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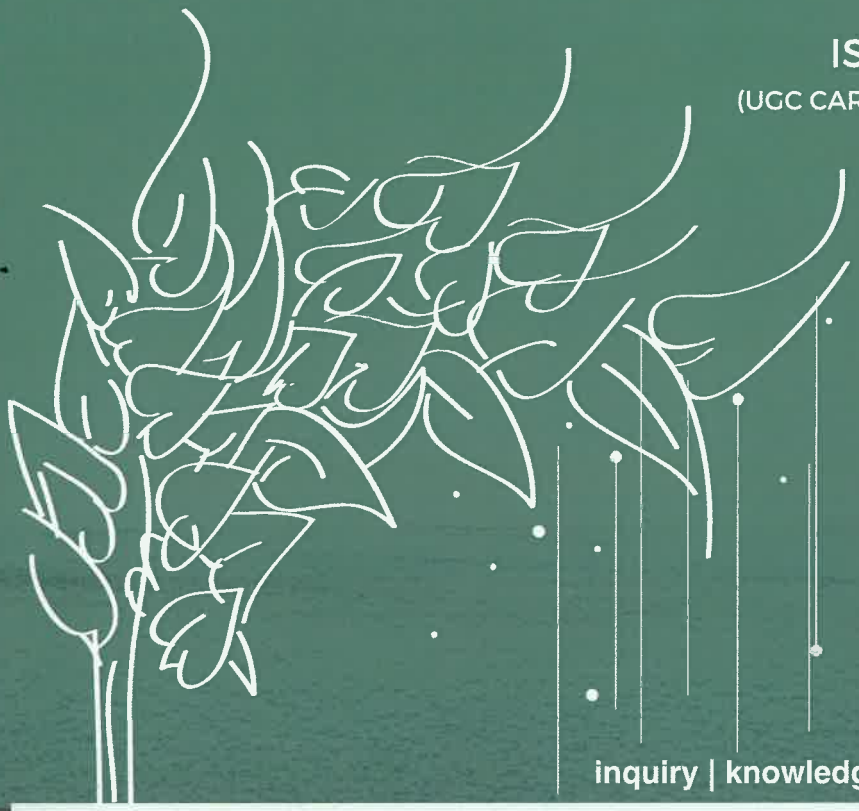

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How Does the Naiyāyika Move Many Fingers At Once: A Nyāya Theory of Action

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Abstract: In the *Tattvacintāmaṇi*, the Nyāya stalwart Gaṅgeśa engages in a debate with a Mīmāṃsaka, for whom the *manas* is ubiquitous while it is atomic for the Naiyāyika. Ubiquitous and atomic substances are both partless. Ubiquitous substances are actionless while atomic ones move. The Mīmāmsaka asks a question on action: if the *manas* is atomic, then the actions of the body would be absurdly restricted to a bodily region that is also atomic. Or, if it pervades the entire body, parts that have no intention to be acted upon would also act. They ask how we are able to move all our fingers and toes at the same time.[2] Gaṅgeśa offers two related responses, one to introduce desire (*cikīrṣa*) as the regulator for movement within the body. Second, he says that effort is limited by where the effect of bodily action is seen. Phillips and Tatacharya (2009) have argued that Gaṅgeśa's responce is unsatisfactory for his shift from *manas* to desire implies ambiguity in Gaṅgeśa's reasoning. Picking from an objection Uddyotakara raises on Vātsyāyana's reading to *Nyāya Sūtra* 3.1.8-11, on whether the visual sense faculties are one or two, it will be argued that the atomic *manas* still plays a role in bodily actions. While Vātsyāyana argues that the sense organs are two, Uddyotakara points out that an atomic *manas* cannot come into contact with two visual faculties at once and concludes that it is one. The relation between the two debates and how the conceptual reconstruction answers some of the Mīmāmsaka's questions. While Gaṅgeśa places no role for the atomic *manas* in his theory on action, the speculative theorizing presented here can be used as a starting point for one.

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[2] While the texts specifically use the word twenty, it will be avoided, keeping in mind polydactylism.

