Prime Matter: Stuff without Extension?

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Overview

Reminder: Matter and Form

What are substances composed of?

- of course: elements = integral parts. But what if we can show that something about a substance can change independently of its integral parts? E.g., integral parts remain while the substance changes or vice versa?
- metaphysical parts: parts that aren't integral parts.
- Aristotle: there are 2 of these: matter and form; we need them to account for change.

Matter and Form

Physics I.7, 191a8–13

"As for the underlying nature, it must be grasped by analogy. As bronze stands to a statue, or wood to a bed, or the formless before it acquires a form to anything else which has a definite form, so this stands to a reality, to a this thing here, to what is."

Substantial change: We also need something underlying, and something to make the change happen.

- The underlying thing is **matter** (ὕλη)
- In generation, matter takes on a new **substantial form** (μόρφη)
- E.g.: bronze taking on the form of a statue (but this is just an analogy!!!)

Two Theses

2 distinct claim:

1. Substratum Thesis:

All (natural) change requires something that endures through that change.

2. Conservation Thesis:

There is some one thing (call it 'prime matter') that endures through *all* change.

- (1) and (2) are not equivalent ((2) implies (1), but the reverse is not true)
- Aristotle is certainly committed to (1); not clear whether he is committed to (2)
- Most later Aristotelians take (2) for granted.

The Substratum Thesis

- *substratum* = sub + stratum
- Intuitively: I can't make bread out of nothing; I must make it out of certain ingredients (and also not just *any* ingredients). Moreover, something of the final product must have been in the ingredients.
- Arguably the Substratum Thesis is equivalent to the *Ex Nihilo Principle*: nothing comes from nothing.
- But can we *demonstrate* either of them?

Attempts of Demonstration

Here are a few attempts to demonstrate the ST.

- John Buridan (14th c.): induction from experience; it's not a necessary demonstration but natural science presupposes it and that's enough. [Can we observe *any* instances of the ST?]
- Zabarella (16th c.): induction from cases of accidental change to cases of substantial change. [Can we really observe cases of accidental change? Can we settle questions of identity over time by observation alone?]
- Scotus (14th c.): causal simultaneity argument: If no ingredients survive in generations, then ingredients cannot play a causal role at all. (Assuming that causal relata are simultaneous)

Conservation Thesis

There is a single, most basic substrate that endures through every material change (= 'prime matter').

- Given some weak assumptions, the substratum thesis entails conservation: there can be no regress of underlying subjects; underlying subjects cannot run in a circle.
- Conservation entails the substratum thesis.
- What is that enduring stuff? Is it concrete (physical) or abstract? If it's not concrete, how is it doing the work it is supposed to do?

Prime Matter as Potentiality

- Basic characteristics of PM: eternal, basic, uniform, hidden (shared by both Aristotelians and atomists!)
- Aristotelian (scholastic) PM: in potentiality to all substantial forms – this means it is entirely characterless.
- Problem: how can something be real and yet completely free of all character?

Pure Potentiality

What does it mean to say that matter is purely potential? Does this allow that matter can have some sort of intrinsic actuality?

- Aquinas (13th c.): no actuality at all. Not even God can make PM exist on its own! (But then how is PM really distinct from form?)
- Auriol (14h c.): PM does have a character, namely that it can be determined. (To anything? Even extensionless things?)
- Corpuscular PM: matter is an integral part (as opposed to a metaphysical one); it is intrinsically extended. It can be either atomistic or infinitely divisible. (How can this account for unity, persistence, etc.?)

Does Prime Matter Have Extension? /1

The question is less weird if we consider again that PM has no form.

1. Simple View (Aquinas, 13th c.): PM cannot be extended, since it is pure potentiality; extension requires form and actuality.
   - extension = to have parts outside of parts
   - so, having no extension: either because it lacks parts, or these parts are co-located.
   - Simple View: PM has no parts; it is indivisible in composites! (exists *holenmerically*)
   - Can such PM explain anything? How?
2. Extensionless Parts View (Scotus, 14th c.): matter has parts, but is not intrinsically extended. It acquires extension by the acciedent of *quantity*.

Does Prime Matter Have Extension? /2

You may think that "extensionless matter" doesn't explain anything.

3. Intrinsically Extended View (Ockham, 14th c.; atomists): extension is a brute fact; matter always has parts, and they must be spread out. ($\Longrightarrow$ Descartes: matter *is* just 'extended stuff')
   - is there a determinate quantity of matter? – Most scholastics: no (condensation & rarefaction; the quantity of matter can change).
   - Ockham: yes, there is a determinate quantity of PM. Example of wax ball: God creates a certain amount of matter, which is fixed for all time. Natural events then shape that matter in various ways.
   - 17th c.: PM is extended; conservation of quantity of PM $\Longrightarrow$ conservation of mass (Newton)
   - But the original question is a metaphysical one: *what* is it that's conserved?

The History of Prime Matter

- Aristotle: unclear whether he posits PM or not; or if he does, what it is like.
- Scholastics: yes; but debates about the pure potency thesis and what it means exactly
- in general, the tendency seems to be towards treating matter more and more as intrinsically extended
- but this also means that matter becomes a physical principle instead of a metaphysical one;
- $\rightarrow$ it can also be criticised when physics changes (E.g., the nature of elements/atoms).
- 17th century: often rejected due to parsimony considerations.