

# Nyāya Arguments for Nyāya Realism

Locke Lectures, University of Oxford 1 May, 2024

Jonardon Ganeri

## 1. The Language of Location

“A locatee, a *dharma*, cannot be called a property in the usual sense of the term. It can be any occurrent entity, either an abstract particular (locateehood itself is one such abstract particular) or even a concrete particular (a pot), or an abstract generality (sweetness in sugar). [...] This is what is meant by such assertions as *vṛttimān dharmah* (‘A locatee is what is occurrent in something else’).” (Matilal 2002, 332).

“Sanskrit linguistic intuition allows us to call a pot a *dharma* of its respective locus, but we cannot call it a property, for it is counter-intuitive to call a pot a property of the ground on which it is present. [...] We can say, ‘there is a pot on the ground’ (*bhūtaḥ ghaṭah*), which is equivalent to ‘the ground is pot-possessing’ (*ghaṭavad bhūtaḥ*) [...and...] *ghaṭavad* (= ‘pot-possessing’) is as common in Sanskrit as ‘sweet’ or ‘blue’ or other such adjectival expressions. [...] A locatee-word can easily be turned into an adjectival by the use of possessive suffixes, *-vat*, *-mat*, and *-in*. Sanskrit logicians use this double mechanism of substantivizing and possessive suffixes to assimilate the usual subject-predicate sentences into their locus-locatee model. Thus, ‘The mango is sweet’ becomes ‘The mango is sweetness-possessing, [and then] ‘(There is) sweetness-possessing-ness in the mango’ or ‘(There is) sweetness in the mango’. [...For...] Sanskrit logicians argue that the two operations—use of a possessive suffix and substantivization—are reciprocal. Hence,  $x+vāt+tvā = x$ .” (Matilal 1998, 26–30).

## 2. The Argument from Selection: *Vaiśeṣika-sūtra* 4.1.6–9

### 2.1 Matilal’s Formulation

The naïve realist argues that we see things and touch them directly, for our pre-philosophical thinking cannot be all wrong. The object of our veridical perceptual awareness, under this view, is the external thing [...] and not simply its sensible qualities, such as colour or shape. If this is a fair characterization of the position called naïve realism, then it is not very different from what I shall call Nyāya realism in the Indian context. (Matilal 1986, 224).

The Nyāya position is that we see the opaque physical object, the piece of silver for example, because of the presence of these properties, but not necessarily because we first see these properties [...] as a preliminary to the second, mediate perception [...] I see it because it has a colour, but not necessarily because I see that colour. (Matilal 1986, 203-4)

### 2.2 A Buddhist Representationalist:

[TEXT 1] It is wrong for you to claim that an object such as a water-jug is [itself] perceived by means of vision or touch. Rather it is colours which are experienced, with a certain shape, and perceptually experiencing a water-jug is a matter of experiencing the shape by way of experiencing the colours (NyV. 70. 1-4)

**[Determination of Selection by Access]** In visual experience, the subject selects an object in virtue of accessing its properties.

The argument from interdependence:

The distinct phenomenal features instantiated by a given perceptual experience are, to a significant extent, interdependent. For instance, as Fish (2009, 44) and Smith (2010, 389) note, when you see the shape of a coloured object, *you see the object's shape in virtue of seeing its colour*. But visual illusions often occur where the subject accurately perceives an object's shape but misperceives its colour. In such a case, then, the naïve realist can't claim that your experience's shape phenomenology is constituted by your acquaintance with the object's shape, while your experience's colour phenomenology is constituted by something else." (Millar 2015, 612-3).