"If, while at the piano, you attempt to form little melodies, that is very well;
but if they come into your mind of themselves,
when you are not practicing, you may be still more pleased;
for the internal organ of music is then roused in you.
The fingers must do what the head desires; not the contrary."
— Robert Schumann

Most Indian philosophers would agree with the last line of Schumann's quote. They would go even further and start bickering with each other about the little things, like the reasons why the fingers might do something the head doesn't desire, or what is the internal organ all about. Take the example of the internal organ's dimension. The Vedāntins argue that it is of medium size (*madhyama*), that is, it is made of parts, the Bhāṭṭamīmāmsakas say it is ubiquitous (*vibhu*), the Naiyāyika would tell you that it is atomic (*aṇu*), and the Saṃkhyā school would say that it is made of parts but is not ubiquitous.[3] They even argue whether the internal organ is an organ, with the Vedāntins denying that as well. But this paper is not interested in purely the dimension of this internal organ that the Indian philosophers call the *manas*. Its concern is with the relationship of the dimension of the Nyāya manas and action. Recent scholarship has found some inadequacies in the works of Gaṅgeśa, the founder of the Navyanyāya school, and I look to find answers that may help fill those gaps.

I do not wish to write an irrefutable defense of the place of an atomic *manas* in the Nyāya schools theory of action. But I think it will be worth exploring for philosophical tools within the texts of the Nyāya school. This paper will reconstruct some necessary philosophical building blocks to support Gaṅgeśa's thesis. This paper is divided into three parts. It first looks into the attacks on Gaṅgeśa by the Mīmāmsaka and his response, it then looks into a debate on the visual sense faculty between the early Naiyāyikas Vātsyāyana and Uddyotakara. It finally studies the views of an offbeat school of Nyāya thought known as the *Miśramata*, and argues that the views of the *Miśra* school might be a more coherent response to the criticisms of the Mīmāmsaka.

[3] Tatacharya (1992, p. 283-284). Tatacharya mentions that there is no source text of the Bhāṭṭa mentioning the size, but the debate is to be first found in Udayana's *Nyāyakusumāñjaliḥ* and it is from there that attribution has been given to the Bhāṭṭa.

The Mīmāmsaka's attack on the Nyāya theory of action because of an atomic manas:

The Naiyāyikas and the Mīmāmsakas agree that there are six sense faculties (*indriya*). While the five external faculties deal with the visual, auditory, etc., the manas is an internal sense faculty (*abahyendriya*). The Vaiśeṣika school, from which Nyāya heavily borrows, provides three foundational reasons for positing a *manas*. One, that while objects might be very close to us, we don't sense its qualities through all our sense faculties, and so some instruments other than those external sense faculties (*bahyendriya*) ought to be present internally. Secondly, we can remember objects even when external sense faculties do not function. Third, the experience of pleasure and pain are not experienced by any of the external sense faculties and so an internal one must be posited.[4] However, once established, the objects qualities (*guṇa*) must also be stated, and here is a debate on the dimension (*parimāṇa guṇa*) of the *manas*.

The Mīmāmsakas do not subscribe to the Naiyāyika's theory of an atomic (*aṇu*) *manas*. They consider it ubiquitous (*vibhu*). Their attacks include examples from phenomenology, like the application of sandalwood paste and experiencing its effects beyond the scope of its application, listening to a group chanting and identifying a single participant, eating a murukku and experiencing it through different senses simultaneously. However none of these cases considered till now deal with bodily actions (*ceṣṭā*). The example that does concern this topic is the movement of all our fingers and toes simultaneously (*aṅgulīṣu viṃśatiḥ kriyāḥ*). The topic is discussed in the chapter titled 'Now, discourse on the mind's atomicity' (*atha mano'ṇutva vāda*) in the perception section (*pratyakṣa khaṇḍha*) of Gaṅgeśa's only extant text *Tattvacintāmaṇi*. The Mīmāṃsaka asks if the manas is *atomic*, then, since the volition (*prayatna*) would be the non-inhering cause, the scope of the effect should also be located in atomic dimension.[5] This is because volition for bodily action is born out of the contact of the *ātma* and the *manas*, so it should be limited atomically.[6] This is an absurd theory on the face of it, because we know that the effects of our actions are definitely more than just limited to an atomic region. This is because our experience shows us that even if volition was limited to an atomic region only, even then we see actions pervading the

[4] Jha (1916, p. 198).
[5] Nyāya scholars like Mathew Dasti (2014, p. 114) and Swami Virupakshananda (2001, pp. 32-33) translates *prayatna* as volition. Phillips and Tatacharya (2009, p. 570) translate the word as effort.
[6] *Maṇyarthaprakāśavyākhyyā* in Devanathan (2021, p. 1046): *ceṣṭāhetuḥ prayatnaḥ ātmamanassaṃyogajanyaḥ sa ca aṇvavacchinnaḥ.*

body.[7] The example given is that of pushing (*nodana*) and striking (*abhighāta*). Even though volition to act that is non pervading the entire body may take place, actions that arise which involve the entire body do take place.[8] If this was allowed to become the rule, then what would occur is that if the volition was only to move the legs, action could take place in the head as well. Hence, any rule on action becomes impossible for the Naiyāyika.

