omnia XXIII, 333): ‘... et ideo, sicut in rebus corporalibus superior uirtus adiuuat et confortat inferiorum uirtutem, ita per lumen angelicum-confortari potest lumen intellectus humani ad perfectius judicandum. Quod angelus bonus intendit, non autem angelus malus; unde hoc modo angeli boni mouent animam ad intelligendum, non autem demones.’

15. That Aquinas attributes a key role to this thesis becomes clear in the fifth of the so-called ‘Five Ways’ he adduces in order to demonstrate God’s existence. In STh (I, q. 2, art. 3, corp.), he argues that all natural things are ordered towards an end (‘ordinantur ad finem’) and that, consequently, there must be a being that establishes this order. It is the premise of this argument that expresses a commitment to a metaphysical principle: Things do not arbitrarily or randomly exhibit certain properties, nor do they randomly actualise certain capacities and thereby fulfil certain functions. What properties and capacities they have and how they can use them is fixed by a certain order—an order that is given in nature and that cannot be changed.

16. He emphasises this point in STh (I, q. 86, art. 1).

17. STh I (q. 85, art. 6, corp.): ‘Objectum autem proprium intellectus est quidditas rei. Unde circa quidditatem rei, per se loquendo, intellectus non fallitur. Sed circa ea quae circumstant rei essentiam vel quidditatem, intellectus potest falli, dum numin ordinat ad alium, vel componendo vel dividendo vel etiam ratiocinando.’

18. This does not amount to the claim that the intellect immediately grasps the entire essence when it comes in contact with an object. There can be (and, in fact, often is) a transition from a first stage of partial and inadequate understanding of an essence to later stages of more complete and more adequate understanding. The crucial point is not that there is right from the start a full understanding, but that the intellect is, as it were, from the start on the right track: Even the most incomplete grasping includes some aspects of the essence. On this epistemological optimism that is at the bottom of Aquinas’s theory of intellect, see Kretzmann (1991) and Perler (2002, 65–70).

19. Not only external circumstances, but also internal ones (e.g., dysfunctional sense organs), are to be taken into account, as Aquinas explains in STh (I, q. 17, art. 2, corp.). But he hastens to add that dysfunctions are exceptional cases. In principle, the organs function correctly and therefore provide correct sensory information—what happens in some cases should not be conflated with what happens in most cases.


22. See STh (I, q. 93, art. 2, 4 and 6).

23. See STh (I, q. 25, art. 3, ad 2); Summa contra Gentiles (= ScG; I, cap. 39, n. 316–23, pp. 48–49).


26. *In Anal. Post.* (I, q. 2, corp.): '... circa tales propositiones euidentes intellectus posset decipi per causam supernaturalem; quia deus posset facere ignem sine caliditate, et posset facere in sensu tuo et conseruare speciem sensitivam sine obiecto, et ita per istam euidentiam tu iudicares ac si oblectum esset praesens, et iudicares falsum.'

27. *In Anal. Post.* (I, q. 2, corp.): 'Tamen illa euidentia naturalis bene dicitur naturalis, quia secundum illam non potest homo decipi stante communi cursu naturae, licet deciperetur per causam supernaturalem; et haec euidentia sufficit ad naturalem scientiam.'

28. To use Williams's terminlogy (see Williams 2001, 151), one may say that the person who claims to have knowledge based on natural evidence is in a 'default position.' It is the objector challenging these knowledge claims who is in charge of justifying his sceptical position.

29. See *In Anal. Post.* (I, q. 2). A similar list can be found in *In Metaphysicen Aristotelis Quaestiones (= In Met.; I, q. 2).* All the examples Buridan mentions can be traced back to Diogenes Laertios and to other ancient authors who reported sceptical arguments, as Borbély (2005) showed.

30. See *In Anal. Post.* (I, q. 2, ad 3).

31. *In Met.* (II, q. 2, f. 10ra): 'Natura enim quantum est de se semper agit recte et perfecte, sed alicuando per impedimentum accidit peccatum in natura siue eius operatione.'

32. *In Met.* (II, q. 1, f. 9rb): '... intellectus per naturalen inclinationem suam ad verum predispositus per experimentas assentit universali principio.' On the role natural inclination plays in Buridan's epistemology, see Zupko (1993, 211–221).

33. See *In Met.* (II, q. 1, f. 9ra).

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