

**NYĀYA-VAISHESHIKA INHERENCE, INDIAN BUDDHIST REDUCTION, AND
HUAYAN TOTAL POWER**

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Suppose, for *reductio ad absurdum*, that wholes are real. Then a whole is either numerically identical to or else numerically distinct from its collection of parts. Since numerically identical entities share all of their properties, and since a whole has the property of being a unity whereas a collection of parts has the property of being a multiplicity, a whole is not numerically identical to its collection of parts. But neither is the whole numerically distinct from this collection. For a whole and its collection of parts occupy the same space at the same time, and numerically distinct entities cannot do this: this is the *Problem of the One over the Many*. Hence, since a whole is neither identical to nor different from its collection of parts, wholes are not real.

Pulling a cart's handle suffices for pulling the cart itself. This provides evidence against the soundness of the preceding *reductio* argument. Indeed, this sort of evidence motivates the Nyāya-Vaisheshika School's thesis that two distinct entities *can* occupy the same space simultaneously, provided that there is an eternally-existing inherence relation between the entities in virtue of which one contains the other. This thesis, however, is incompatible with Buddhism's basic commitment to impermanence. Accordingly, most Indian Buddhists infer that wholes are unreal. Huayan Buddhists, in contrast, and in an attempt to accommodate the reality of wholes within a Buddhist framework, modify Nyāya-Vaisheshika's solution to the Problem of the One over the Many by arguing that the inherence relation between a whole and its collection of parts need not be eternal.

The discussion to follow elaborates upon these various responses to the Problem of the One over the Many, in the service of two central goals. The first is to situate Huayan's mereology within the context of Buddhism's historical development, showing its continuity with a broader tradition of philosophizing about part-whole relations. The second goal is to highlight the way in which Huayan's mereology combines the virtues of the Nyāya-Vaisheshika and Indian Buddhist solutions to the Problem of the One over the Many while avoiding their vices.

I. Nyāya-Vaisheshika Inherence

One argument in the *Nyāya Sūtra* for the reality of wholes is that:

There is a whole, because we can hold, pull, etc.¹

That is: if only atoms are real—if the only real entities are those with no proper part and wholes are unreal conceptual constructs that result from our minds imposing unity onto atoms—then moving a part of a whole should not result in the movement of the entire whole, because the moved part has no real connection with the rest of the atoms in the whole. Since, however, we can hold or pull an entire whole by holding or pulling only part of it, wholes must be real: the unity of their constituents must be a real feature of the world.

That wholes are real is, like many Nyāya-Vaisheshika theses, the view of untutored common sense. Nonetheless, the view seems to succumb to the Problem of the One over the Many. Consider the principle, supported by ample empirical evidence, that distinct bodies cannot occupy the same space at the same time. Then if a whole and its constituent parts are equally real, and if the whole is distinct from the collection of its parts, the whole cannot simultaneously occupy the same space as the collection of its constituents—for example, a diamond and its constituent carbon atoms cannot simultaneously occupy the same ring setting.

Since, however, the diamond and the collection of its carbon atoms do occupy the same space at the same time, the diamond (whole) is either unreal or numerically identical to the collection of its parts.

The preceding argument seems to show that Nyāya-Vaisheshika should reject the view that wholes are real. For Nyāya-Vaisheshika accepts that wholes are distinct from the collection of their parts. (One potential reason for this is that numerically identical entities must share all of their properties, but a whole has the property of being one thing whereas the collection of its parts has the property of being many.²) However, Nyāya-Vaisheshika instead rejects the principle that distinct bodies cannot occupy the same space at the same time. In its place, Nyāya-Vaisheshika adopts a qualified principle, according to which two distinct bodies cannot occupy the same space at the same time *unless one of the bodies contains the other in the right way*. So, for example, although an automobile and a building wall cannot be in the same place simultaneously (since neither contains the other), the automobile and its constituent parts can, because those parts together contain the automobile in the right way. (See below for a further discussion of the containment relation.) This modified principle, and the thesis that each whole is contained in the collection of its parts in the right way, allows Nyāya-Vaisheshika to retain the reality and distinctness of wholes while avoiding the Problem of the One over the Many. For Nyāya-Vaisheshika's thesis about the relation between wholes and their parts, if correct, indicates that there is a relevant (metaphysical) dissimilarity between wholes and their parts, on the one hand, and other distinct bodies, on the other hand, namely, that parts contain their wholes but other distinct bodies (such as automobiles and walls) do not contain each other. This dissimilarity provides a principled reason for qualifying the principle that distinct bodies cannot occupy the same space at the same time.

