

Perceptual, Reflective, and Speculative Doubt: An Engagement with Nyāya

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Abstract: In this paper I present the distinction between perceptual, reflective, and speculative doubt by engaging with the work of (mostly) early *naiyāyikas*. I argue that the definition of the causes of doubt offered by Gautama Akṣapāda in the *Nyāya-Sūtra*, and commented upon by later *naiyāyikas* leads to a distinction between perceptual and reflective doubt, but not to a notion of speculative doubt. I then move on to critically assess J. N. Mohanty’s comparison of Descartes’s method of doubt with the *Nyāya* theory of doubt through the lens of Janet Broughton’s work on Descartes’s Method of Doubt.

Key words: perceptual doubt; speculative doubt; reflective doubt; perceptual oscillation; cognitive oscillation; assertoric content; erotetic content

1. INTRODUCTION

In this paper I argue that early *naiyāyikas* (proponents of *Nyāya*) isolate one kind of perceptual doubt, which allows them to classify perceptual states in a non-binary way. Perceptual states, rather than being either veridical or non-veridical, are categorized as being either veridical, non-veridical, or dubious.¹ In addition, one of the cases commonly discussed by *naiyāyikas*, the Post-Person case, can be elaborated upon so as to bring in to focus the issue of perceptual oscillation, where a subject’s perceptual state oscillates between two distinct perceptual contents. The perceptual oscillation, I argue, is to be understood through the positing of an erotetic component in the content of the perceptual doubt. In contrast to the long discussions of perceptual doubt found in *Nyāya*, *naiyāyikas* do little to demarcate the notion of speculative

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1. I would like to thank Matthew Dasti for pointing out to me this aspect of the *Nyāya* project.

doubt; although they do capture a notion of reflective doubt that sits between perceptual and speculative doubt.

After presenting the three kinds of doubt, I move on to assess J. N. Mohanty's comparison of Descartes and Nyāya on doubt. Using Janet Broughton's (2002)—*Descartes's Method of Doubt*—I argue that Mohanty overreaches when he claims that the Nyāya theory of doubt does not reach to the reflective level of philosophical doubt found in Descartes. My argument is based on the idea that all kinds of doubt can be philosophical, even if they are not philosophical in the particular way that Descartes uses doubt. For the purpose of transparency about the meaning of terms, I offer translations from Sanskrit to English and some commentary on them.

Sanskrit Term	English Translation	Notes on Translation
<i>samśaya</i>	doubt	Most, if not all, translators take <i>samśaya</i> to be equivalent to 'doubt' in English
<i>niścaya</i>	certainty, determinate, unquestioned	There are different translations of <i>niścaya</i> . In her (2004) translation of the <i>Navya-Nyāya-Bhāṣā-Pradīpa</i> of Mm. Mahesh Chandra Nyayaratna, Ujjwala Jha translates <i>niścaya</i> as 'determinate'. In their translation of Gautama's <i>Nyāya-Sūtra</i> and Vātsyāyana's <i>Nyāya-sūtra-bhāṣya</i> , Mathew Dasti and Stephen Phillips (2017) translate <i>niścaya</i> as 'certainty'. A more literal translation of <i>niścaya</i> , offered by Ganeri ² , is 'unquestioned' as applied to something that was once questioned, but is no longer in question or questioned.
<i>nirṇaya</i>	certainty	Most translators take <i>nirṇaya</i> to be equivalent to 'certainty' in the subjective sense in English.

2. PERCEPTUAL DOUBT

In order to capture a specific kind of doubt discussed by naiyāyikas, I will introduce the term *perceptual doubt*. As will be shown in this section, the use of the term 'perceptual doubt' is quite restricted. It does not pertain to all of the kinds of doubt that one finds classified by early naiyāyikas. In particular, it does not pertain to doubts that arise after one has heard a controversy because perceptual doubts are not doubts that merely follow after a perception. Rather, perceptual doubts are doubts that arise within perceptual consciousness.

Perceptual doubts are first and foremost *reactive*, there is something that causes the perceptual system to kick up doubt into one's perceptual consciousness. Perceptual doubts are *perceptually triggered* in that the doubt arises in one's consciousness with the perception itself without one actively and intentionally doubting the content of their perceptual consciousness. Perceptual doubts are a kind of perception that sits between veridical and non-veridical

2. This translation comes from a conversation with Jonardon Ganeri.

perception. The existence of them challenges the idea that perception can be correctly modeled on a binary template, where every perception is either veridical or erroneous (non-veridical). By examining the phenomenon of perceptual doubt we come to see that perceptual states can be dubious. In general, perceptual doubts are first-person testable. One can resolve their perceptual doubt through corroboration. To draw out some general features of perceptual doubts, consider the following cases:

Rope-Snake

On a walk one day, Anjana appears to see a snake. She is frightened by snakes, so she slowly backs away from the location where there appears to be a snake. Noticing that it did not move relative to her own movement, she hesitates from backing further away and looks more carefully. Again, it appears as a snake. Curious, she moves closer. It still appears as a snake. However, because it is not moving, she moves even closer. Now it appears as a rope. She reaches down to grab it and confirms that it is a rope. The lack of mobility is now explained—it was a rope all along.

Post-Person

On a walk one day, Anjana turns her head to the left and sees something in the distance that is longish and thin. She cannot quite make out what it is. As she moves closer it appears to her one moment as a post, and at the next moment as a person. She walks toward it turning this way and that in order to see how it looks from different angles. As she does so her mind starts to oscillate between the two appearances from moment to moment until she comes close enough and sees only a post. She then walks straight towards the post. She touches it and confirms that it is a post.