The other possibility for the Naiyāyika, the Mīmāṃsaka says is to agree that the whole body is limited.[9] This would mean that volition occurs when the *ātma* comes in contact with the whole body.[10] But the problem with this is that if one wants to make a rule that action occurs because of limitation to the entire body, we know that the entire body is not acting at every moment but only its parts. Because if it is said that volition is limited to the whole body itself, we know that sometimes actions are limited to the hands, and sometimes limited to the legs.[11] The logic behind this is that if a cognitive agent desires to move just their hands only the hands move and not the legs, so action is limited to only a certain part of the body. Phillips and Tatacharya (2009, p. 571) quote Rucidatta, a commentator on Gaṅgeśa, who gives an example to show how our body does not work like a chariot. In the case of a chariot, if one pushes the wheeled structure, the entire chariot moves. But our bodies work quite differently from the chariot, for the chariot's movements are always in whole, but our bodies can sometimes be whole and sometimes in parts.

The Mīmāmsaka then asks that a separate volition for each finger and toe might not be possible at once, yet how is it that all our fingers and toes can move at the same time.[12] We must note two important points here before proceeding. The first, that there is a reference to an earlier discussion in the text about how one can experience the smell, taste, touch, sight, and sound of a murukku at once. The Nyāya response was that experience in this case was ordered, each sense faculty grasping their respective qualities not

[7] Ibid.: *tadanantaraṃ pṛcchati prayatnastāvat aṅvavacchinnaḥ eva tathāpi śarīravyāpinī kriyā bhavitumarhati.*
[8] Ibid.: *yathā vā śarīravyāpinī kriyā jāyate tadvat avyāpakāt prayatnāt vyāpakakriyā bhavitumarhati.*
[9] *Tattvacintāmaṇi* in Devanathan (2021, p. 1045); Phillips and Tatacharya (2009, p. 570): *śarīradeśamātratvaṃ vā syāt.*
[10] *Maṇyarthaprakāśavyākhyyā* in Devanathan (2021, p. 1046): *athavā śarīrātmasaṃyogajanyaśced śarīramātradeśaḥ saḥ prayatnaḥ bhavet.*
[11] Ibid.: *parantu asmākaṃ kriyā tāvat tatra avayavāvacchedena bhavati śarīrāvacchedena bhavati iti kṛtvā kriyāniyamaḥ na syāt. śarīramātraḥ saḥ prayatnaḥ iti cet tathā sati ceṣṭāpi śarīrāvacchedena bhavatīti kṛtvā kriyāyāḥ kadācit hastādyavacchinatvaṃ kadācit pādādyavacchinnatvamiti niyamaḥ na syāt.*
[12] Ibid.: *api ca viṃśatiprayatnāḥ ekadā na bhavitumarhati tarhi katham aṅgulīṣu viṃśatikriyāḥ bhavanti iti praśnaḥ.*

simultaneously, but in a series of moments. On being asked why simultaneous cognition cannot take place, the Naiyāyika answers that when a cognition is generated through contact with one sense faculty, all the other sense faculties that are not in contact do not generate a cognition.[13] Second, Phillips and Tatacharya (p. 552) explain that for the Mīmāṃsaka, cognitions (*jñānā*) are considered as actions (*kriyā*) whereas for Nyāya, they are special qualities inherent in the self.[14]