Nyāya-Vaisheshika introduces the technical notion of inherence to explicate the notion of parts containing a whole in the right way:

Inherence [*samavāya*: intimate union, coming together inseparably] is the relationship subsisting among things that are inseparable, standing to one another in the character of the container and the contained—such relationship being the basis of the idea that "this is in that."³

According to Nyāya-Vaisheshika, when parts simultaneously occupy the same space as their whole in virtue of containing that whole, the parts and their whole bear a relation of inherence to each other. This inherence relation obtains only among entities that are inseparably connected—that is, among entities such that the existence of one depends upon its being contained in the other. For example, although a jar might contain a collection of marbles, there is no inherence relation between the jar and that collection, because the jar and the marbles can exist apart from each other. Furthermore, the relation is imperceptible to the sense-organs, and "as it is not perceptible by itself ... it is only inferable from the notion that 'this is in that.'"⁴ For example, since a cloth is in its threads and inseparably connected to those threads, Nyāya-Vaisheshika infers that there is a relation of inherence between the cloth and its threads.⁵

Nyāya-Vaisheshika attributes several properties to the inherence relation in order to distinguish between the case in which a collection of entities forms a united whole (in virtue of an inherence relation's presence) and the case in which a collection of entities is a mere conjunction (such as a pile of discarded building materials). The most important of these, for present purposes, is that the inherence relation is eternal (even when the entities in the relation are not). The reason for attributing this property to the inherence relation is that the relation

is not brought about by any cause. That is to say, in the case of being we have found that it is eternal, because we cannot cognize any cause for it, by any of the valid means of knowledge; and the same may be said to be the case with inherence also; as by none of the valid means of knowledge can we find any cause for it.⁶

The key premises in this argument are that all truths are knowable through some valid way of knowing, that none of these ways reveal a cause for an inherence relation's presence with collections of entities that are not mere conjunctions, and that whatever exists uncaused is eternal.⁷

According to Nyāya-Vaisheshika, there are four valid ways of knowing: perception, inference, analogy, testimony.⁸ Perception produces knowledge through contact between a sensory organ and an object; inference, through cogent reasoning; analogy, through comparisons based upon relevant similarities; testimony, through instruction from reliable people. Finding that none of these means reveal a cause for an inherence relation's presence with collections of entities that are not mere conjunctions, Nyāya-Vaisheshika infers, on the basis of the knowability thesis, that the presence of that relation is uncaused.⁹ For example, Nyāya-Vaisheshika holds that neither perception nor inference nor any other mode of knowledge reveals the cause for what makes some thread collections such that moving some of the threads results in moving all of the threads, and thereby infers that what makes these thread collections behave in this way must be uncaused. Since what makes the threads behave as a unity is the presence of an inherence relation between the cloth as a whole and the threads, Nyāya-Vaisheshika concludes that the inherence relation is uncaused.

Nyāya-Vaisheshika takes the inherence relation's being uncaused as conclusive evidence that the inherence relation is eternal. According to Nyāya-Vaisheshika, whatever exists

uncaused is eternal. Presumably the motivation for this thesis is the intuition that coming into or going out of existence requires a cause, because all change requires a cause. If this intuition is correct, then since whatever exists without coming into or going out of existence must exist always, whatever exists uncaused must exist always—that is, it must be eternal. Accordingly, if, say, the inherence relation between a cloth as a whole and its threads is uncaused, that relation is eternal.

II. Indian Buddhist Reduction

Nyāya-Vaisheshika's epistemology and metaphysics combine to produce a mereology in which: wholes and parts are equally real; wholes are distinct from their collections of parts; there is a relation of inherence between a whole and its parts, in virtue of which wholes are in their parts and some collections of parts are not mere conjunctions; this inherence relation is uncaused and eternal. One consequence of this mereology is that wholes are literally more than the sum of their parts. For parts create a whole only when an inherence relation is present in addition to the parts. Hence, according to Nyāya-Vaisheshika mereology, wholes are irreducible to the mere collection of their parts.

Nyāya-Vaisheshika mereology violates the Buddhist doctrine of impermanence (*anityatā*). According to this doctrine, whatever exists eventually ceases to exist: lightning flashes and then disappears; rain falls and then evaporates; flowers grow and then wither; humans flourish and then die. This doctrine entails that nothing exists eternally. Since Buddhism, like Nyāya-Vaisheshika, accepts that uncaused existents must be eternal, the doctrine of impermanence entails that whatever exists has a cause. Accordingly, Buddhism characterizes

"the persistence of existences [and] uncaused existences" as "heresies."¹⁰ This leads all Buddhist schools to reject Nyāya-Vaisheshika inherence relations as fictions.¹¹