Rope-Snake is commonly used to discuss perceptual error and the misplacement theory of illusion as a way of accounting for perceptual error.³ Post-Person is commonly discussed when introducing the category of dubious perception as one kind of perception alongside veridical and non-veridical perception. To better understand Post-Person, I will distinguish between two stages of it.⁴

In Post-Person-1, we are to imagine the static situation where Anjana's perception arises as an indeterminate perception based on veridically seeing the longish thin medium object in the distance, but being uncertain as to whether it is a post or a person. That is, in stage 1 of Post-Person, there is no

3. See Vaidya 2013 for discussion of the misplacement theory of illusion.

4. Matthew Dasti questions whether in Post-Person there is any perceptual error. His question can be answered by drawing a distinction between two phases of Post-Person.

movement toward the object in the distance on the part of Anjana. Anjana only tries to determine what is before her by focusing her attention on different aspects of what she sees. She does not move to any different location or viewing angle to acquire more information. She is uncertain because of non-determination of what is in the distance. Post-Person-1 is a case that is used to draw the threefold distinction between veridical perception, dubious perception, and non-veridical perception. Anjana has a veridical perception of a longish thin medium sized object in the distance based on shape and size, however, she doesn't have determination of whether it is a post or a person.

In Post-Person 2, we are to imagine the static situation developing into a dynamic one where Anjana moves to different locations to get a better view. Sometimes she looks at the post from one angle and distance, and other times from another angle and distance. Although there can be perceptual oscillation during phase 1 (to be discussed below), in phase 2, perceptual oscillation is present. Although Anjana starts with a situation that is described in Post-Person 1, as she walks toward the longish thin medium sized object in the distance her mind oscillates between two perceptions that are more determined. One is a post like perception. Another is a person like perception. But neither is just a veridical perception of a longish thin medium object in the distance. The case described above starts as Post-Person-1, but develops into Post-Person-2.

As I have described the cases, perceptual error is present in both Rope-Snake and Post-Person. In Rope-Snake, Anjana sees a rope as a snake, and as soon as she starts walking she has an oscillation between seeing a post as a person and seeing a post as a post because of the different looks she gets on the longish thin medium object (the post). However, there are important differences between these cases.

In Rope-Snake, Anjana has the illusion of seeing a snake on the basis of really seeing a rope. However, because what she sees does not move, she doubts whether it is a snake, and then decides to approach it. Her curiosity drives her to investigate the object, but her perceptual consciousness neither arises with doubt about what is before her, nor does her mind oscillate between having an illusion of a snake and seeing a rope. She has the illusion all the way up to the moment where she sees the rope and grabs it to confirm it is a rope. While Rope-Snake involves doubt, in so far as Anjana is curious about what is before her, it is not a case of perceptual doubt. Rather, it is a case of non-veridical perception where on the basis of observing other features of the object, the lack of motion, Anjana becomes curious—has doubts—about what is in the distance and decides to investigate further. While perception

can trigger curiosity that leads to further investigation such that one comes to know something, cases where perception does that need not be classified alongside cases where perception triggers doubt as it arises in one's consciousness. The former kind, I call, *indirect cases* of perceptual doubt—cases where doubt comes about after perception has occurred—while the latter kind, I call, *direct cases* of perceptual doubt—cases where doubt arises in one's perceptual consciousness. The distinction makes clear the earlier point: some doubts simply follow after a veridical perception has occurred, other doubts are part of the content of the perception itself. Direct cases are the ones that challenge the binary view of perception as being either veridical or non-veridical. In 3, I will discuss indirect cases of perceptual doubt relative to explaining the notion of reflective doubt.

In his commentary on the definition of doubt in NS, Vātsyāyana offers a clear statement of the nature of perceptual doubt with respect to Post-Person. Vātsyāyana says:

Doubt is deliberative awareness in need of details about something particular, which is produced (1) from common properties being cognized. For example, a post and a person have properties in common. A subject who has experienced both posts and persons in the past sees something in the distance with a certain height and width and desires to know which it is. Wondering, "Is it the one or the other?" He is unable to decide. Such cognition, which does not provide definitive ascertainment, constitutes doubt. The subject experiences a property common to two things, but does not experience something distinct to either one. So, the experience requires further information if he is to have knowledge. This provokes doubt. The doubt is deliberative awareness in need of details about something particular. (Dasti and Phillips 2017: 41)

Contemporary scholars such as Mohanty (1993), Shaw (2016), and Ganeri (2001) have noted a number of important features of Post-Person.

1. In order to have perceptual doubt one must have a reactive doubt—a doubt that is triggered by the perceptual system being in contact with something. Anjana is certain there is something in the distance, but she is in doubt about what it specifically is. In other words, perceptual doubts are anchored on items in a subject's perceptual environment, which they are reacting to. These entities can trigger a doubt for a subject as long as the subject possesses the relevant concepts involved in the doubt, such as the concept of a person and the concept of a post. And the things picked out by the concepts are such that they have objective properties in common that can trigger a doubt because more perceptual information is required to fill in which of the two

alternatives is actually present. That is, which one is error, and which one is real.

2. Although there can be more than two alternatives that are present in a doubt, there are at least two, and they are mutually incompatible.⁵ The general form of a perceptual doubt, restricted to just two alternatives, is: S has a doubt about whether x is F or G , where F and G are mutually incompatible with respect to obtaining in x .

3. There is relative weighting⁶ in the doubt, which along with other factors, such as distance, angle, approach, and common properties between the two alternatives, partially explains why the subject's mind oscillates between the alternatives. Initially, the weights for each alternative, post vs. person, are the same because of the equal plausibility of the opposing hypotheses, given the current input. That is, the object is overdetermined in perception. One sees some set of properties that are in common between two exclusive options, person and post. The perceptual trigger activates both qualifiers, post and person. However, the oscillation between the alternatives occurs as one approaches the object because of differences due to the angle of approach and other ambient factors that feed the perceptual system. As Anjana walks towards the longish thin medium sized object in the distance it now seems like a post, from one angle, and it later seems like a person from a different distance and angle. Gaṅgeśa⁷ notes in objecting to an opponent, that if the

5. Mohanty (1993, 107) says, "Gaḍādhara holds that the two contents or *viśeṣyatās* belonging to a doubt have the following three properties; 1. One of them is incompatible with the other in the sense that one acts as a hinderance (*pratibandhaka*) to the other: 2. Nevertheless, the two are co-present; and 3. The one content belongs to the knowledge only as qualified by the other, and therefore not as an independent content."