Coming back to the discussion, the Mīmāmsaka is saying here that moving as many fingers and toes does not constitute that many number of actions.[15] To say that the simultaneity of that many actions can be established as an illusion is not possible, because of the absence of any sublating cognition.[16] A sublating cognition (*pratibhandakajñānā*) is one that makes a cognition invalid, the defeated one (*pratibhadhya*) is sublated when it comes to illusions. As there is no such defeating cognitions with the case presented, the Mīmāṃsaka argues that its illusoryness cannot be established. The Mīmāmsaka says that the cognition 'all fingers and toes are moving' cannot be termed as a conjunctive cognition (*samūhālambanajñānā*) because for the Naiyāyika, they are occurring in order.[17] Philips and Tatacharya write: "In other words, the objector sees the cognition, "Moving digits (fingers and toes)," as a counterexample to the atomic thesis because the movement of twenty would have to be cognised serially and analyzed as twenty things moving in quick succession."[18] A conjunctive cognition is a qualified cognition which has more than one object qualified, for example, a cognition of a pot and a cloth. The fingers, though they are connected to the palm of the hand, possess the absence of contact (*sannikarśābhāva*) between them. Nyāya also agrees that we have introspective cognitions (*anuvyavasāyajñānā*) of primary cognitions, where the primary cognition becomes the object of the introspective cognition. So if the primary cognition is say, the cow is white, the secondary cognition will be of the form

[13] Ibid. (p. 1024): *yatsambandhāt ekena indriyeṇa jñānaṃ janyate yadasambandāt ca apareṣāmindriyāṇāṃ jñānājanakatvamiti naiyāyikānāṃ rītiḥ.*
[14] Dasti (2014, pp. 117-118, fn. 19) writes: "The notion that cognitive processes are actions of a sort does not contradict another Nyāya claim, that cognition (*jñāna*) is *not* an action as conceived of by Bhāṭṭa Mīmāṃsakas, one which produces a new property (*knownness*) in objects cognized. …Naiyāyikas typically conceive of cognition as a property (*guṇa*) and a *result* of knowledge-processes, not an action (*karman*) itself. But in any case, the deep point, accepted by Naiyāyikas, is that insofar as the self engages in practices of knowledge, it participates in a form of agency."
[15] *Maṇyarthaprakāśavyākhyyā* in Devanathan (p. 1046): *viṃśatiaṅgulīṣu ekadā viṃśatiḥ kriyāḥ na bhavanti.*
[16] Ibid.: *tatra yaugapadyaṃ bhrāntisiddhamiti vaktuṃ na śakyate bādhakābhāvāt.*
[17] Ibid.: *kiñca yugapat sannikarśābhāvena kramikapakṣe yugapat aṅgulyaḥ calanti iti samūhālambanamapi vaktum na śakyate.*
[18] Phillips and Tatacharya (2009, p. 571).

of 'I am seeing a white cow.' The Mīmāmsaka says that the secondary cognition of the form 'I'm having the awareness of all my fingers and toes moving,' would not be possible, even worse, we would not be able to tell which finger moved first and which came after.[19] Thus the Mīmāmsaka's attack on Nyāya's serial-ness or ordering-ness of the objects of cognition because of an atomic manas is aimed to attack most of the resources that Nyāya has to explain general perception. Now we may understand Gaṅgeśa's response to the queries raised by the opposition.

Gaṅgeśa's response

Gaṅgeśa's first response is that just how sandalwood paste, once applied to a certain area, may cause pleasure in areas beyond the scope of its application, in similar fashion, it is the desire to act that is the regulating factor here.[20] Certainly, wherever the sandalwood paste is applied on the body, there is pleasure.[21] But if asked that apart from that area covered pleasure is also felt and what would be regulating its cause, the answer would be the sandalwood paste itself.[22] If there is a desire to move the hand then the movement of the hand is born from the volition of a desire to move that hand.[23] If the effect is ubiquitous, pervading the entire body after coming in contact with the cause, like in the cases spoken of above, the desire to act would be considered the regulating factor.[24] Devanathan points out that in Gaṅgeśa's thesis, even if the volition is located atomically only, action pervading the whole body can be born out of desire. Dasti (2014, p. 115) has presented a schematic version of this:

Cognition (of some act as worthy of being performed)→ intention (*cikīrṣā*) → volition (*prayatna*) → bodily action (*karman; ceṣṭā*).

The second response that Gaṅgeśa provides is that, that which is desired to be acted upon, it is that which is only limited from which volition arises. That is why if desire is limited to the hand, then volition also will be limited to the hand only, and this is the school's position.[25] Gaṅgeśa's response then to the

[19] *Maṇyarthaprakāśavyākhyyā* in Devanathan (2021, p. 1046): *viṃśatyaṅgulīṣu calanamanubhavāmi iti anuvyavasāyo'pi na bhavati. api ca agrapaścādbhave kiṃ vinigamakam. asya aṅguliviśeṣasya prathamaṃ calanaṃ anantaramanyasya aṅguliviśeṣasya iti kathaṃ vaktuṃ śakyate.*

[20] Phillips and Tatacharya (2009, p. 572).

