

Contemporary Hylomorphism

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Overview

Contemporary hylomorphism
Review

- substances, and their metaphysical parts started to fall out of favour during and after the Scientific Revolution
- But the process was slow: we still have it in Descartes and Locke
- Can we explain *all* observable phenomena by just bodies and their motions? (*heat* was a problem for a long time, personal identity etc. apart.)
- Measurement became very important — but it seems that Aristotelian substances are not measurable, strictly speaking (perhaps they need not be).
- **Contemporary metaphysics: some resurgence:** e.g., Kathrin Koslicki, William Jaworski, Anna Marmodoro, Stephen Mumford, . . .

Motivations 1: Common Sense?



- what are *all* the parts of a motorcycle?



- is the statue identical to the bronze it's made of?

Biology textbook (Campbell and Neil, *Biology*, 4th ed., pp. 2–4)

“Life is highly **organized** into a hierarchy of **structural** levels, with each level building on the levels below it. . . . Biological **order** exists at all levels. . . . [A]toms . . . are **ordered** into complex biological molecules. Many of the molecules of life are **arranged** into minute **structures** called organelles, which are in turn the components of cells. Cells are [in turn] subunits of organisms. . . . The organism we recognize as an animal or plant is **not a random collection** of individual cells, but a **multicellular cooperative**. . . .

Neuroscience textbook (Kingsley, *Concise Text of Neuroscience*, 2nd ed., p. 108.

“Neurons exchange information at specialized **structures** called synapses. This transfer. . . requires special subcellular **structures** and highly refined physiological mechanisms. . . . The cell membrane’s lipid bilayer is a matrix within which a number of other **structures**, mainly glycoproteins. . . reside. . . . Ion channels. . . are composed of long sequences of amino acids **arranged into**. . . helical domains. . . . [T]hese domains aggregate to form a wedge-shaped **structure**.”

What Is Structure?

Structure eliminativism: Everything can be exhaustively described and explained without appeal to structure. Descriptions that appeal to structure are false.

Structure reductivism: Everything can be exhaustively described and explained without appeal to structure. Descriptions that appeal to structure are reducible to descriptions that don't.

Structure nonreductivism: Everything can be exhaustively described and explained without appeal to structure. Descriptions that appeal to structure are not all false and are not reducible to descriptions that don't, but they can be paraphrased in ways that avoid a commitment to structure.

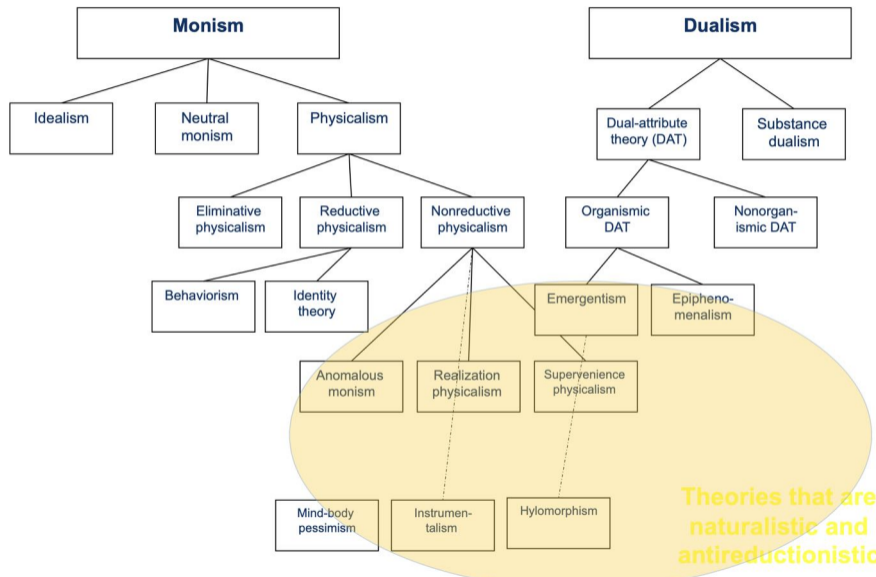
Structure realism (including hylomorphism): *not* everything can be exhaustively described and explained without appeal to structure. Structure is a real and irreducible descriptive and explanatory factor.

Hylomorphism (e.g., à la Jaworski)

- Structure (organization, arrangement, form, configuration) is a basic ontological and explanatory principle.
- Living things consist of materials that are structured or organized in various ways.
 - We are not mere quantities of fundamental physical materials; we are quantities of fundamental physical materials *with a certain organization or structure*.
 - That structure is responsible for our being humans as opposed to cats or rocks, and for our having the particular developmental, metabolic, reproductive, perceptive, and cognitive capacities we have.
- Structure is an ontological principle: it factors essentially into descriptions of what things are.
- Structure is an explanatory principle: it factors essentially into explanations of what things do.
- Structure is a basic: real, irreducible, and underivable from anything else.

- how does this theory relate to “classical” hylomorphism?
- what is “structure”, exactly? Is it substantial form? Or merely spatial arrangement?
- what is the advantage of this theory as compared to the alternatives?

The Alternatives



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