

Critical Views 1: Medieval Opposition

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Overview

Reminder & background

Bundle theory

- Motivation

- Early history

Atomism

- Autrecourt

Reminder: Matter and Form(s)

What are substances composed of?

- **integral parts**: elements.
- **metaphysical parts**: parts that aren't integral parts.
- **substance** = **prime matter** [is it extended? is it real?] + **substantial form(s)** [how many?] + **accidents** [are they real? what do they inhere in?]
- How can we apply this framework to a human being?
- What can we apply it to, in general? (Soul? Angels? Celestial bodies?)

Is hylomorphism true? Can we *know* it's true?

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Some implications of hylomorphism (?):

- 1 qualities and the subject they inhere in are different sorts of things
- 2 matter is indefinitely divisible; there are no such things as physical atoms, and there is also no such thing as a vacuum. [Are these really implied? Why / why not?]

If you question either of these, you question thereby the hylomorphic theory as such:

- question (1) \Rightarrow bundle theory
- question (2) \Rightarrow atomism

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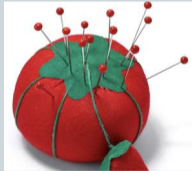
Bundle theory

All there is is just a bundle of properties. Objects *are* just these bundles of properties.

- Is this a meaningful theory?
- Were there any proponents of this theory?
- Cf. Berkeley; but what about before that?

Some Motivations

- How do we describe an individual? – by enumerating her properties.
- Substances seem imperceptible (cf. Locke!)
- All sensory images we have are about accidents – so why assume there is anything else?
- Perhaps the theory of real accidents (as in Scotus and later) made things worse.



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- **Pre-Socratics**: arguably no clear distinction between objects and properties (but this is no real bundle theory; for that, you *want* to have a distinction).
- **Plato?** According to some interpreters. (*Timaeus*: element of fire = hotness; things consist of elemental *properties*. *Theaetetus*: Theaetetus is an irrepeatable collection of characteristics.)
- **Aristotle**: rejects it, but the notion of prime matter is elusive!
 - Plotinus as interpreter: pure potency is nothing; hence, there is no substrate and no subject.
 - What can we sense? Clearly not PM; whatever we sense is qualities.
- **Epicurus, Stoics** – usually regard bundle theory as a target of arguments.

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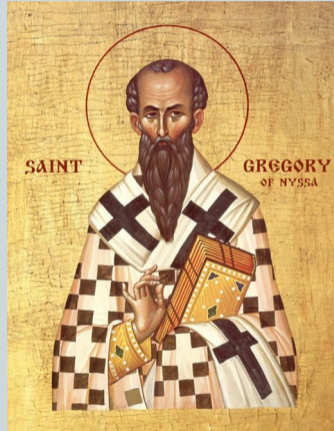
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Gregory of Nyssa (4th c.)

- Neoplatonic influences (Plotinus)
- How can an incorporeal God create a corporeal universe if effects are similar to their causes?
- Solution: bodies = bundles of thoughts in God's mind.



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De opificio hominis 24, tr. Sorabji, p. 160

“Thus, let an animal or a log be presented for us to consider. . . . By a process of mental division we recognise many things connected with the substratum and the definition of each of them is not mixed up with the other things we are considering at the same time. . . . The softness and the two-cubit length . . . are not conflated with each other nor with the body. . . . If upon each of these being removed from the substratum, the whole definition of body would be removed: what follows? If we find the absence of these things causes the dissolution of body, we must suppose their concurrence is what generates material nature.”

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Three Dialogues between Philonous and Hylas

“The notion or definition of material substance includes an obvious inconsistency, and that is not so for the notion of spirit. That ideas should exist in what does not perceive, or be produced by what does not act, is inconsistent. But there is no inconsistency in saying that a perceiving thing is the subject of ideas, or that an active thing causes them. . . . Surely to a Christian it cannot be shocking to say that the real tree existing outside his mind is truly known and comprehended by (that is, exists in) the infinite mind of God.”