[21] *Maṇyarthaprakāśavyākhyyā* in Devanathan (2021, p. 1047): *candanaṃ hi yatpradeśāvacchedena bhavati tatpradeśāvacchedena sukham.*

[22] Ibid.: *anyatrāpi sukham bhavati cet tatra kiṃ niyāmakamiti pṛṣṭe kiṃ vadāmaḥ candanaṃ hi nimittam.*

[23] Ibid.: *hastakriyāyāṃ cikīrṣā bhavati cet sā hastakriyā taccikīrṣājanyāt prayatnād bhavati.*

[24] Ibid.: *nimittasaṃyogaḥ vibhukāryāṇāṃ prādeśikatvaniyame hetuḥ iti yathā ucyate tadvat cikīrṣā atra niyāmikā iti svīkrīyate.*

[25] Ibid.: *evañca hastāvacchedena kriyāyāṃ cikīrṣā jāyate ced prayatno'pi hastāvacchedena jāyate iti siddhantaḥ.*

question on moving the fingers and toes is that the desire to act upon moving them occurs first.[26] Even if volition is limited to an atomic region, even then the movement of all fingers and toes can arise simultaneously.[27] Devanathan puts Gaṅgeśa's two responses to test with the fingers and toes case:

First answer: We could consider all of one's fingers and toes as that many actions simultaneously occurring, but it cannot be said that volition born out of the desire to act even if only atomic in nature, will have an effect limited to that region only.[28]

Second answer: According to the second reading, having the desire to act upon all the fingers and toes, action limited to that many number of fingers and toes would be counted by that many volitions.[29]

Philips and Tatacharya (2009, p. 573) point out that "regarding movement, just how does the *manas* do its work? Gaṅgeśa shows in several ways that he is not confident about this, not confident, we can say, about how an effort gives rise to bodily motion." They (Ibid., p. 574) also point out that the desire to perform actions that involve different body parts, and the atomic *manas* has no role in preventing it, and "how the transmission works is not explained." Though Ganeri has not mentioned the reasons why, but from what has been presented here, it becomes clear, that while referring to this chapter, he says that is, "a discussion Gaṅgeśa had somewhat anomalously included in the Gemstone."[30] This paper is an attempt in theorizing some of those aspects that Gaṅgeśa has left out for philosophers to chew upon. It builds upon the gaps that Philips and Tatacharya have pointed out. It does so by going back a few centuries to Old (*prācīna*) Naiyāyikas.

Vātsyāyana's reading of Nyāya Sūtra 3.1.7-10

The *Nyāya Sūtra* (henceforth *NS*) 3.1.7 gives a reason for the existence of the soul. The reason it gives is that one eye can recognise an object grasped from the other eye.[31] Vātsyāyana's *Nyāya Bhāṣya* (henceforth *NB*) and Uddyotakara's *Nyāya Vārtika* (henceforth *NV*) give readings on this sūtra that are in agreement with each other. The *Bhāṣya* points out that this case proves that recognition is certain (*asti tvidaṃ pratyabhijñānam*), and the intelligent being

[26] Ibid.: *aṅgulīkriyāsthale evaṃ svīkriyate cikīrṣā tāvat prathamataḥ bhavati.*

[27] Ibid.: *prayatnastāvat anumātradeśe eva bhavati tathāpi viṃśatikriyāḥ yugapat utpadyante iti ekaṃ samādhānam.*

[28] Ibid.: *viṃśatiaṅgulīṣu viṃśatikriyāḥ yugapat jāyante parantu cikīrṣājanyaḥ ayaṃ prayatnaḥ anumātradeśaḥ tāvatpradeśāvacchinnaḥ na bhavatyeva iti ekaṃ samādhānam.*

[29] Ibid.: *athavā dvitīyapakṣānusāreṇa aṅgulīviṃśatikriyāyāṃ cikīrṣā bhavatīti kṛtvā viṃśatyavacchedenāpi viṃśatiprayatnāḥ jāyante.*

[30] Ganeri (2014, p. 151).

