

Philosophy of the Human Person

Lecture #20

Aristotle on Nature

Aristotle & Parmenides: On Change

Aristotle's response to Parmenides' Challenge

Aristotle rejects all four of Parmenides' Arguments

no plurality?—distinct things can be directly adjacent to one another

[unlike Democritus, he saw no need to posit empty space]

no motion?—objects could move by mutual displacement

[again no need to posit empty space]

but central to his philosophy of nature is his rejection of the argument against change

three alternative theories of change

replacement theory—change as replacement of one thing by another

Parmenides presents this as the only possible way to analyze change and rejects it as absurd

rearrangement theory—change as rearrangement of a thing's parts

rearrangement, no matter how drastic, is just rearrangement

this is Democritus' proposal

atoms cannot change

Parmenides' arguments apply to them

but since we don't have any direct experience of them, this does not conflict with our ordinary experience

but ordinary objects can change

so, his reductionism (ordinary objects are nothing but collections of atoms) is the key to his theory of change

actualization theory—change as switch from potency to act

this is Aristotle's proposal

one must distinguish several kinds of "being" or existence
potential and actual

What do things have to be like in order to change? Democritus' answer

they have to have rearrangeable parts

so, ordinary objects (which are nothing more than arrangements of atoms) can change

atoms themselves (which do not have parts; they are indivisible) cannot
 What do things have to be like in order to change? Aristotle's answer
 begin with something changing its properties or features—qualitative change
 in order for change to be possible ...

(1) there has to be something undergoing the change—a subject (or, the
matter of the change)

this is what persists through (or undergoes) the change

(2) there has to be an attribute that the subject will actually have after the
 change [the *form*] but does not have before the change

(3) there has to be a *privation*, not a mere absence—the attribute has to be an
 attribute that the subject could have, even though it does not
 what determines whether a case of no-actual-existence is a case of
 privation or merely a case of absence?

the kind of being that a thing is

inability to speak is a privation for a human being

because human beings are by nature capable of language

it is a mere absence in a dog

because dogs are not by nature capable of language

absence	privation
a dog not being able to speak Russian	a person not being able to speak Russian
Fido, the Russian-speaker, does not exist	Fred, the Russian-speaker, does not exist, but could (& would if he studied Russian)
simple non-existence	no actual existence, but potential existence

the three principles of change—matter, form, & privation
 change is the actualization of a subject's potentiality

(or, transition from potency to act)

a thing that is not possibly a Russian-speaker (e.g., not Fido, nor even
 Лайка) cannot change into one

but anything that *is potentially* a Russian-speaker (any human being) can
 change into *being actually* a Russian-speaker

a person not being able to speak Russian	a person being able to speak Russian
Fred, the Russian-speaker, does not exist	Фёдор, the Russian-speaker, does exist
no actual existence, but potential existence	actual existence
privation	actualization

Parmenides' two-way distinction is replaced by Aristotle's three way distinction

Parmenides' Analysis	Non-being		Being
Reality	Fido, the Russian-speaking dog	Fred, who doesn't know Russian, as Russian-speaker	Fred, after he has learned Russian, as a Russian-speaker
Aristotle's Analysis	Non-being	Potential Being	Actual Being

Parmenides' premises are rejected, because a distinction is made in relation to Parmenides' argument

Parmenides' premises, with ambiguous term underlined	Does "does not exist" mean "at all (potentially or actually)"?	Does "does not exist" mean only "actually"?
(1) If change occurs, then something non-existent comes into existence.		
(2) What can't do anything can't come into existence.		
(3) <u>What does not exist</u> cannot do anything.		Then, (3) must read <i>What does not actually exist cannot do anything (even change from potential existence to actual existence)</i> — which is false
(4) Non-existent things <u>do not exist</u> .	(4*) <i>Non-existent things do not exist potentially or actually</i> — which is false	

so, no matter which way you clarify the terms, you make one of the premises false

this can be extended to other kinds of change

Aristotle distinguishes two more kinds of change that are not crucial to what we are doing here

quantitative change—change in size

local motion—change in place

he also extends it to a fourth kind of change, that is extremely important—coming into existence [*generation*] & ceasing to exist [*corruption*]

e.g., a dog being conceived or dying

Aristotle makes a distinction here between

changes that a subject might undergo, while continuing to be the same subject—accidental change (i.e., quantitative change, qualitative change, and local motion)

[by an *accident* Aristotle means a feature that a thing happens to have, but does not have by nature, i.e., does not have to have]

changes in which the very subject come into existence or ceases to exist—substantial change