6. Mohanty (1993, 108) says, "Gaṅgeśa . . . tells us soon . . . that doubts are characterized by *kotyutkatatva*, i.e., difference in the relative strength of the alternative predicates. In a mere co-presence of two predications, the question of relative strength of the alternatives would not arise. Vācaspati refers to three possibilities from this point of view: either the affirmative predicate (p) is relatively stronger, or the negative predicate ($\text{not-}p$) is the stronger one, or it may be that both the alternatives are equally strong. In any case, doubt would involve an oscillation of the mind between the two alternatives: it is this which he has in mind when Vardhamāna so aptly characterizes doubt as *dolāyitānekakotika*, i.e., as a knowledge where there is, as it were, an oscillation between the alternatives. I think, it is this state of the mind, this *dolāyitva* that is an essential character of doubt."

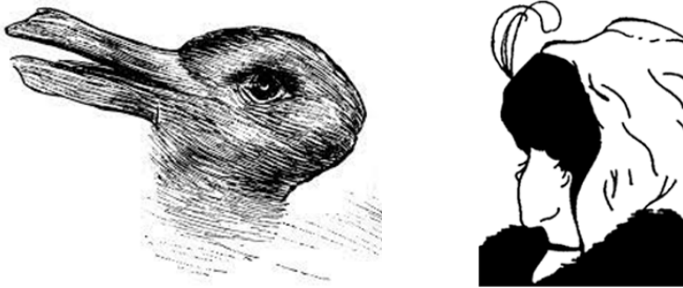
7. Mohanty (1993, 125) says, "Gaṅgeśa holds, contrary to the opinion of some *naiyāyikas*, that in a doubt the two alternatives do not present themselves with equal weight. Why should this be so unless they are ascribed to one and the same substantive? With regard to one substantive S_1 , p may carry more weight than $\text{not-}p$. In another, S_2 , $\text{not-}p$ may be weightier than p . This fact that in a doubt one alternative may be more weighty than the other shows, according to Gaṅgeśa, that the substantive plays a determining role in it. Knowledge of the substantive must therefore be regarded as a necessary condition of a doubt. (It may be noted that Raghunātha does not agree with Gaṅgeśa.)"

weighting were the same all the way through, there would be no oscillation between the alternatives, but since there is, the weighting is not the same.⁸

I now want to take a deeper look at the phenomenon of perceptual oscillation, both in phase 1 and 2 of Post-Person. First, let me provide an anchor for understanding perceptual oscillation outside of the context of Post-Person. We can distinguish between two causes of perceptual oscillation: rivalry and attention.

Rivalry induced perceptual oscillation occurs in binocular rivalry. Binocular rivalry occurs when one's binocular perceptual state oscillates between two stimuli because each eye is receiving distinct stimuli. It is a type of multi-stable perception where one's binocular, as opposed to their monocular, perceptual state irregularly fluctuates between the two stimuli. For example, suppose Anjana's left eye only sees the queen of spades and her right eye only sees the king of hearts. Upon introducing the stimuli at the same time, Anjana's perceptual state will oscillate irregularly between binocular vision of the queen of spades and the king of hearts.

Attentionally induced perceptual oscillation can occur in Gestalt switching cases. Consider the duck-rabbit illusion and the old lady–young woman illusion.



In both of these cases the change in perceptual content occurs because of a change in attentional focus. Everyone initially lands on one of the two images. For example, the duck and the young woman. And then if they are told that there is a rabbit and an old woman that can also be seen, they can switch their attentional focus until the other one shows up. Sometimes, however, intentionally shifting one's attention in the right way need not occur

8. See Phillips 2020, 97. Gañgeśa says, “[C]ognition of a property-bearer is (as we have said) a causal condition for doubt. Otherwise, there would be neither the rule, respecting doubt, of the property-bearer (i.e., that a property-bearer must be cognized), nor the possibility that one alternative could be weightier.”

While it is common in the literature to use the term ‘mental oscillation’, I have changed it to ‘perceptual oscillation’ in order to draw the terminology closer to the term ‘perceptual doubt’.

in order for a Gestalt switch to occur. Thus, attentionally induced perceptual oscillation can occur in Gestalt switching, but Gestalt switching which produces perceptual oscillation can occur without attentionally inducing a shift in perspective. In general, the switch rate in non-intentional perceptual oscillation is not as irregular and fast as what is commonly found to occur in binocular rivalry.

In describing Post-Person in both stage 1 and 2, we can take note of how the perceptual oscillation occurs. Although rivalry is one good way to fix on the phenomenology of perceptual oscillation, since it is static and induced artificially, it is not an accurate way to capture the perceptual oscillation in either phase 1 or 2 of Post-Person

Rather, in phase 1 Anjana's perceptual oscillation occurs because of attentional focus. She veridically sees some features of the post, the longish thin medium shape and size of it, but by attentionally focusing down on part of her visual field, she induces an oscillation between a post-like perception and person-like perception.

In phase 2 Anjana's perceptual oscillation occurs because of a change in her visual field. In moving to different locations, where the distance and angle are different, Anjana gains different information about what is in the distance. Her perceptual oscillation does not occur because she attentionally induces it from any given location, but because she has moved to different locations where there is more determinacy in the perception. The perception appears one way from one position, and another from a different position.

Now that we have a fix on some of the causes of perceptual oscillation, I want to raise the question of what kind of content is to be found in perceptual doubt with respect to perceptual oscillation. There are two options: assertoric content vs. erotetic content.⁹ Is it that the content of the perceptual state is oscillating assertively between determinate contents? For example, does it oscillate in the same way that binocular rivalry induces perceptual oscillation—now Anjana sees the queen of spades now she sees the king of hearts? Or: is it that the mind is oscillating interrogatively with respect to content that is veridical and determinate at one level, but in need of further details (thus indeterminate at another level)? That is, does it oscillate in a way where a question arises because one has attended more to certain details or has changed their position relative to what they are viewing?