[31] Jha (1984, p. 1129).

ought to be something other than the sense faculties. The *Vārtika* mentions how there must be different cognitions involved, recollective cognition must be preceded by remembrance (*smṛtipūrvakatvāt*). Where they differ is in the reading from *NS* 3.1.8 onwards, which presents a pūrvapakṣa questioning how the previous *sūtra* can take the visual faculty as two, for it is one only and but appears as two simply because it is divided by the nasal bone. The *Bhāṣyakāra* explains the opponent's view with an example of an object that is long in dimension (*dīrghadravyasyeti*) but obstructed by something in the middle (*madhyavyavahitasya*) giving the feeling of the object being actually two separate objects. *NS* 3.1.9 responds to the query on *NS* 3.1.8 saying that the sense faculty cannot be accepted as one, for when one is destroyed the other is not. Vātsyāyana says that if one eyeball is pulled out (*udghṛte*), the second eyeball remains where it is (*dvitīyamavatiṣṭhate*). The opponent now replies in *NS* 3.1.10 that the point about destruction has no real force, for even if the destruction of a part takes place, the whole is still to be found functioning.[32] Here, our *Bhāṣyakāra* gives the example of some branches (*kāsucicchākhāsu*) are broken down (*bhagnāsu*), the tree still stands (*ūpalabhyata eva vṛkṣaḥ iti*). He then says that *NS* 3.1.11, that is *dṛṣṭāntavirodhādapratiṣedhaḥ*, can be understood as a response to the opponent of *NS* 3.1.8 and 3.1.10 in two ways.

The first is to say that it is not the case that the whole stands even after the dissolution of the parts, for then it would have to be accepted as something eternal (*nitya*) and which leads to absurdity.[33] What is the case is that there are many whole as parts, and when they are destroyed, only those specific whole are destroyed. The Naiyāyika would consider our hands as a specific whole rather than parts of the body. The opponent, Vātsyāyana argues, assumes that the destruction or breaking of a part away from the whole implies that there is no destruction to the whole, so even when one part of the eye is destroyed the remaining eye works as a whole. However, each eye is an individual composite whole, like say the branches of the tree, and if one was destroyed, we would have to admit that only a part of the eye remains. Thus this example that the opponent has provided is incorrect and this is what is meant by *dṛṣṭāntavirodhāt*.

The other way of reading *NS* 3.1.11 Vātsyāyana says is to point out that what is postulated is incompatible with what is established. He gives three examples to make his point:

[32] Ibid. (1984, p.1131).
[33] Ibid. (1984, p. 1131).

1. Upon observing a dead person's skull, we find two holes, the bone of the nose separates the place of the eyes, therefore they are separate.[34]

2. Each eye has its own obstruction and destruction. Covering one eye does not imply that the other cannot see.

3. When one eye is pressed upon, the ray of light emitting out the eye is different and we grasp differently, which could not happen if the eye is one.[35]

Thus for Vātsyāyana, the *NS* is arguing that the eyes are one and the opponent sees it as two. In the next subsection, we will look at how Uddyotakara thinks that this is not the case.

Uddyotakara's attack

In his *Vārtika*, Uddyotakara says that the purpose of establishing that the ātmā is different from the sense faculties has already been established in *NS* 3.1.1-6 and therefore there is no need to do it again. Further he says that if the assumption is that the organs are two, then there will be inconsistency in the arguments. He says that if the sense faculty are many then it would be impossible to superintend them simultaneously (*anekatvād indriyasya yugapad adhiṣṭhāna asaṃbhavaḥ*). For the manas is atomic in nature and the visual sense faculty would be multiple (*aṃu mano'nekaṃ cakṣuḥ*). For it is not possible for an atomic manas to be connected with multiple visual sense organs simultaneously (*na cāṇormanaso yugapad anekena cakṣuṣā saṃbandhaḥ saṃbhavati*). And if there is no connection, then the second visual faculty would not be considered (*atha asaṃbaddhamapi dvitīyaṃ cakṣurarthān ālocayati*). The corollary is that one visual faculty could function without being controlled by the *manas*, rendering the internal faculty useless (*evaṃ ca sati dvitīyacakṣurvad itaracakṣurapi manasānadhiṣṭhita meva pravartiṣyata iti vyarthaṃ manaḥ prāptam*). Further, an important point that Uddyotakara points out is that while the sense faculty is one, with two different bases (*ekamindriyadravyaṃ dvyadhiṣṭhānamabhinnam*).