### 2.3 Why the Representationalist is Wrong

**[TEXT 2]** *Vaiśeṣika-sūtra* 4.1.6-9:

4.1.6 "‘Middle-sized’ (*mahat*) objects are perceived by virtue of having colour and being composite"

4.1.7 "Atoms are not perceived because they are non-composite"

4.1.8 "The air is not perceived because it is colourless"

4.1.9 "Colours are perceived by virtue of inhering in a composite object, and as particular colours" (Thakkur 1985, 289)

"One sees the tomato [...] because it is coloured (and also because it is gross and a complete body made of parts, cf. *Vaiśeṣika-sūtra* 4.1.6), and one sees the red colour too, because the colour-particular resides (inheres) in a composite substance and it has a specific nature (cf. *Vaiśeṣika-sūtra* 4.1.9). But the sceptical argument would have us believe that one sees the tomato *because one sees its red colour or a red-like appearance*. [...] We very often see things directly and not in virtue of seeing other things. I do not see a red-coloured-circular shape first to see, in virtue of it, a tomato that I see. But I see a red-coloured circular-shaped object, a tomato, first and last. Nyāya would say that [...] a representationalist puts the *in virtue of* relation in the wrong place. One does not see the tomato in virtue of *seeing* a coloured shape. Rather one sees the tomato in virtue of *its having* a coloured shape (see *Vaiśeṣika-sūtra* 4.1.9 referred to above.)" (Matilal 1986, 283, 5)

**[Subpersonal Selection]** The properties on the basis of which an object is selected are not themselves experienced by the subject. What a subject experiences are only the properties to which the subject has access.

"Nyāya scores here an important point in favour of direct realism. In hitting the car I necessarily hit its part but in seeing the tree I need not see its surface although the surface may *stimulate* my visual organ." (1986, 269).

But **[Subpersonal Selection]** is too strong:

"The sense in which colours are 'given' to us in sensory experience, on this approach, needs careful glossing. It is natural to equate being 'given' the colours of things in experience as a matter of accessing those colours for potential further use; but that is not what I am suggesting. I am proposing that we are given 'colours' in experience in the sense that the various colours we encounter are available for use in the selection of objects as figure from ground; having selected those objects, we may then go on to access their various properties. On this approach, the correct way to formulate a relational account of perceptual experience is to think of the relation as holding between a thinker and an array of visible properties at various locations, available for use in the selection of objects as

figure from ground. Objects figure in sensory experience only when selected as figure from ground, ready to have their further characteristics accessed.” (Campbell 2014b, 64-5)

**[Independence of Selection and Access]** The properties on the basis of which an object is selected do not determine what a subject accesses in perceiving the object.

**[TEXT 3]** “Colour subsists in earth, water and fire. It makes perceptible the object wherein it is located, as well as that object’s qualities, movements, and generic properties. The given colour assists the eye in the perception of an object.” (*yasminnāśraye vartate tasya dravyasya tadgatānām ca guṇakarmasāmānyānām upalambhakam / nayasahakāri / svagataṃ rūpaṃ cakṣuṣā viśayagrahaṇe sahakāri / Śrīdhara, Nyāyakaṇḍalī; Dvivedhi 1895, 104. 12-13).*

In short **[Independence]** is sufficient to refute **[Determination]** even without **[Subpersonal Selection]**.

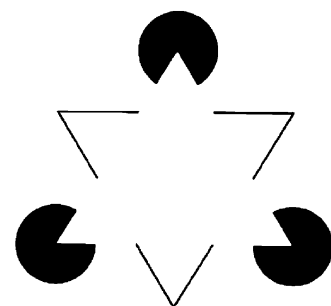
What should we make of the Argument from Selection? It is, I think, primarily defensive in nature..

### 3. The Argument from Completion: *Nyāya-sūtra* 2.1.31–2

The problem of phenomenal presence:

“Visual perception is inherently perspectival. One consequence is that from any given position in relation to an opaque, solid object, we only see part of the object’s surface: the side of the object that faces us hides its back-side from sight. Another consequence is that objects that are closer in depth often partially occlude those that are further away. Despite these limitations, when observers see an object, they usually have a sense of its presence as a complete, three-dimensional whole (n. including young human infants and, perhaps, some non-human animals). [...] When we see a cat standing behind a picket fence, for example, we see what appears to be a single, intact animal partially hidden by a series of vertical slats. The visible parts of the cat are not experienced as spatially disconnected, but as continuing behind the pickets and as belonging to the same object.” (Briscoe 2018, 169).