On the assertoric interpretation, as Anjana approaches the entity in the distance which is the object of doubt, her perceptual state oscillates between two assertions. Now, it is a person. Now, it is a post. The doubt is registered as

9. I would like to thank Stephen Phillips for discussion of this distinction in relation to Mohanty's presentation of mental oscillation.

arising after one notices, over time, that their mind is presenting them with two distinct assertions of what is in the distance. That is, the doubt does not arise *with* and *within* the perception itself, it is deliberately made conscious after one notices the distinct perceptual contents with respect to the same location. The assertoric interpretation is consistent with the view that as the subject approaches the object in the distance the perceptual content is determinate all the way through. What changes over time is what is presented. Now, it is a person. Now, it is a post. In both occurrences, the content of the perception is determinate and asserted. Thus, on the assertoric interpretation of perceptual oscillation, perceptual doubts would all be indirect. There is no substantive difference between Post-Person and Rope-Snake since in both cases doubt arises outside of the perceptual consciousness itself. On the assertoric interpretation early *naiyāyikas* would not have demarcated a kind of perception between veridical and non-veridical that is unique because it involves dubious cognition in its content.

On the erotetic interpretation we can make sense of both phase 1 and phase 2 of Post-Person. In phase 1, Anjana has a determinate veridical perception of common features between a person and a post, and indeterminacy with respect to further details that would give the fully flushed out perception of the post. Her perceptual consciousness arises with questions partly because of the indeterminacy of the assertive content—longish thin medium object. If she changes her attentional focus, she can induce perceptual oscillation between two questions: Is it a post? Is it a person? In phase 2, as Anjana approaches the longish thin medium object in the distance her perceptual state oscillates between two questions depending on the distance and angle. Now, is it a post? Now, is it a person? The oscillation occurs, not because of attentional shift, but because of locational shift. The erotetic interpretation is consistent with the view that the perceptual state is determinate at one level and in need of further details at another level. In fact, it is overdetermined at the level where it is indeterminate, because there are two alternatives. As a consequence, the perceptual state arises along with interrogative deliberation: Is it a post? Is it a person?

These two interpretations need not be in opposition to each other with respect to the general production of perceptual doubt. Some cases can follow the assertoric interpretation while others follow the erotetic interpretation. However, in identifying what is distinctive about perceptual doubt as a kind of doubt discussed by *naiyāyikas* with respect to Post-Person, I favor the erotetic interpretation for four reasons:

1. The erotetic interpretation captures the phenomenology of doubt as it arises in perception without the use of reflection as an intentional cause

of doubt. That is, perceptual doubts under the erotetic interpretation do not arise because the subject has reflectively and consciously decided to doubt their perceptual content. While it is true that Gautama defines doubt through the use of 'deliberation', it isn't necessary that the deliberation he speaks of is reflectively deployed as opposed to perceptually triggered. Perceptual doubt can arise independently of the use of reflection. Perceptual doubts trigger perceptual deliberation based on partially determinate and partially indeterminate perceptual content.

2. The erotetic interpretation also provides a way in which one can see how perceptual doubts challenge the idea that perception is binary in two distinct ways. There is dubious perception between veridical and non-veridical perception, and there is also erotetic content in perception as opposed to only assertoric content.

3. The erotetic interpretation fits the fact that there are (i) properties in common between the alternatives that (ii) require further filling in so as to (iii) decide or ascertain what is present. U. Jha translates Mm. Mahesh Chandra Nyayaratna on the division between two types of cognition. By contrasting determinate cognition against dubious cognition, we see that the latter is one where there is a lack of determinacy at some level. In *determinate* cognition there is only one qualifier, as opposed to two, and there is no failure on the part of the perceptual system to determine a unique perceptual content at the conscious level of perception. In *dubious* cognition we have determinate cognition at some level, along with indeterminacy at another level, which requires further details to be filled in for the perception to be fully determined.¹⁰

4. The phenomenological facts feed into a story about how doubt is at the origin of inquiry in the Nyāya tradition. In an explanation of Vātsyāyana, Ganeri (2001, 13) says that, "A properly conducted inquiry . . . is that process by which we move from an initial uncertainty about the nature of the thing or concept under investigation, to an ascertainment of its properties. . . . The

10. See Jha 2004, 133:

[F]rom another angle cognition is of two types: determinate and doubt. The cognition, in which only that (say 'x') or an absence of that (say absence of 'x') appears as a qualifier, is determinate one. Again, the cognition, in which that and absence of that (say 'x' and absence of 'x') both appear, is (the case of) doubt. For instance, 'this is a man', is determinate cognition, whereas, 'this long (thing) is a man or not' is doubt. In the former only one, i.e., 'manness' appears as a qualifier whereas in the latter both, 'manness and its absence' appear as qualifiers. In the case of doubt, in one and the same qualificand, 'counter-positive' and its absence both appear as qualifiers regularly. There only one qualificandness appears as described by both positive and negative qualifiers just as in the above-mentioned example the qualificandness in the long qualificand is described by both the qualifiers in manness and qualificerness in the absence of manness.

first element [in the process] is the existence of a doubt (*samśaya*) which initiates the investigation.” The erotetic interpretation makes sense of how perceptual doubt triggers deliberative questioning. The assertoric interpretation leaves one in the dark as to how perceptual doubt is a source of inquiry. Mohanty says, “Doubt is no doubt one of the sources of enquiry, though not all doubt is so” (1993, 108). What kind of doubt could be the source of inquiry? Direct perceptual doubts understood on the erotetic interpretation.

3. SPECULATIVE DOUBT

Speculative doubts stand in contrast to perceptual doubts. Speculative doubts, unlike perceptual ones, are intentionally deployed onto something, such as testimony. They are deployed at the personal level rather than automatically deployed at the sub-personal level. Although perceptual experience can play a causal role in the generation of a speculative doubt being deployed, perceptual experiences are not the primary cause of a speculative doubt being deployed. Rather, a subject’s free choice to intend to doubt something that is not a perceptual doubt is the primary cause of the doubt being deployed. Theoretically, one can characterize two kinds of speculative doubts.