We may look into the role of the atomic *manas* in Uddyotakara's reasoning once again. An atomic substance (*aṇu*) is the smallest particle in Nyāya ontology. Two atomic particles combine to form a dyad (*dvyaṇuka*). Three dyads combine to form a triad (*tryaṇuka*). According to Nyāya, a triad is the smallest visible object (*udbhūtarūpa*) to the naked eye.[36] But more importantly, when triads and above come in contact with other substances the contact is not

[34] Jha (1984, p. 1132). *NB* in Thakur (p. 141): *mṛtyasya hi śiraḥkapāle dvāvavaṭau nāsāsthivyavahitau cakṣuḥsthānaṃ bhedena grhyate.*
[35] Jha (1984, p. 1132). *NB* in Thakur (p. 141): *avapīḍanāccaikasya cakṣuṣo raśmiviṣayasanikarṣasya bhedād dṛśyabheda iva grhyate. taccaikatve virudhyate.*
[36] Ganeri (2011, p. 2013) writes: "The tertiary particle is the smallest entity able to instantiate sensory properties."

pervasive (*avyāpyavṛti*) of the entire object. When the two interior faces of your hands join each other, there will always be exterior parts of the hands which would not be able to come in contact. However, *aṇu* and *dvyaṇuka* particles are pervasive (*vyāpyavṛti*) in their contact. If they are pervasive, they can come into contact with only one object at a time, because any contact will completely pervade the surface area of the said particles. The *NS* 3.2.63 *yatoktahetutvāccāṇu* states that the *manas* is atomic because it stands by the principle that we never experience in our cognition, objects of multiple sense faculties simultaneously (*yugapajjñāna*). An atomic *manas* can come into contact with only one sense faculty at a time. This is the reasoning behind Uddyotakara's criticism on Vātsyāyana's views that the visual sense faculties are two.

Connecting Uddyotakara, Miśramata with Gaṅgeśa

What may we gather from Uddyotakara's response to Vātsyāyana? Firstly though the locus of any given sense faculty may be multiple, like say two ears, the sense faculty itself is one. An important corollary of this hypothesis is that the base, regardless of where it would be located and however distant from each other, is determined by just one sense faculty. The other point to draw from Uddyotakara's thesis is that the atomic *manas* does not come into contact with the locus of the sense faculty, which for the visual sense faculty is according to the Naiyāyika, the front side of the black part of the pupil.[37] The Naiyāyika, would then have to agree with my analysis that the sense faculty is not wholly located only its locus but is just connected to that point and extends beyond that. Just as the locus or the base of the visual sense faculty is two, the sense faculty itself cannot wholly reside in the black part of the pupil. This is because in those sense faculties with multiple loci, saying that the sense faculty resides in their loci only would make the sense faculties themselves multiple, which is the line of reasoning that Vātsyāyana took. Thus we can conclude from the Uddyotakara's reasoning that the manas necessarily cannot be in contact with the loci of the sense faculties, but only with the sense faculties themselves. What this implies is that, say for the movement of all our fingers and toes, the loci of fingers being multiple, its faculty, let's call it muscle, would be one only.

The general Nyāya theory of perceptual knowledge is derived this way. The sense faculties and the objects come into contact with each other. The *manas* comes into contact with the sense faculties, and the manas and ātma come into contact with each other. As Nyāya texts do not delve much into its

[37] *Tarka Saṃgrahaḥ* is Swami Virupakshananda (1994, pp. 41, 42): *indriyaṃ rūpagrāhakaṃ cakṣuḥ kṛṣṇatārāgravarti.*

functioning, we may have to speculate its physiological processing. One way to imagine it is that the manas, being atomic, travels really fast all across the body to come into contact with the specific part of the body that is sensing pleasure, pain, etc. This has been the basis of the debate on how we experience the application of sandalwood paste on our bodies, mentioned earlier. Since there is only manas and indriya, the manas ought to travel to the indriya in order to generate perceptual knowledge. It seems like there is a shortfall in this presentation and to explain this we may resort to a thought experiment. Imagine you are a Naiyāyika born in Japan, and after doing some demeritted activity (*adharmakārya*), and you are forced to undergo a Yubitsume/otoshimae ritual, which is the shortening of one's own little finger. At the moment you place your hand on the table, your little finger moves and so your atomic *manas* is located at your finger. The moment it is chopped off the odds of your atomic *manas* falling off with your finger is high.