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Were there any bundle theorists in the later Latin Middle Ages?

- In short, No.
- Theological concerns: how can one have transubstantiation if there is no substance?
- Philosophical concerns: if self-identity is tied to properties only, does that imply that if a property changes, the self changes? (Identity of indiscernibles – somewhat problematic.)
- Later: Berkeley, Hume, A.J. Ayer

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What is atomism?

- 1 **Physical:** physical bodies consist of indivisibles (either extended or unextended)
- 2 **Geometrical:** the line consists of points; perhaps bodies consist of points as well.
- 3 **Metaphysical:** there necessarily are indivisible parts of the universe.

Cf. [Aristotle](#), *Physics* VI, where he combats especially (1). [Lucretius](#) (*De natura rerum*) defends (2), and so do most of the Epicureans. The *Mutakallimun* tradition defends (3) (and possibly 2).

But most of the discussion mixes all of these.

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Atomism: Some Motivations

- **Ancient:** response to Parmenides; to account for change
- **Mutakallimun:** to account for how God governs everything, by placing the atoms and their continuous creation into God's hands.
- **Latin medieval:** ??? Perhaps angelic motion; but mostly the rejection of Aristotle arguments against atomism. But in general, quite suspect:
 - theologically dubious (determinism / lack of providence? Epicurean ethics; etc.)
 - Aristotle was anti-atomist

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Against Atomism: Some Arguments

Many geometrical ones, regarding the question whether the continuum is composed of points (either extended or unextended):

- from parallel or radial projection; two unequal lines would be of the same size (Scotus, ...)
- atomism would invalidate Euclidean geometry! (Buridan)
- Question: how can the continuum be composed of anything?

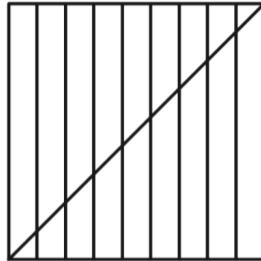


Figure 3

Bacon, *Opus Maius*, I, 4, 9
Bacon, *Communia naturalium*
(*De celestibus, pars prima*)
Bacon, *Opus Tertium*, 39

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Nicholas of Autrecourt (1299–1369)

- serious concern about demonstrability and skepticism
- Letters to (a certain) Bernard: only the first logical principle is certain, and whatever follows from it. But this excludes pretty much all sayings of Aristotle, the Bible, Faith, etc. **Certainty has no degrees.**

Second Letter to Bernard, §6.

The certitude of evidentness has no degrees. For example, if there are two conclusions of each of which we are evidently certain, we are not more certain of one than of the other. For (as has been said) all certitude is resolved into the same first principle.

- *Universal Treatise (Exigit ordo)*: provides a *probable* account of the universe.

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Arguments against Aristotelian prime matter:

- 1 Aristotle's analogy between accidental and substantial change is misguided; we cannot *demonstrate* that there is accidental change, and even if there is, there is no guarantee that it's metaphysically similar to substantial change.
- 2 If we posit that the world is eternal, then change does not present a problem; substantial change is just change in appearance.
- 3 Aristotle's arguments against the atomists are no good (cf. the argument from motion, etc.)

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Universal Treatise, 63.

In the natural things there is only local movement. When this movement results in an assembly of natural bodies which gather together and require the nature of a subject, this is called generation. When they separate, it is called destruction. When through local movement atomic particles are joined to a certain subject, particles of such a kind that their arrival seems unrelated both to the movement of the subject and to what is called its natural functioning, that is called alteration.

- all natural phenomena (change and generation and corruption) can be explained by atoms alone and their movement.
- treats atoms as physical entities (vs. the geometric indivisibilists); the atoms are also supposed to be qualitative (but he never elaborates)
- the atoms can only act within an atomic compound.

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- atomism never became a prominent view until the 17th century
- arguably not compatible with the theological doctrine of transubstantiation
- Autrecourt's treatise was actually burned
- does this mean that hylomorphism is empirically falsifiable? what if so? What does that say about the relationship between metaphysics and science?

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