Non-radical speculative doubts are doubts that one raises about something based on specific reasons. For example, if one doubts whether someone, who is known by them to be a frequent liar, is currently telling them the truth, they have engaged in a non-radical speculative doubt. Their doubt is speculative because they have raised it and deployed it onto what the liar has said. They have intended and decided to doubt what has been said. There are two kinds of cases based on whether knowledge is first-hand or second-hand.

Suppose Anjana knows Rupali well, and works with her frequently, and on the basis of that interaction knows that she is a frequent liar. In such a case Anjana’s doubt about a statement Rupali made might arise immediately without her consciously intending and deciding to doubt Rupali’s statement. In that case, her doubt is a perceptual doubt. It arises upon her hearing the testimony of Rupali. However, suppose that Anjana only knows, from others, that Raj is a frequent liar. In such a case, upon hearing Raj’s testimony, no doubt might arise merely upon hearing his statement because the basis of her knowledge is second-hand, not first-hand, as in the case of Rupali. In such a case, Anjana consciously decides and intends to take a doubtful gaze on Raj’s statement. In contrast to the case of Rupali, where the doubt arises with her perceptual consciousness based on her prior experience, in the case of Raj, Anjana’s doubt is speculative. She intends to doubt, decides to doubt, and deploys doubt about what Raj says. She takes on the gaze of doubt for a specific reason, deciding whether she ought to believe what he says.

Anjana's doubt about Raj's statement is non-radical. It is reasonable (if not rationally required) to doubt what someone says when you know, through reliable second-hand testimony, that they are a frequent liar. Non-radical speculative doubts are generally first-person testable. One can discover whether a frequent liar's statements are true or false by seeking evidence that either confirms or disconfirms what they said.

Radical speculative doubts are raised when one doubts something by reaching out to a hypothesis that is not based on specific reasons or is highly unlikely. For example, if one raises the doubt as to whether their current experience is real or a dream, one is raising a radical speculative doubt. Nothing in their current or immediately prior experience gives rise to, or triggers, the deployment of the radical doubt. Rather, the subject consciously intends and decides to raise the doubt for some purpose. The speculative part pertains to the subject intending to raise the doubt.¹¹ The radical part pertains to the kind of hypothesis entertained when doubting. It is reasonable to doubt statements made by a frequent liar, when one has second-hand knowledge of them as a liar. And it is reasonable to wonder whether an experience one had, say a week ago, was real or a dream, when one has reason to believe that their memory is not as good as it used to be. However, it is generally not reasonable to doubt whether one's current experience is produced by a dream when there is no specific reason that raises the doubt.¹² Radical speculative doubts are generally not first-person testable.¹³ Although some people might be able to tell when they are in a certain kind of dream state, one generally cannot. There is no first-person test that can be applied to verify whether one is currently having a dream.

Are speculative doubts, in particular radical ones, to be found in early Nyāya? One might think that this question is easily answered by considering NS 4.2.31-32, where an opponent of Nyāya raises an objection based on dreams. I include Vātsyāyana's responses.¹⁴

11. Thanks to Malcolm Keating for pointing to the distinction between the two kinds of cases concerning the testimony of a frequent liar.

12. Malcolm Keating wonders whether a radical doubt could be speculative and reasonable had one, for example, just read Descartes's *Meditations* of Zhuangzi's *Butterfly* argument? Yes. Radical doubts can be speculative and reasonable, for example, when one is considering them in the context of philosophy where they are raised based on arguments about the nature of knowledge and knowledge sources.

13. I say 'generally' here because some people have the ability to reliably tell that they are in a dream. Perhaps the best way to make the point is to specify a kind of dream where it will turn out that because it is a dream of that type there is no first-person test. Of course, as Matthew Dasti points out, this would be circular because then it would be part of the definition of the specific type of dream under consideration that it is non-first-person testable.

14. I would like to thank Matthew Dasti for bringing these passages to my attention.

NS 4.2.31: (Opponent:) Your conception of things known through knowledge sources is akin to conceptions of objects encountered in dreams.

Vātsyāyana [273.6-7]: (Opponent:) In dreams there are no real objects of cognition but there are conceptions of them as real. In the same way, there are no real knowledge sources or objects of knowledge, although we do have conceptions of them as real.

NS 4.2.33: (Answer:) This is unproven, because you haven't provided a reason to accept it.

Vātsyāyana [273.12-274.6]: Your assertion—that knowledge of objects in the waking state along with the conception of things through knowledge sources is akin to conceptions of objects in the dream state—is unproven because you haven't provided a reason to accept it. That is to say, no good reason appears in support of your claim. Furthermore, you have given us no reason to accept that objects experienced in the dream state do not themselves exist. (Dasti and Phillips 2017, 65–66)

These passages contain a discussion of a radical speculative doubt concerning dreams. Based on them one could argue that radical speculative doubts can be found in early Nyāya. However, this conclusion would be too hasty. While these passages do contain a discussion of a radical speculative doubt, the source of the radical speculative doubt comes from the opponent (perhaps a Buddhist Yogācāra philosopher) who aims to challenge the Nyāya position. The radical speculative doubt doesn't arise from Vātsyāyana, he merely responds to it.

Thus, to make my question about the existence of speculative doubt in early Nyāya more precise it is best to distinguish between *being aware of and engaging* radical speculative doubts in debate from *classifying types of doubts* so as to capture radical speculative doubts. That is, I am not asking whether early naiyāyikas ever engaged and responded to radical speculative doubts. It would seem from the above that they would have had to, given the views of some of their opponents who are not commonsense realists. What I am asking is the following: does their classification of the causes of doubt, either explicitly or implicitly, lead to speculative doubt as a kind of doubt. To investigate my question one needs to return to the definition of doubt in Gautama where we find five sources of doubt.

NS 1.1.23: Doubt is deliberative awareness in need of details about something particular. It is produced (1) from common properties being cognized, (2) from distinguishing properties being cognized, (3) from controversy, (4) from non-determination by ex-

perience, and (5) from non-determination by lack of experience.
(Dasti and Phillips 2017, 42)

Although conditions (1)-(3) and (5) cannot provide for an account of speculative doubts, condition (4) could lead to a conception of speculative doubt.¹⁵ Consider the following argument.