Inherence relations, however, secure the Nyāya-Vaisheshika solution to the Problem of the One over the Many. According to Nyāya-Vaisheshika, the presence of an inherence relation is what allows a whole and its parts to be equally real but numerically distinct. Moreover, if there is no inherence relation, every whole is either unreal or numerically identical to the collection of its parts. Insofar as wholes cannot be identical to the collection of their parts, in virtue of being unities rather than multiplicities, denying the existence of an inherence relation entails that wholes are unreal. This is precisely the conclusion that most schools of Indian Buddhism reach.¹²

The view that wholes are unreal (mere conceptual fictions) in virtue of being entirely reducible to their parts is known as *Mereological Reductionism*.¹³ It appears most famously in the *Milindapañha* (*The Questions of [King] Milinda*), a work that "is recognized as authoritative by a number of different Abhidharma schools" and which contains views that "represent a consensus position among a wide variety of commentarial traditions on the teachings of the Buddha."¹⁴ The context for the view's presentation is a conversation between the Buddhist monk Nāgasena and the Greek ruler Milinda (Menander):

Then the venerable Nāgasena spoke to Milinda the king as follows: "Your majesty, you are a delicate prince, an exceedingly delicate prince; and if, your majesty, you walk in the middle of the day on hot sandy ground, and you tread on rough grit, gravel, and sand, your feet become sore, your body tired, the mind is oppressed, and the body-consciousness suffers. Pray, did you come afoot, or riding?"

"*Bhante* [Sir], I do not go afoot: I came in a chariot."

"Your majesty, if you came in a chariot, declare to me the chariot. Pray, your majesty, is the pole the chariot?"

"Nay, verily, *bhante*."

"Is the axle the chariot?"

"Nay, verily, *bhante*."

"Are the wheels the chariot?"

"Nay, verily, *bhante*."

"Is the chariot-body the chariot?"

"Nay, verily, *bhante*."

"Is the banner-staff the chariot?"

"Nay, verily, *bhante*."

"Is the yoke the chariot?"

"Nay, verily, *bhante*."

"Are the reins the chariot?"

"Nay, verily, *bhante*."

"Is the goading-stick the chariot?"

"Nay, verily, *bhante*."

"Pray, your majesty, are pole, axle, wheels, chariot-body, banner-staff, yoke, reins, and goad unitedly the chariot?"

"Nay, verily, *bhante*."

"Is it, then, your majesty, something else besides pole, axle, wheels, chariot-body, banner-staff, yoke, reins, and goad which is the chariot?"

"Nay, verily, *bhante*."

"Your majesty, although I question you very closely, I fail to discover any chariot."¹⁵

Many schools of Indian Buddhism treat this kind of argument as applicable to all putative wholes. The result of this attitude is that many such schools accept Mereological Reductionism.

Matthew Kapstein rightly observes that the exchange between Nāgasena and Milinda implies that they accept three principles:

- (P1) No composite material whole is numerically identical to any of its proper parts.
- (P2) No composite material whole is numerically identical to the mere collection of its proper parts.
- (P3) No composite material whole is numerically identical to something other than its proper parts or their mere collection.¹⁶

(P1) licenses the conclusion that neither the axle nor the wheels nor the other chariot parts are numerically identical to the chariot. (P2) licenses the conclusion that the collection of chariot parts is not numerically identical to the chariot. (P3), finally, licenses the conclusion that the chariot is not numerically identical to something other than the chariot parts or the collection thereof. Nāgasena and Milinda also accept a further principle, namely:

- (P*) If a composite material whole is numerically identical to neither its proper parts, a mere collection of those parts, or something else, then the whole itself is not real.

(P*) codifies the thesis that there is nothing that a whole possibly could be other than the mere collection of its proper parts, one of those parts, or something else; and it licenses the discussion's conclusion that, appearances to the contrary, chariots are unreal.

That Nāgasena and Milinda tacitly accept the preceding principles does not explain why they do so.¹⁷ However, if Nāgasena and Milinda adopt the self-evident principle of the

indiscernibility of identicals, according to which numerically identical entities share all of their properties, a partial explanation is at hand. Given the indiscernibility of identicals, (P1) is true because a whole has properties that its individual parts lack. For instance, the chariot has wheels but the pole does not. This principle, together with the assumption that a whole is one thing whereas its collection of parts is many, similarly explains why one might accept (P2).¹⁸

The indiscernibility of identicals does not explain why one might accept (P3) or (P*). (P*), of course, seems to be a logical truth and so requires no explanation. Yet an explanation for (P3)'s acceptability is not at all self-evident, especially in virtue of the fact that Nyāya-Vaisheshika's mereology is *prima-facie* plausible and yet entails that (P3) is false. For, according to that mereology, a whole is identical to something other than its proper parts or the collection thereof, namely, the collection of those parts plus an eternally-existing inherence relation. Accordingly, Nāgasena and Milinda's reliance upon (P3) commits them, at minimum, to denying the existence of any such inherence relation. Certainly Nāgasena does this because, as a Buddhist, he accepts the doctrine of impermanence and this entails that nothing is eternal. Presumably Milinda does too.