**[Figure 2: Cat behind Slats; Figure 3: Kanizsa Triangle].**



**The relational view of amodal completion:** Arguably committed to J. J. Gibson’s claim that “the perception of occlusion [...] entails the perception of something which is occluded” (Gibson 1972, 229)

Two representationalist alternatives: the occluded parts of the perceived object are represented either by belief or by mental imagery.

**3.1 The belief-based view:**

“According to the belief-based account a perceived object’s hidden features are represented by means of beliefs inferred from the object’s visible features as well as relevant background knowledge” (Briscoe 2011, 165).

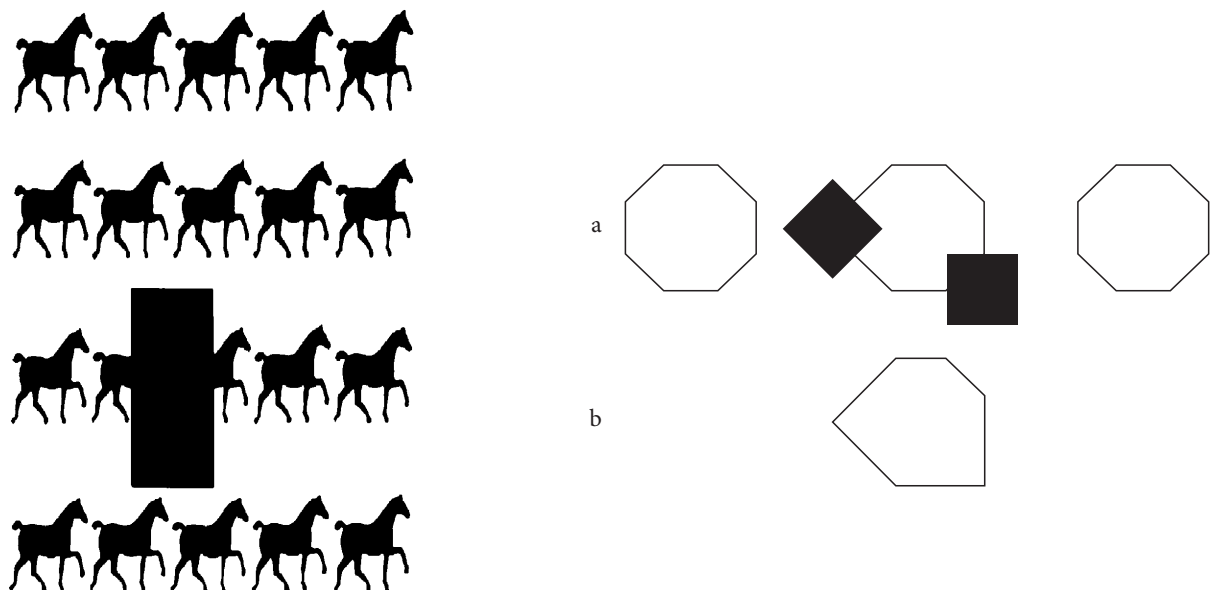
“We see those bits of that cat that are visible—that are not occluded—and we infer, on the basis of perceiving the visible parts of the animal (as well as on the basis of our familiarity with cat tails) that the occluded parts have certain properties. In other words, we do not see the cat’s tail at all, we just come to have a (non-perceptual) belief about it.” (Nanay 2010, 243).

[TEXT 4] An awareness of a tree arising from a sensory connection is a perception (*pratyakṣa*); but it is nothing but inference (*anumāna*). Why? Because the apprehension of the tree is due to the perception of a part. One apprehends the tree having perceived the part in front of one; but this part is not the tree. So this is just like the case where one infers a fire having perceived smoke. (Vātsyāyana Ny.Bh. 72,18-73,3 on *Nyāya-sūtra* 2.1.31)

Objections to the belief-based view:

- (1) it does not get the phenomenology right.
- (2) Completion is often insensitive to belief, as illustrated by “the horse illusion” and the “shape illusion”

[Figure 4: The horse illusion (Nanay 2010, 244); Figure 5: Octagon (Briscoe 2018, 172)].