1. Experience of the world does not determine whether one is a brain-in-a-vat or the subject of an evil demon deceiving them or neither of these because one is experiencing the world.
2. So, on the basis of reflecting on non-determination, one is in a position to raise a speculative doubt as to whether one is a brain-in-a-vat or the subject of an evil demon deceiving them.
3. So, on the basis of non-determination radical speculative doubts can be raised.

However, one can respond to this argument by noting that it only allows for radical speculative doubt *on the basis of one reflecting* and then intentionally deploying the radical skeptical doubt. No account is given for why a naiyāyika would do that. While it is possible to argue on the basis of (4) for radical speculative doubts, there is no reason to think that deploying radical speculative doubts is part of Nyāya with respect to major components of the tradition that survive over time. Dasti and Phillips inform us that while Vātsyāyana reads Gautama as telling us there are five distinct causes of doubt, Uddyotakara disagrees and holds that there are only three causes of doubt: (1) common property cognition, (2) from distinguishing properties being cognized, and (3) from controversy. Thus, trying to build an account of speculative doubt in Nyāya based on condition (4) would not survive reflection on the disagreement between Uddyotakara and Vātsyāyana.

As a consequence, I will consider the case of controversy where testimony is used, since controversy is part of both Vātsyāyana and Uddyotakara's lists. And while (2) is distinct from (1), on my account both (1) and (2) fall under perceptual doubt. It is really (3) that is more distinct from (1) and (2) in terms of causation because of the nature of controversy itself and the use of testimony as part of how the controversy is experienced by a non-expert wanting to learn about the controversy.

While explaining Gautama's definition of doubt in NS, Vātsyāyana says the following:

15. I would like to thank Matthew Dasti for bringing to my attention condition (4) as a possibility for radical speculative doubt.

Controversy amounts to conflicting views about a single thing or topic. To be in conflict is to be opposed, incompatible. One view is “There is a self (ātman).” Another is “There is not a self (*anātman*).” Furthermore, it is not possible that the thing could both exist and fail to exist at the same place. And no reason is found that would definitively prove the one side or the other. In such a situation, there is doubt, an absence of ascertainment of the truth. (Dasti and Phillips 2017, 42)

Uddyotakara comments:

The meaning of the word ‘controversy’ is discussion where there are contradictory views. Doubt arises for a subject becoming acquainted with a topic under discussion where there are contradictory views—given that our subject knows something about the thing or topic of dispute and it is undecided whether the assertion or denial is correct. The cause of doubt that arises from controversy depends on there being speakers or advocates. “Which side is proposing the correct view and which is proposing the incorrect view?” Such doubt arises for someone listening to the dispute. (Dasti and Phillips 2017, 42)

An example for discussion:

Controversy: Ātman-Anatman

Anjana has always been interested in whether or not there is an ātman. She has heard of the issue, but has never really studied the debate. One day she notices two people in the university plaza heatedly debating something. She walks closer to listen. She notices that they are debating whether there is an ātman. She listens intently to both sides of the controversy until the two debaters come to an end without resolving the issue. She walks away with doubt about whether there is an ātman.

Under the erotetic interpretation of Post-Person, it is a partially determinate and partially indeterminate cognition about something that triggers the perceptual doubt in the form of questions about what is in the distance at a more determinate level. A longish thin medium sized object is determinately seen in the distance, but many of the features, not being filled in forces the perceptual system to oscillate between two questions: Is it a person? Is it a post? Although the controversy is perceptually triggered because Anjana hears two debaters on an issue, is it really a perceptual doubt in the same sense of Post-Person?

On my view the answer is *no*. For Post-Person and Controversy to really be the same, we would need an analog of the common property condition that is a cause of doubt under NS 1.1.23, which is found in Post-Person.

There is no common property to be found between the two positions, ātman vs. anatman, that is resolved by the acquisition of further information. Rather, Controversy is a case of reflective doubt, and not perceptual doubt. Only causes (1) and (2) in NS 1.1.23 fall under *perceptual doubt*.

Reflective doubts are not *speculative*, since one does not choose to deploy them, and they are also not *perceptual*, since the doubt does not arise within the perception itself. Rather, reflective doubts are doubts that follow after a perception, and involve deliberative awareness on the meaning of the utterances involved in the controversy in order to produce the doubt. The main reason why Controversy is not a case of perceptual doubt is that the auditory perception involved in hearing the controversy is not itself dubious in the way in which there is a dubious cognition in phase 1 of Post-Person. In phase 1 of Post-Person the visual perception arises in such a way that it is determinate at one level, and indeterminate at another. By contrast, in Controversy, Anjana does not hear either side in a determinate way at one level and in an over determined way at another. Rather, it is through her deliberative awareness and reflection on what is being debated that she is put in a position of doubt about the existence of an ātman. Even though Controversy is reflective and Post-Person is perceptual, oscillation does occur in both cases.

In Post-Person there is *perceptual oscillation* between two questions: Is it a post? Is it a person? In Controversy there is *cognitive oscillation* as to the question: is it true that there is an ātman? As each side presents its position and arguments, Anjana's mind oscillates between the two sides. The oscillation here is assertoric. After hearing one side, Anjana has the content: it appears true that there is an ātman. After hearing the other side, Anjana has the content: it appears true that there is no ātman. The weight of each side's argument, as they go back and forth, induces the oscillation. But the oscillation isn't between: Is it true that there is an ātman? And, Is it true that there is no ātman? Rather, the question, "Is there an ātman?" in some sense is there prior to listening to the controversy. It is present because Anjana is interested in the topic. While the doubt has the form: is it true or not that there is an ātman? The oscillation has the form: Now it is true there is an ātman. Now it is true that there is no ātman. Given this description of the content, one might ask: how can controversy be a cause of doubt? Answer: although there is a question in Anjana's mind prior to listening to the debate, she gains additional information which at the end of the debate is unresolved and so she has either the same doubt, or further doubts about more specific things within the debate, such as what is the connection between ātman and brahman. Thus, while Post-Person is a case of perceptual doubt with percep-

tual oscillation that is erotetic, Controversy is a case of reflective doubt that involves cognitive oscillation that is assertoric.