III. Huayan Total Power

Contrary to Buddhist reductionists, the Huayan school of Buddhism accepts that wholes are identical to something other than their parts or collections thereof. For the Huayan School holds that wholes inhere in their parts. When justifying the claim that one body can be in many bodies, the Huayan patriarchs often quote the *Huayan Sūtra*: "In one understand infinity, in infinity understand one"¹⁹ Less abstractly, Fazang (643-712) remarks that "the perfect building is inherent in the one rafter."²⁰ Accordingly, Huayan follows Nyāya-Vaisheshika in treating a

whole as being numerically identical to its collection of parts plus an inherence relation, and in rejecting (P3).

Contrary to Nyāya-Vaisheshika, however, Huayan denies that the inherence relation must be eternal. Recall the argument for that claim: Whatever exists is knowable; but none of the valid methods of knowing reveal a cause for an inherence relation between a whole and its collection of parts; so if there is such a relation, it has no cause; and since whatever exists uncaused is eternal, any inherence relation must be eternal. Huayan resists this argument, and thereby avoids Mereological Reductionism, by advancing the thesis that the cause for the inherence relation between a whole and its collection of parts is each part in that collection. For example, according to Huayan's mereology, a building's rafter (among other parts) causes the presence of an inherence relation between the building and its collection of parts.

That the Huayan School offers an alternative to Nyāya-Vaisheshika's understanding of the inherence relation is not obvious from their treatises. Nonetheless, one of Huayan's distinctive theses is that parts have total power to create their wholes, and this thesis helps to explain why the whole-part inherence relation need not be uncaused. The thesis that parts have total power to create their wholes is equivalent to the claim that, for each part of a whole, the presence of that part suffices for the presence of the whole.²¹ This entails that it is not possible for a collection of parts to have more than one arrangement. For example, if a building is present whenever a rafter is present and if the building's parts have total power to create the building, that rafter is never a member of a mere heap of lumber: the collection of building parts must always form a particular building, because each element of that collection suffices to form that very building. Since a collection of total-power parts (to coin a phrase) creates a unique whole—for instance, since a collection of total-power building parts creates a specific building—the

presence of that collection provides a sufficient reason for the presence of that whole. Assuming that sufficient reasons qualify as causes, it follows that a whole's collection of parts suffices for the presence of an inherence relation between the whole and its collection of parts, when the members of that collection have total power to create the whole.

Nyāya-Vaisheshika, in contrast to Huayan, posits that the inherence relation between a whole and its collection of parts is "not caused by the action of any of the members related."²² Presumably Nyāya-Vaisheshika denies that a whole can cause the presence of an inherence relation, because that relation is a precondition for the whole being a whole rather than a mere conjunction of parts: if anything, the inherence relation is a cause of the whole rather than vice versa. Furthermore, Nyāya-Vaisheshika denies that a collection of parts can cause the relation, because Nyāya-Vaisheshika assumes that a collection of parts can be present while the whole is absent, in virtue of the collection having a different arrangement. (For example, if a collection of building parts can exist as either a building or a mere heap, that collection does not cause an inherence relation between itself and the building.) Finding no other cause for an inherence relation between a whole and its collection of parts, Nyāya-Vaisheshika infers that the relation is uncaused. Huayan's thesis that parts have total power to create their wholes, however, undermines the motivation for Nyāya-Vaisheshika's claim that a collection of parts cannot cause the inherence relation between itself and its whole. For if parts have total power to create their wholes, a whole's collection of parts cannot be present while the whole is absent: each collection of parts has a unique possible arrangement.

The thesis of total power parts appears throughout the writings of Huayan's patriarchs. For instance, in *Ten Mysterious Gates of the Unitary Vehicle of the Huayan*, Zhiyan (600-668) writes:

... when the house is complete, everything is produced at once. If there is a single thing that is not established, this house is not established either. It is like this: if the first step arrives, all steps arrive. If the first step does not arrive, then all steps do not arrive.²³

Here Zhiyan claims that one part of a house, the step, has total power to create the house. Zhiyan uses the case of a step having total power in creating a house to illustrate what he calls the gate of simultaneous complete interrelation. He does not, however, offer an argument in defense of his claim: this task's fulfillment awaits Huayan's third patriarch, Fazang.