The fundamental problem is that “the interpolation process in amodal completion ‘follows complex principles of its own’ (Pylyshyn 1999, 345) and is not rationally sensitive to the observer’s beliefs and other high-level cognitive states (Kanizsa 1985) [but is] subserved by relatively low-level, vision-specific, neural machinery” (Briscoe 2011, 156,7).

(3) A belief-based view inconsistent with the neuroscience. Studies of the Kanizsa triangle reveal that “It follows from the belief view that there is no activation in the primary visual cortex that would correspond to the invisible shapes. But, as it turns out, there is significant cell-activation in the primary visual cortex when we are looking at the Kanizsa triangle.” (Nanay 2010, 245-6)

### 3.2 The Imagery-Based View:

Dharmakīrti (*Nyāyabindu* v.5, p.100): Illusion must be error-free (*abhrānta*), so as to exclude cases such as seeing ocular floaters produced by the defect in the visual apparatus known as *timira*, the relative motion illusion produced when one looks at a stationary object on the shore while seated on a moving boat (*nauyāna*), the illusion of a continuous circle of fire produced by the rapid movement of a fire on a rope (*āśu-bhrama*), and cases due to physical disorders (*saṃkṣobha*) such as exhaustion.

“The key to nonconceptual [perceptual] errors is that they are given in the cognitive image itself: they appear as such before the combination of the image and an exclusion formed through *apoha* creates a concept based on supposed similarity with previous experiences” (Prueitt 2017, 31).

“The key feature of non-conceptual error is that they are ‘given in the cognitive image itself’ prior to the conceptual interpretation of that image in a perceptual judgement” (Dunne 2020, 578).

In thus introducing images into the content of perceptual experience Dharmakīrti transforms the Buddhist theory from the raw sensation theory of Dignāga (a variety of Infallible Relationalism), into a kind of Content View.

Nanay: “When we represent the cat’s occluded tail, we do so by having visual imagery of the tail” (2010, 249).

What are mental images? “Mental imagery refers to all those quasi-sensory or quasi-perceptual experiences of which we are [...] consciously aware, and which exist for us in the absence of those stimulus conditions that are known to produce their genuine sensory or perceptual counterparts, and which may be expected to have different consequences from their sensory or perceptual counterparts.” (Richardson 1969, 2–3)

Wilfred Sellars: “We do not see of the apple its opposite side, or its inside, or its internal whiteness ... But while these features are not *seen*, they are not *merely* believed in. These features are present in the object of perception as actualities. They are present in virtue of being imagined.” (Sellars [1978] 2007, 458).

As Briscoe notes, “according to Sellars, the capacity that Kant calls productive imagination constructs hybrid ‘sense-image models’ of the objects that we perceive. It performs this function, in part, by supplementing awareness of an object’s ‘occurrent sensible features’ with mental images of its hidden features.” (2018, 169-70). So “the occluded parts of a perceived object are phenomenally present in our experience of the object because they are represented using conscious mental imagery” (Briscoe 2018, 175).

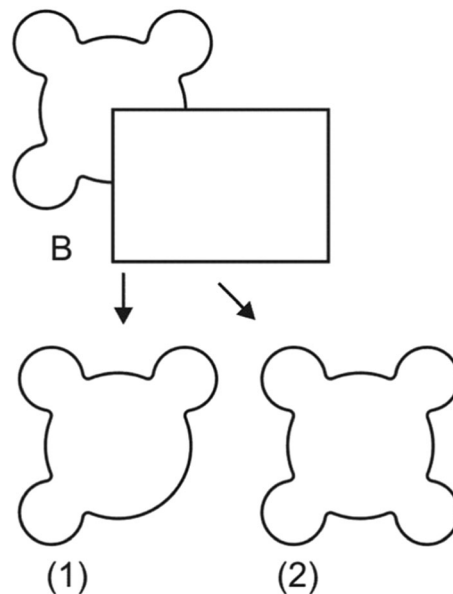
Objections to the imagery-based view:

(1) Instability. While amodal completion is fairly stable, and “normally persists as long as one perceives [its] inducers” (2018, 175), mental images are typically unstable.