I now want to consider whether a comment by Vācaspatimiśra on the notion of ‘controversy’ can be used to generate an account of speculative doubt in Nyāya? Vācasptimiśra says:

Although the word “controversy” (*vipratipatti*) derives from a prefix meaning “conflicting” (*vi-*) and a noun meaning “understanding” (*pratipatti*) (such that we might think at least two persons are involved), Uddyotakara indicates that the so-called “discussion” could be internal to the person having the doubt. (Dasti and Phillips 2017, 43)

Let’s consider Vācaspatimiśra’s comment in our exploration of whether speculative doubts can be found in Nyāya by contrasting two cases. The case just considered where Anjana listens to a controversy amongst expert debaters on a topic. The variant where Anjana plays out, via construction and reflection, the debate in her head. Here we imagine that Anjana uses counterfactual reasoning and imagination in order to first assume A (there is an ātman), and show what follows from it; and then subsequently assume not-A (there is no ātman), and show what follows from it.

In the case of internalizing the role of another, and playing out a debate counterfactually in one’s head, there is a question as to whether the doubt arises perceptually or is applied speculatively. For a doubt to be applied speculatively, in the case of internalizing a debate, one would have to intentionally doubt something within the context of working out one of the counterfactuals. For example, while considering the counterfactual whose antecedent is, suppose an ātman exists, Anjana might then reason to the conclusion that there would be something permanent in time. But where in her counterfactual reasoning would she apply a speculative doubt—an intentionally generated doubt. The process of internalizing a debate and working out the relevant counterfactuals does not have an interrogative form where a doubt is applied. Rather, it has the form of working out a counterfactual based on either assuming A or not-A through supposition and imagination. In working out these counterfactuals, speculative doubt is irrelevant. There is no place for them in working out the counterfactuals.

Nevertheless, in working out a counterfactual, one can have a *propositionally triggered* doubt. For example, on the supposition that there is an ātman, Anjana might conclude that everyone’s ātman is the same, and that we are all one with brahman. Upon reaching that proposition, a doubt might arise simply from her understanding of the proposition, and her background

theoretical commitments. The form would be: under the supposition that A is true, S arrives at *p*, and a doubt arises as to whether *p* could be true.

Thus, the causes of doubt characterized by Gautama and commented upon by some of the major *naiyāyikas* falls short of providing an account of speculative doubt—doubts that are intentionally deployed by the subject onto something. Although Gautama's definition does not yield to an account of speculative doubt, it does yield to an account of perceptual and reflective doubts, as well as propositionally triggered doubts.

4. EARLY NYĀYA IN COMPARISON TO DESCARTES

In section IV of his (1993) "The Nyāya Theory of Doubt," J. N. Mohanty compares Descartes's use of doubt to the Nyāya theory of doubt. He claims the following.

(A) While Descartes allows for a universal skepticism (one can be skeptical about anything), the Nyāya theory of doubt does not allow for universal skepticism, since doubt is always relative to something one is certain about—for example in seeing a post as a person, one is certain they are seeing something in the distance, which is overdetermined by the qualifiers 'post' and 'person'.¹⁶

(B) While for Descartes 'doubt' means 'to be a possible object of doubt' where the *Cogito* argument shows the limit of what is a possible object of doubt, on the Nyāya theory, nothing by itself, i.e., by virtue of any of its own properties, is doubtful. Rather, certain epistemic conditions may produce in a given person doubt about something.¹⁷

His comparative analysis leads him to draw three conclusions.¹⁸

(I) There are two senses of doubt. One captured by Nyāya and another captured by Descartes. And these two kinds of doubts are distinct from one another and the way in which one doubts with each of them is different.

(II) The kind of doubt captured by Descartes operates at the reflective level, and is tied to philosophical doubt. The Nyāya theory of doubt does not rise to the reflective level and is not attached to philosophy.

(III) The Nyāya theory of doubt erred by not going far enough to give an account of philosophical doubt, while Descartes erred

16. Mohanty 1993, 116.

17. Mohanty 1993, 119.

18. Mohanty 1993, 120.

when he sought to extend the logic of ordinary doubt to philosophical doubt.

I will briefly present some components of an interpretation of Descartes's method of doubt offered by Janet Broughton (2002) to critically assess Mo-hanty's comparison.

Broughton's interpretation of Descartes holds that the method of doubt has a unique subject matter: *first philosophy*.¹⁹ That is, Descartes's aim is to use the method of doubt to establish the principles that he believes are true and part of first philosophy.²⁰ According to Broughton, there is a strong maxim at play in Descartes's method.²¹

Strong maxim: I should withhold my assent from opinions that are not completely certain and indubitable, that is, those in which I find some reason for doubt.

Broughton says, "Descartes does *not* represent the strong maxim as an ordinary rule for conscientious belief" (2002, 46). Rather, the point is that if one wants to find the principles of first philosophy they ought to subject their beliefs to the strong maxim so as to destroy as many as possible to see what survives.²² The strong maxim is not intended to regulate beliefs in relation to acting reasonably.²³

Relative to the three kinds of doubt, perceptual, reflective, and speculative, Descartes's method only involves speculative doubts. The doubts are raised and intentionally deployed by Descartes for the purpose of destroying as many beliefs as possible to see what survives. Whatever survives is part of

19. Broughton (2002, 6) says, "Descartes associates the method of doubt with a special subject matter. It is the method he turns to when he begins "to search for the foundations of a philosophy more certain than the commonly accepted one."

20. Broughton (2002, 17) says, "I will be arguing that Descartes does indeed think there is a special advantage to establishing truths in such a way that we can defend them against radical skeptical attack. But this is not because he has a prior commitment to a very demanding conception of knowledge. Rather, I will argue, Descartes's use of the method of doubt enables him to execute a simple and coolly calculated strategy for establishing the first principles of philosophy he believes to be true."