Fazang's *Treatise on the Five Teachings of Huayan* provides the best illustration and defense of the Huayan thesis that parts have total power to create their wholes. Fazang's discussion focuses on a building and one of its parts, such as a rafter. There are exactly two possible views about the relation between this rafter and its building. The first is that the presence of the rafter is not, by itself, sufficient for the presence of the building. In Fazang's language, this is the view that parts have only partial power to create wholes: "if each part does not wholly cause the building to be made and only exerts partial power, then each condition [such as the rafter] would have only partial power." The second view is that the presence of the rafter is, by itself, sufficient for the presence of the building. In Fazang's language, this is the view that parts have total power to create wholes.

Common sense favors the view that parts have partial, but not total, power to create wholes. For we ordinarily presume that, say, a rafter suffices for a building only in the presence of many other building parts and a particular building-wise arrangement of those parts. In contrast, Fazang argues that parts do not have only partial power and, consequently, that each has total power. He provides two arguments, one based upon what he calls the errors of eternalism and annihilationism, the other based upon general principles about part-whole relations.

IV. The Errors of Eternalism and Annihilationism

In his *Treatise on the Five Teachings of Huayan*, Fazang identifies two erroneous consequences of denying that parts have total power to create wholes:

Question: if all the various conditions [for the building] such as the rafter each exerts its own partial power, thus creating the building together and not through total power, what would be the error?

Answer: there would be the errors of eternalism and annihilationism. If each part does not wholly cause the building to be made and only exerts partial power, then each condition would have only partial power. They would consist simply of many individual partial powers and would not make one whole building. This is annihilationism. Also, the various conditions cannot completely make the building if they each possess partial power, so that if you maintain that there is a whole building, then since it exists without a cause, this is eternalism.

That is: Suppose that the building's parts have only partial power to create the building. Then the collection of parts alone does not suffice for the building. Yet the only possible cause for the building is this collection (tacit premise). So either the building is unreal (annihilationism) or else it is real but exists without a cause (eternalism). This argument invites the inference that, since both of these alternatives are errors, the building's parts do not have only partial power to create the building: instead, each has total power.

Fazang does not explain why a collection of building parts cannot make a whole building if those parts have only partial power. Nor does he explain why annihilationism and eternalism are errors. The preceding discussion of the various solutions to the Problem of the One over the

Many, however, contains the missing explanations and highlights the virtues of the Huayan solution.²⁴

Some basic assumptions of Nyāya-Vaisheshika explain why a collection of partial-power building parts cannot make a whole building. What distinguishes a mere conjunction of parts from a united whole is the presence of an inherence relation. Since, according to Nyāya-Vaisheshika, a collection of partial-power parts does not cause the presence of such a relation, the building's existence requires more than the presence of partial-power building parts. If this something more does not exist, the building is unreal: this is Mereological Reductionism, or what Fazang calls annihilationism. If, however, the relation does exist, the building is real but uncaused, in virtue of the inherence relation being uncaused: this is Nyāya-Vaisheshika's mereology, or what Fazang calls eternalism.

Nyāya-Vaisheshika's argument for the reality of wholes is that pushing or pulling only part of a whole moves the entire whole. Presumably, then, annihilationism (Mereological Reductionism) is an error in virtue of failing to explain this datum.²⁵ Nyāya-Vaisheshika's eternalism, however, secures the reality of wholes by positing the existence of an uncaused inherence relation. This is an error because it violates the Buddhist tenet that everything has a cause. Accordingly, given that neither annihilationism nor eternalism are true, and that one of these theses must be true if parts have only partial power to create their wholes, parts have total power to create their wholes.

V. Strict Speech and the Ideal of the Round

Rejecting Mereological Reductionism (annihilationism) and Nyāya-Vaisheshika's mereology (eternalism) as errors provides Fazang with one motivation for the thesis that parts have total

power to create their wholes. If Fazang is correct, those errant views are consequences of rejecting Huayan's thesis of total-power parts. Of course, this motivation is utterly unpersuasive for proponents of Mereological Reductionism or Nyāya-Vaisheshika's mereology, who deny that their positions are errors.

Fazang offers a second motivation for the thesis of total-power parts in his *Treatise on the Five Teachings of Huayan*, where he proposes an explicit argument:

If the rafter does not wholly create the building, then when the one rafter is removed, the whole building should remain. However, since the total building is not formed, you should understand that the building is not formed by the partial power of a condition such as the rafter but by its total power.

Fazang's argument contains two key premises. The first is that parts are not necessary conditions for their wholes if parts have only partial power. The second is that parts are necessary conditions for their wholes: the absence of a part entails the absence of its whole.

After claiming that Fazang's argument "seems to be simple enough," Francis Cook offers the following explication:

If the rafter does not have this total power, then if the rafter is removed, the whole building should remain, just as my whole body should remain if a leg is amputated.