(2) Optionality. “Amodal completion, far from exhibiting what Hume called the ‘liberty of the imagination’, operates automatically in accordance with a fairly strict set of organizational principles and is largely driven by bottom-up, sensory inputs.” (2018, 175-6).

*Exactly* the point Uddyotakara makes against Buddhist representationalism: “it is impossible to determine an invariable relation between the observed and the unobserved parts” (Phañibhūṣaṇa 1967, 53).

**Figure 6 (Nanay 2022, 2545).**



#### 4. A Return to Relationalism?

“The main dilemma the relationalist faces is this. Given that they take perceptual states to be partly constituted by the perceived object, they would need to specify what this perceived object would be in the case of amodal completion. It could be the entire object (some parts of which are occluded). Or it could be the unoccluded part of the object. I will argue that neither horn of this dilemma is viable” (Nanay 2022, 2541-2).

“I see the tree not in virtue of my *seeing* the front part but in virtue of my sensory apparatus being connected with, or ‘stimulated by’, the front part. The sensory stimulation is a physical event which leads to, i.e. causes, my perception. But my *seeing* the front part is a cognitive event [...] which may, only contingently, arise before my perception of the tree. Therefore the analogy between the car hitting the truck in virtue of its hitting the rear part and my seeing the tree (the whole) in virtue of my seeing the front part breaks down. I think Nyāya scores here an important point in favour of direct realism. In hitting the car I necessarily hit its part but in seeing the tree I need not see its surface although the surface may *stimulate* my visual organ.” (Matilal 1986, 269)

[TEXT 5] No, because as much as is experienced is experienced perceptually (NyS 2.1.32)

[TEXT 6] “When certain of its parts are in contact with a sense faculty, the whole is perceived along with (*saha*) them; when certain parts are occluded, the whole is not perceived along with (*saha*) them” (*yeṣām indriyasannikarṣād grahaṇam avayavānām taiḥ saha grhyate, yeṣām avayavānām vyavadhānād agrahaṇam taiḥ saha na grhyate*; Vātsyāyana Ny.Bh. 74.16-7; Dasti 2023, 80)

**[Seeing Wholes in Parts]:** An entire object is perceived in the parts which are perceived, and is not perceived in the parts which are not perceived.

Not Gestalt psychology, the school of psychology “known for its dictum that perception of wholes has priority over perception of parts” (Epstein and Hatfield 1994: 172).

[TEXT 7] “Suppose someone argues as follows: If in touching the parts that are exposed but not the parts that are covered up, we can claim to hold the entire object, we would be holding and not holding it at the same time. There is nothing to this objection: wholes reside in their parts, in such a way that even if some parts are covered up one holds the entire object in the parts one does touch” (*Śrīdhara Nyāyakaṇḍalī*; Dvivedhi 1896, 46).

Matilal is **right** that “... if we can be said to be perceptually aware of the front part on the ground that we have sensory connection with the front part, then by the same token we must say that we are perceptually aware of the whole tree also...” (1986, 265), but **wrong** that, “For one can very well see the tree, the whole, without paying any attention to its front part, and in that case it would be wrong to say that he sees the tree in virtue of his seeing its front part, for he does not see the front part (or portions of it) at all” (1986, 267).

4.2 Perceptual experience is phenomenally unified:

[TEXT 8] “An object is not experienced as disjointed, because it is located in its parts (*tadāśayatvād aprthag-grahaṇam*)”. (*Nyāya-sūtra* 4.2.28)

“Amodal completion occurs when one object is (or appears to be) partially occluded by another and does not typically result in a quasi-visual impression of the object’s hidden features. [...] Rather, the phenomenally most salient characteristic of amodal completion is the perceived unity of the partially occluded object (Michotte et al. 1964/1991; Kanizsa 1979).” (Briscoe 2018, 171).