21. See Broughton 2002, 44.

22. Broughton (2002, 45) says, "The meditator says the reason 'now' (*jam*) persuades him to regulate assent according to this maxim, and I take that to mean "now that I am eager to find ways to achieve a general demolition of my opinions." So, the point is not that conscientious believing requires me to withhold judgment about anything for which I can find some reason for doubt. Rather, the point is that *if* I want to demolish all my beliefs, then sticking to the strong maxim will help me to do what I want to do."

23. Broughton (2002, 48) says, "I believe Descartes is saying that the First Meditation doubts are . . . opposed to *certainty*, but not to reasonable belief. This is why he calls them slight, exaggerated, metaphysical, and hyperbolic, and why he thinks he can cleanly sever his mediations from questions about acting reasonably."

first philosophy. Descartes’s method of doubt does not arise from recognizing perceptual doubt or reflective doubt as an everyday phenomenon. While Descartes does find reason to engage in the method of doubt based on the fact that in the past his senses have deceived him, this does not show that he deploys speculative doubt based on recognizing perceptual doubt as something that challenges the binary view of perception.²⁴

While lending partial support to (I), Broughton’s interpretation also shows why (III) is wrong. With respect to (I), Descartes does use speculative doubts that are radical to find principles of first philosophy, but he does not demarcate either the notion of perceptual or reflective doubt. With respect to (III) Descartes neither intended the logic of ordinary doubt to be applied to philosophical doubt nor the logic of philosophical doubt to be applied to ordinary doubt. While Mohanty is sensitive to the scope of Descartes’s method of doubt in relation to practical affairs, he over reaches in thinking that Descartes erred *by extending the logic of ordinary doubt to philosophical doubt*.²⁵

Mohanty is also wrong about (II). He seems to think that only radical speculative doubts go along with doubt playing a role in philosophy. But all three kinds of doubt can be philosophical.

	Perceptual Doubt	Reflective Doubt	Non-Radical Speculative Doubt	Radical Speculative Doubt
Philosophical Doubt	Yes	Yes	Yes	Yes
Comments	A perceptual doubt can be part of philosophical theorizing and a source for philosophical investigation.	A reflective doubt can be the cause of philosophical inquiry and philosophical reflection.	A non-radical speculative doubt can be philosophical depending on the purpose.	A radical speculative doubt can be philosophical depending on the purpose.

When Mohanty questions whether *naiyāyikas* offer an account of doubt at the reflective level, what he should have said is that they failed to give an account of radical speculative doubt. It cannot be that they failed to discuss doubt at the reflective level. There are three reasons for this.

1. Controversy is not a case of perceptual doubt. Reflection on meaning is a necessary condition of Anjana being put in a state of doubt. While perception is also a necessary condition, the proximate cause is reflection.

24. Broughton (2002, 45) says, “Notice that the meditator’s motivation for using this maxim arises out of his initial characterization of his epistemic situation: he embraced a number of falsehoods in his childhood. . . . [A] person of common sense would not have a reason to regulate his judgment in accordance with the strong maxim, as Descartes is presenting it.”

25. Mohanty 1993, 118–119.

Anjana could have either heard or read about the debate, what is crucial is reflection on the meaning of what is said by the debaters.

2. Perceptual doubt is not caused by mere sensory stimulation. Recall that the definition of doubt offered by Gautama explicitly uses “deliberation”. Dasti and Phillips tell us that according to Vātsyāyana “deliberation” may be understood as recognizing the attribution of two opposed properties or natures to a single property bearer.²⁶ While deliberation as part of the account of doubt must be tied to the presence of opposing qualifiers—post vs. person—in a cognition involving certainty about some features of *x*, it *cannot be understood to be merely sensory*. The arising perceptual consciousness triggers interrogative deliberation about *x* within the perception itself. It is thus reflectively engaged. Anjana must think about what is being said.

3. Descartes uses radical speculative doubts to find first principles of philosophy. Early naiyāyikas are not discussing perceptual doubts for the same reason that Descartes is discussing radical speculative doubts. However, the fact that they are not, doesn’t exclude their discussion of doubt from being philosophical. At least part of their goal is clearly philosophical. They are contributing to the *philosophy of perception* by denying the binary view of perception, and defending the distinction between veridical, non-veridical, and dubious cognition.

Finally, while it might be true that the search for first principles is best done through the method of doubt, it need not be true that philosophical reasoning or philosophical doubt must be tied exclusively to radical speculative doubt. A doubt becomes philosophical when it is put to a philosophical purpose no matter what kind of doubt is in play.

Perceptual doubts are philosophical in so far as they challenge a philosophical view of perception where it is held to be strictly binary: either veridical or non-veridical. Perceptual doubts challenge that taxonomy. In addition, as Mohanty points out, they are the source of investigation. It may turn out that perceptual doubts are how we learn how to doubt and develop the ability to engage in speculative doubt. It is because we first have dubious perception that we are then in a position to engage in speculative doubts.

Reflective doubts also have a place in philosophy, for they can start one on a path of inquiry. Anjana’s doubt about the existence of ātman, now puts her in a position to counterfactually reason by herself about what would be true, if ātman existed. Counterfactual reasoning is central to both scientific

26. See Dasti and Phillips 2017, 46. Vātsyāyana says, “‘deliberation’ may be understood as recognizing the attribution of two opposed properties or natures—both of them—to a single property bearer.”

reasoning and philosophical reasoning.²⁷ There is no reason to exclude reflective doubt from being a cause for philosophical inquiry.

Speculative doubts, either radical or not, become philosophical depending on one's purpose. Descartes had a philosophical purpose when he deployed them. But someone else might raise them for a non-philosophical reason. It is what you do with a speculative doubt that makes it philosophical. There is nothing intrinsically philosophical about speculative doubts that make them philosophical. While *naiyāyikas* didn't isolate them as a kind of doubt, they did respond to them when rebutting their opponents. The absence of demarcating them, doesn't make what they did demarcate any less philosophical.

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27. See Williamson 2009: chap. 5 for discussion of the use of counterfactuals in relation to philosophical methodology.