Obviously this is not the case, and so [Fazang] says that in order for the whole to be a whole, the part must exert total power in the formation of the whole.²⁶

Cook takes the second premise of Fazang's argument to be obviously true. But Fazang does not, since he explicitly addresses the question "why would there be no building if a single rafter is lacking?" His answer is that a building without a rafter is a "spoiled building, not a perfect building." Cook explicates this as the claim that "when a part is removed, the previously perfect

whole is destroyed; it just is not *that* particular whole anymore."²⁷ This seems to indicate that Fazang adopts a strict and exacting identity condition for wholes, known among contemporary metaphysicians as Mereological Essentialism, according to which wholes cannot survive any loss or replacement of their parts.²⁸

What of the other premise in Fazang's argument, that a rafter's having only partial power entails that it is possible for the building to survive the rafter's absence? This premise is not a logical truism: that a whole is unnecessary to its parts does not entail that those parts are unnecessary to their whole. For example, a rafter's presence can be insufficient for a building's presence (in virtue of the rafter being part of a mere heap), but this is compatible with the building's presence requiring the rafter's. Nor is Fazang's assertion obviously true. For example, some solutions to the Ship of Theseus paradox accept that a ship's parts have only partial power to create a ship and yet deny that the ship can persist through changes in its composition.

Cook's explication of Fazang's argument does not clarify why Fazang claims, against common sense, that "if the rafter does not wholly create the building, then when the one rafter is removed, the whole building should remain." For Cook merely rephrases Fazang's claim and illustrates what the relation between a body and a leg would be if that claim were true. Any doubts about Fazang's claim simply transfer to doubts about Cook's illustration. Nor does Cook's explication show why anyone would find persuasive an argument in which one premise seems to be open to counterexample.

It is plausible to suppose that Fazang bases his claim on a distinction between a loose, conventional way of speaking and a strict, philosophical way. Loosely speaking, the same part can survive in different collections and the same whole can survive changes in its composition. Strictly speaking, however, neither kind of survival is possible: a part in one whole cannot exist

as that very same part in another collection, and a whole cannot persist as that very same whole with different parts. (This latter claim is Mereological Essentialism.) So Fazang might be reasoning that endorsing partial power parts involves speaking in a loose way, which in turn entails a commitment to wholes being able to survive a replacement or removal their parts. If this is correct, putative counterexamples to Fazang's claim conflate different ways of speaking, and Fazang can reject them by insisting that one speak of parts and wholes in the same way.

There is, moreover, a third motivation for the thesis that parts have total power to create their wholes, namely, Fazang's commitment to the ideal of the round. According to this ideal, a claim embodies ultimate truth insofar as it is all-inclusive and free from extremes. Fazang nowhere defends this ideal as correct. Rather, he seems to accept it because it resonates with various cultural influences. For example, *yin / yang* relationships are mutually inclusive. Moreover, the *t'i-yung* (essence-function) construction, where *t'i* is reality's universal and static aspects and *yung* is its particular and dynamic aspects, is a common model for understanding reality among indigenous Chinese traditions, and this model treats *t'i* and *yung* as mutually inclusive.²⁹

Fazang implements the ideal of the round with the thesis that parts and their wholes *mutually penetrate*. The mutual penetration of part and whole means not only that a whole is present only when each of its parts is (this is Mereological Essentialism) but also that each part of a whole is present only when the whole itself is. Provided that independence is a kind of exclusivity, the ideal of the round demands that wholes depend upon each of their parts and that parts depend upon their wholes. For if a whole were independent of its parts, perhaps in virtue of being something more than its parts, the part-whole relationship would be less than maximally

inclusive; and if a part were independent of its whole, so that the same part could be in different wholes or heaps, then, again, the part-whole relationship would be less than maximally inclusive.

Accordingly, Fazang has two independent arguments for the thesis that parts have total power to create their wholes. The first involves Mereological Essentialism and a demand that one speak of parts and wholes in the same way. The second involves the ideal of the round. Either one allows Fazang to show that the inherence relation between a whole and its collection of parts need not be uncaused and eternal, contrary to Nyāya-Vaisheshika's mereology.

VI. Concluding Remarks

Wholes differ from mere conjunctions in virtue of their unity. This unity explains why pushing or pulling only part of a whole can move the entire whole. Yet the unity of wholes creates the Problem of the One over the Many. For being a unity seems to make a whole distinct from the collection of its parts, in virtue of that collection being a multiplicity of entities rather than a single entity; but the whole cannot differ from the collection of its parts, insofar as distinct bodies cannot occupy the same space at the same time. The Indian philosophical tradition offers two solutions to this problem. Nyāya-Vaisheshika maintains that, although a whole and its collection of parts are distinct, they can share a space-time location in virtue of one being contained in the other. Indian Buddhist Reductionists, in contrast, maintain that such a containment relation violates Buddhism's proscription against eternal existents and that all unity is unreal.