“Two volumes are mergeable when their unbounded visible surfaces are relateable or the insides enclosed by those surfaces can completely merge. Two surfaces are relateable when their visible portions can be extended into occluded space along the trajectories defined by their respective curvatures so that they merge into a common surface” (Tse 1999, 37).

“The informational basis for the perception of a surface is not limited to the surface’s optical projection in the retinal image (and the sensory stimulation caused thereby). And this is just what Gibson centrally maintains: there are a number of independently variable sources of visual information for occlusion, information that ‘specifies the existence of one surface behind another, i.e. the continued existence of a hidden surface’ (1966, 204). ... [Such sources of information] make an important contribution both to the phenomenology and content of conscious, visual experience. In particular they play a significant role in the organization of the 3-D visual scene that we perceive [...] The information available to the visual system for the existence of an object-feature is not limited to the feature’s projection in the retinal image.” (Briscoe 2011, 159-161).

**In Sum:** the argument from completion is that if neither of the two candidate representationalist accounts of amodal completion is free of difficulties, and if a version of the relationalist view is available which dispenses with Gibson’s problematic claim, then all things being equal this is the view we should prefer.

### 4.3 Nanay's new argument against the entire object view, which is the Nyāya view:

"The experience of occluded parts of the perceived object is underspecified. [...] In Fig 2, the rectangle may occlude Shape 1 or Shape 2. Nothing in Fig. 2 tells us which of these shapes is occluded behind the rectangle... If the perceptual relation is a relation to the entire occluded object, then the question is: which of the occluded objects is it? ... When seeing Shape 1 occluded in Fig 2, we have perceptual experience P1. When seeing Shape 2 occluded in Fig 2, we have perceptual experience P2. ... The relationalist [...] must say that the perceptual object in P1 is Shape 1 and the perceptual object in P2 is Shape 2. But this would amount to reverting to saying that the perceptual relation is a representational relation: the perceptual object that is one of the relata of this relation is not an actual physical object out there, but it is a represented object." (Nanay 2022, 2544-5).

"For the relationalist, there is a seemingly simple answer to the question about the perceptual object in amodal completion: it is whatever actual ordinary object we are looking at. We may be, of course, fooled by the occluders into misperceiving this ordinary object. But this would be merely the case of a perceptual illusion." (2002, 2546).

Hence need a theory of perceptual illusion (next week!)

### Bibliography

- Gautama Akṣapāda. *Nyāyasūtra*. Anantalal Thakur ed. *Gautamīyanyāyadarśana with Bhaṣya of Vātsyāyana* (Delhi: Indian Council of Philosophical Research, 1997).
- Uddyotakara. *Nyāyavārttika*. Anantalal Thakur ed. *Nyāyabhāṣyavārttika of Uddyotakara* (Delhi: Indian Council of Philosophical Research, 1997).
- Vātsyāyana. *Nyāyabhāṣya*. Anantalal Thakur ed. *Gautamīyanyāyadarśana with Bhaṣya of Vātsyāyana* (Delhi: Indian Council of Philosophical Research, 1997).
- Phaṇibhūṣaṇa. *Elucidation*. In *Nyāya Philosophy*. Literal translation of Gautama's *Nyāyasūtra* and Vātsyāyana's *Bhāṣya* along with a free and abridged translation of the *Elucidation* by Mahāmahopādhyāya Phaṇibhūṣaṇa Tarkavāgīśa, edited by Debiprasad Chattopadhyaya and Mrinalkanti Gangopadhyaya. Calcutta: Indian Studies Past & Present. Part 1, 1967; Part II, 1968; Part III, 1972; Part IV, 1973; Part V, 1976.
- Śrīdhara. *Nyāyakaṇḍalī*. 1895. V. P. Dvivedin ed. *The Prasastapādabhāṣya with the Nyāyakaṇḍalī of Śrīdhara*. Banaras.
- Dharmakīrti. *Nyāyabindu*. with comms of Dharmottara and Vinītadeva.
- Kaṇāda. *Vaiśeṣikasūtra*. Anantalal Thakur ed. 1985.
- Bandyopadhyay, Rupa. 2020. *Indian Theories of Illusion*. Kolkata: Mahabodhi Book Agency.
- Briscoe, Robert. 2011. Mental imagery and the varieties of amodal perception. *Pacific Philosophical Quarterly* 92 (2):153-173.
- Briscoe, Robert. 2018. Superimposed Mental Imagery: On the Uses of Make-Perceive. In Fiona Macpherson & Fabian Dorsch (eds.), *Perceptual Imagination and Perceptual Memory*. Oxford: Oxford University Press, pp. 161-185.
- Campbell, John. 2011. Visual Attention and the Epistemic Role of Consciousness. In Mole et al. eds, *Attention*, pp. 323–342. Mole, Christopher, Declan Smithies and Wayne Wu eds. (2011). *Attention: Philosophical and Psychological Essays* (New York: Oxford University Press).
- Campbell, John. 2014a. A straightforward solution to Berkeley's puzzle. In *Berkeley's Puzzle: What Does Experience Teach Us?* Oxford: Oxford University Press, pp. 25–49.
- Campbell, John. 2014b. Experiencing objects as mind-independent. In *Berkeley's Puzzle: What Does Experience Teach Us?* Oxford: Oxford University Press, pp. 50–74.
- Dasti, Matthew R. 2023. *Vātsyāyana's Commentary on the Nyāya-sūtra: A Guide*. Oxford University Press.