The other option is to have some intermediary that passes between the sense faculties and your manas. So now, the manas does not travel all the way to the location of the (*indriya*), but through contact with this intermediary, contact with the sense faculties takes place. The similarity of these views are seem in an accepted but obscure theory within the Nyāya school known as the *Miśramata*, though I am as of now unable to say which Naiyāyika this refers to, especially as there are two prominent Naiyāyikas names Vācaspati Miśra and one Śaṅkarā Miśra. The views of this school have been sourced from three commentaries of the *Tarka Saṃgrahaḥ: Nīlakaṇṭaprakāśika* (~1840 CE) and *Bālāprīya* (1984) commentaries on the *Dīpikā*, and in a *Ṭippaṇi* (1966) by Sankaranarayanan on Dr. P S Ramasarma's *Śaktisanjīvinī*.[38]

According to the Miśra school of Nyāya, *carma* is an additional factor that is the general cause of knowledge.[39] Though *carma* is generally understood as skin, the *carma* here is an internal part of the body that would have to be found between a sense faculty and the *manas*. As we have read that generally Naiyāyikas agree that contact between the object and the sense organ, the sense organ and the manas and lastly between the manas and the ātmā is the general cause for knowledge, the Miśra's agree that in the above mentioned process, *carma* plays an additional role between all sense faculties and the mind. When we say "all sense faculties" it means that now that manas does not come into contact with any single sense faculty according to this school of thought, but that the *carma* is in contact with all sense faculties. Certainly

[38] Tatacharya (1980, pp. 71; 75), Ramasarma (1966, p. 33).

[39] *Ṭippaṇi* in Sankaranarayanan (1966, p. 33): *mūloktalakṣaṇapariṣkāraprakāstu carmamanaḥsaṃyogasyaiva jñānasāmānye kāraṇatvamiti vadatāṃ miśrāṇāṃ matamanusṛtyepi bodhyam.*

issues of simultaneous cognitions might arise, for say during a visual perceptual cognition, the tactile sense faculty will also play a causal role.[40] However, the Naiyāyika would respond that an atomic manas could still come in contact with a *carma* delimited by the hand (*hastāvacchedena*), as it is still the *manas*, upon the superintendence of the *ātma*, that moves between various sense faculties. But what the relevance of *carma* here is that an atomic manas, if it came directly in contact with the sense faculty, was plagued by the criticisms of the Mīmāmsaka especially because of the problems associated with its atomicity. However, now that a non-atomic but all body pervading intermediary is posited, the criticisms against the Nyāya theory of action can also be met with. From the discussion above, one may wonder whether the *carma* is equivalent to muscle or even combining muscle with the nervous system of the body.

Conclusion

We may briefly retrospect what the paper is trying to argue for. The Mīmāmsaka argues that an atomic *manas* has serious consequences for the Nyāya theory of action. Gaṅgeśa does respond, but as Phillips and Tatacharya have shown, the response has nothing to do with the dimension of atomicity that Gaṅgeśa's chapter is arguing for. In order to create a framework that would avoid the issues raised by the Mīmāmsaka, the research undertaken resorts to Uddyotakara's assessment on Vātsyāyana commentary on the NyāyaSūtras. A key point made clear is that the atomic *manas* has no requirement to be connected to the locus of the sense faculty, but only the sense faculty itself. This frees the atomic *manas* from having to come in contact with each finger, if the Naiyāyika wishes to move them, with purpose of course.[41] Thus the question of asking which finger moved first becomes pointless. The other point that I have tried to show here is that accepting the role of *carma* of the Miśra school is more economical (*lāghava*) than not having it.

Suppose a human agent loses their forearm in a freak accident. A bionic arm is fitted onto this agent's upper arm. Now this agent wishes to move their fingers. While they can physically only move only their upper arm, yet this agent can still desire to move their lost forearm, and at that moment, the sensors grasp the movements of the *carma* in the upper arm and are programmed to infer that the person intends to move a series of fingers. Thus

[40] *Ṭippaṇi* in Sankaranarayanan (1966, p. 33) : vastutastu cākṣuṣasākṣātkāryasāpi. jñānasāmānyakāraṇībhūtatattvaṁmanaḥsaṃyogajanyatayā tvagindriyajanyatvamakṣatamiti...

[41] *Dīpikā* in Tatacharya (1980, p. 2): *na kuryānniṣphalam iti jalatāḍanorapi niṣiddhatvāt.*

the bionic arm replicates the actions an agent wishes to perform. Comparing the feasibility of an atomic manas functioning with a *carma* as opposed to a purely ubiquitous *manas* is a question that is open to further research.

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