The central virtue of Nyāya-Vaisheshika's solution is that it accommodates the reality of wholes. From a Buddhist point of view, however, the price of doing this is too high. The central virtue of Reductionism is that it violates no Buddhist tenets. In doing so, however, Reductionism

loses the ability to distinguish between wholes (qua unities) and mere conjunctions.³⁰ Huayan's mereology incorporates the virtues of Nyāya-Vaisheshika and Reductionist solutions to the Problem of the One over the Many without incurring the costs of either. For the thesis that parts have total power to create their wholes allows Huayan to accommodate the reality of wholes without positing uncaused relations: a whole can be numerically distinct from the collections of its parts, in virtue of being contained in that collection; and this containment relation need not be eternal, in virtue of being caused by the whole's parts.

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Endnotes

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¹ *Nyāya Sūtra* II.I.35, as quoted in *A Source Book in Indian Philosophy*, eds. Sarvepalli Radhakrishnan and Charles A. Moore (Princeton: Princeton University Press, 1957), 366.

² See Mark Siderits, *Buddhism as Philosophy: An Introduction* (Indianapolis: Hackett, 2007), 107-108. For an opposing viewpoint, see Donald L.M. Baxter, "Identity in the Loose and Popular Sense," *Mind* 97, no. 388 (1988): 575-582.

³ Prashastapāda, *The Padārthadharmasamgraha* II.9, as quoted in *A Source Book in Indian Philosophy*, eds. Sarvepalli Radhakrishnan and Charles A. Moore (Princeton: Princeton University Press, 1957), 399.

⁴ Prashastapāda, *The Padārthadharmasamgraha* IX.161, as quoted in *A Source Book in Indian Philosophy*, 423.

⁵ See Prashastapāda, *The Padārthadharmasamgraha* IX.157, as quoted in *A Source Book in Indian Philosophy*, 422. See IX.159 for Prashastapāda's argument that there is not "a multiplicity of inferences." For further discussion, see Bimal Krishna Matilal, *Epistemology, Logic, and Grammar in Indian Philosophical Analysis* (Paris: Mouton, 1971), 55-58.

⁶ See Prashastapāda, *The Padārthadharmasamgraha* IX.161, as quoted in *A Source Book in Indian Philosophy*, 423.

⁷ The thesis that anything uncaused is eternal appears at IV.I.1 of the *Vaisheshika Sūtra*. Prashastapāda's knowability thesis occurs at III.11 of *The Padārthadharmasamgraha*. For a critical discussion of the thesis, which invokes Fitch's knowability paradox for verificationism as an objection, see Roy W. Perrett, "Is Whatever Exists Knowable and Nameable?" *Philosophy East & West* 49, no. 4 (1999): 401-414. For an overview of contemporary literature on the knowability paradox, see Jonathan L. Kvanvig, *The Knowability Paradox* (New York: Oxford University Press, 2006).

⁸ See *Nyāya Sūtra* I.I.3-7.

⁹ I am not aware of any scholarship that explains why Nyāya-Vaisheshika's epistemology and theory of causation jointly entail that none of the valid means of knowing reveal a cause for any inherence relation. For a discussion of the (complicated) Nyāya-Vaisheshika theory of causation, however, see Bimal Krishna Matilal, "Causality in the Nyāya-Vaisesika School," *Philosophy East & West* 25, no. 1 (1975): 41-48.

¹⁰ Chapter XVII of the *Visuddhimagga*. The claim that everything has a cause is known as the doctrine of *pratītya-samutpāda*.

¹¹ This is not the only reason Buddhists give for denying the existence of inherence relations between wholes and their parts. For further discussion, see Matilal, *Epistemology, Logic, and Grammar in Indian Philosophical Analysis*, 58-59; Siderits, *Buddhism as Philosophy*, 108-111.

¹² But not all schools. For example, Candrakīrti's Prāsangika sect of Nāgārjuna's Mādhyamika Buddhism rejects Mereological Reductionism. For further discussion, see James Duerlinger, "Reductionist and Nonreductionist Theories of Persons in Indian Buddhist Philosophy," *Journal of Indian Philosophy* 21, no. 1 (1993): 79-101.

¹³ This terminology follows, among others, Siderits, *Buddhism as Philosophy*, 54 and Tao Jiang, "The Problematic of Whole-Part and the Horizon of the Enlightened in Huayan Buddhism," *Journal of Chinese Philosophy* 28, no. 4 (2001): 457-475.

¹⁴ Mark Siderits, *Buddhism as Philosophy*, 50. This concurs with Kenneth K.S. Ch'en, according to whom the *Milindapañha* wields just as much authority as canonical Theravadin texts (*Buddhism: The Light of Asia* (New York: Barron's Educational Series, 1968), 224).