- Dunne, John D. 2020. Pac-Man to the Rescue? Conceptuality and Non-conceptuality in the Dharmakīrtian Theory of Pseudo-perception. *Philosophy East and West* 70 (3):571-593.
- Epstein, William, and Gary Hatfield. 1994. Gestalt Psychology and the Philosophy of Mind. *Philosophical Psychology* 7, no. 2: 163-81.
- Helton, Grace & Nanay, Bence. 2019. Amodal completion and knowledge. *Analysis* 79 (3):415-423.
- Huang, Liqiang and Pashler, Harold. 2007. A Boolean map theory of visual attention. *Psychological Review* 114.3: 599–631.
- Huang, Liqiang. 2010. What is the unit of visual attention? Object for selection, but Boolean map for access. *Journal of Experimental Psychology* 139: 162–179.
- Matilal, Bimal Krishna. 1986. *Perception: An Essay on Classical Indian Theories of Knowledge*. Oxford: Oxford University Press.
- Matilal, Bimal Krishna. 1998. *The Character of Logic in India*. Albany: SUNY Press.
- Matilal, Bimal Krishna. 2002a. Naïve realism, Nyāya realism, and the causal theory. *Mind, Language and World*, vol. ii of *The Collected Essays of Bimal Krishna Matilal*. Delhi: Oxford University Press, pp. 97–113.
- Matilal, Bimal Krishna. 2002c. On the notion of the locative in Sanskrit. *Mind, Language and World*, vol. ii of *The Collected Essays of Bimal Krishna Matilal*. Delhi: Oxford University Press, pp. 326–332.
- Millar, Boyd. 2015. Naïve realism and illusion. *Ergo* 24(2): 607–25.
- Nanay, Bence. 2010. Perception and imagination: amodal perception as mental imagery. *Philosophical Studies* 150 (2):239-254.
- Nanay, Bence. 2022. Amodal completion and relationalism. *Philosophical Studies* 179 (8): 2537–51.
- Phillips, Ian. 2016. Naïve Realism and the Science of (Some) Illusions. *Philosophical Topics* 44 (2):353-380.
- Prueitt, Catherine. 2017. Shifting Concepts: The Realignment of Dharmakīrti on Concepts and the Error of Subject/Object Duality in Pratyabhijñā Saiva Thought. *Journal of Indian Philosophy* 45, no. 1 (March 1): 21–47.
- Richardson, Alan. 1969. *Mental Imagery*. Routledge.
- Smith, A. D. 2010. Disjunctivism and illusion. *Philosophy and Phenomenological Research* 80 (2):384-410.
- Tse, Peter. 1999. Volume completion. *Cognitive Psychology* 39: 37–68.