¹⁵ *Milindapañha* II.I.1, as quoted in *A Source Book in Indian Philosophy*, 283-284.

¹⁶ Matthew Kapstein, "Mereological Considerations in Vasubandhu's 'Proof of Idealism' (*Vijñaptimātratāsiddhiḥ*)," *Idealistic Studies* 18, no. 1 (1988): 34.

¹⁷ This is no criticism of Kapstein. For his concern is not primarily Indian Buddhist mereology (33), but rather Vasubandhu's argument for idealism.

¹⁸ It seems reasonable to assume that Milinda and Nāgasena accept a whole's being one thing but a collection of the whole's parts being many, since they are part of the same broad philosophical

tradition as Nyāya-Vaisheshika and Nyāya-Vaisheshika accepts the same assumption. For Buddhist-inspired considerations on whether a whole differs from its collection of parts in virtue of being a unity, and in particular whether a self differs from its collection of psychophysical processes in virtue of being a unity, see David Bastow, "Self-Construction in Buddhism," *Ratio* 28, no. 2 (1986): 97-113.

¹⁹ See Dushun, *Cessation and Contemplation in the Five Teachings of the Huayan*, in Thomas Cleary, *Entry into the Inconceivable: An Introduction to Hua-yen Buddhism* (Honolulu: University of Hawai'i Press, 1983), 65; Zhiyan, *Ten Mysterious Gates of the Unitary Vehicle of the Hua-yen*, in Cleary, *Entry into the Inconceivable*, 127.

²⁰ Fazang, *Treatise on the Five Teachings of Huayan*. All quotations of this treatise rely upon Francis Cook's translation in *Hua-yen Buddhism: The Jewel Net of Indra* (University Park: Pennsylvania State University Press, 1977).

²¹ See Nicholaos Jones, "Fazang's Total Power Mereology: An Interpretive Analytic Reconstruction," *Asian Philosophy* 19, no. 3 (2009): 199-211.

²² Prashastapāda, *The Padārthadharmasamgraha* IX.158, as quoted in *A Source Book in Indian Philosophy*, 422. *The Padārthadharmasamgraha* contains no justification for this claim.

²³ Zhiyan, *Ten Mysterious Gates of the Unitary Vehicle of the Hua-yen*, in Cleary, *Entry into the Inconceivable*, 134.

²⁴ For a supplementary account of why Fazang might view eternalism and annihilationism as errors, see Nicholaos Jones, "Fazang: Hermeneutics, Causation, and Mereology," in *Dharma and Dao: Chinese Buddhist Philosophy*, ed. Sandra A. Wawrytko (Springer: *forthcoming*).

²⁵ For a different hypothesis about why annihilationism (Mereological Reductionism) is an error, see Jiang, "The Problematic of Whole-Part and the Horizon of the Enlightened in Huayan Buddhism." Jiang's thesis is that annihilationism fails to accommodate the difference between strong and weak wholes (458-460).

²⁶ Cook, *Hua-Yen Buddhism*, 81.

²⁷ Cook, *Hua-Yen Buddhism*, 82.

²⁸ See, for example, Roderick Chisholm, "Parts as Essential to Their Wholes," *Review of Metaphysics* 26, no. 4 (1973): 581-603. Incidentally, Zhiyan also seems to endorse Mereological Essentialism when he claims that "If there is a single thing that is not established, this house is not established either."

²⁹ For further discussion of possible connections between Huayan and the *Yi Jing* philosophy, see Linyu Gu, "Dipolarity in Chan Buddhism and the Whiteheadian God," *Journal of Chinese Philosophy* 32, no. 2 (2005): 211-222. For Daoist influences on Huayan, see Kang-Nam Oh, "The Taoist Influence on Hua-yen Buddhism: A Case of the Sinicization of Buddhism in China [=道家對華嚴宗的影響--中國佛教漢化的一例]," *Chung-Hwa Buddhist Journal* [中華佛學學報] 13, no. 2 (2000): 277-297. Steve Odin discusses the *t'i-yung* construction in *Process Metaphysics and Hua-yen Buddhism: A Critical Study of Cumulative Penetration vs. Interpenetration* (Albany: State University of New York Press, 1982), 23-26. On the ideal of the round in Fazang's philosophy, see Ming-wood Liu, "The Harmonious Universe of Fa-tsang and Leibniz: A Comparative Study," *Philosophy East and West* 32, no. 1 (1982): 61-76.

³⁰ This concurs with Jiang, "The Problematic of Whole-Part and the Horizon of the Enlightened in Huayan Buddhism." In speaking of Buddhist Reductionism, Jiang writes that "many

Buddhists mix up the sum with the whole by ignoring the unity; although the sum can be dissected into its components, the whole is irreducible to the parts, due to the element of unity inherent in it" (460).