[by *substance* Aristotle means a single, independently existing thing, for example a tree or a dog or a human being,

but not a forest or a machine, which lack substantial *unity*

and not a color or an emotion, which can exist only in the colored or sentient thing, and thus do not exist *independently*]

what persists through the change?

not the dog—it did not exist before conception and ceases to exist when the dog dies

but the matter that constituted the dog, that was once just canine gametes and is now just the dog's body

so, here we don't quite have a subject (some thing) that persists through the change

what undergoes (and persists through) the change is just generic ("prime") matter

what form does the matter have only potentially before the change and actually afterwards?

in the case of the dog coming to be, caninity ("dogginess")

is there a privation?

matter is potentially anything

any particular piece of matter, as such, could be a stone or a flower or a dog

what it actually is, depends on its form

not just on its organization, as for Democritus

Aristotle's theory of four causes (or "explanatory factors")

in order to give a full account of a change, one must refer to four things

two have already been discussed
the matter (“material cause”)—as above
the form (“formal cause”)—as above
two more are important to a full understanding of change
the external agent that makes the change occur (“efficient cause”)
so, the sun makes a person perspire or tan
and a fourth—the $\tau\epsilon\lambda\omicron\varsigma$ *telos* (end, goal, or purpose) of the change
why does a human being perspire?
to cool the body
that is the end of the change
when the body is cooled, the perspiration will stop
restored normal body temperature is what perspiration *is for*
this Aristotle calls “the final cause”
< Latin *finis* = *telos* or end
definition—that for the sake of which the change occurs & at
which it terminates
acceptance of the existence of final causes in nature is called the
teleological interpretation of nature

Aristotle can be contrasted with Democritus

for Democritus ...

there are no forms, only matter

there are no final causes, only efficient causes

elimination of the concept of final cause from nature has been an
explicit feature of the Democritean Program

they see talk about the *telos* of a natural process as talk about a
purpose and as illicitly anthropomorphic

Aristotelians see an understanding of the ends of processes as
necessary to understanding biological processes

explaining perspiration merely by description of the
mechanisms of perspiration would be insufficient, it would
not give full understanding

and generally attempt to apply it to processes in inanimate nature
as well, where, its application is less obvious

Aristotle & Democritus: On Substance

the fundamental question of ontology (the theory of being)

what kinds of things are there in the world?

things = Gk. οὐσία, *ousia*, “beings”

in Latin, *substantia* (literally, “what stands under [accidents]”), “substances”
according to Democritus

ordinary objects are subject to change

hence, they have to be composed of atomic parts, the rearrangement of
which is change

to understand the powers & behavior of atoms, one must understand the
atoms of which they are composed

they have a kind of unity, but only the kind of unity machines or sports
teams have (*mechanical unity*), their parts work together

that’s more unity than simply collocation, but machines and ordinary
objects are not *really* one, they are really just aggregates

in the end, ordinary objects are reducible to a collection of parts (hence,
Democritean philosophy of nature is *reductionist*)

atoms are not subject to change

each atom is a fundamental thing

each has a *real* unity

these are the only genuine beings or substances

the Democritean ideal was that all atoms are qualitatively the same

so, his view is qualitatively monist (there’s only one kind of thing) and
quantitatively pluralist (there are lots of individuals of that one type)

modern Democriteans have had to give up that simple picture, at least for
now— since there are different kinds of elementary particles

qualitative *pluralism* as well as quantitative pluralism, but only at the
level of elementary particles

according to Aristotle

ordinary objects are subject to change

hence, they must be matter-form composites

matter = Gk. ἕν ἡμῶν “hyle”; form = Gk. μορφή “morphe”

so, Aristotle’s philosophy of nature is called *hylomorphism*

ordinary objects are not merely aggregates of particles or atoms

they have a kind of (“substantial” unity that is more than the merely
mechanical unity of machines

they have powers and properties that belong to the substance as a
whole

and are not explainable (nor predictable) merely by reference to the interaction of parts
 in other words, they are not reducible a sum of their parts
 so qualitative *pluralism* as well as quantitative pluralism
 and not only at the micro-level

Aristotle's argument that ordinary objects are substances

for each candidate for the status of substance, the question would be whether the thing has some operational capacity that can't be explained by reference to parts

defense of substantiality easier to do for man & animals than for minerals & chemicals

Definition of a substance	A substance is a thing has some operational capacity that can't be explained by reference to parts.	So, Anything that has some operational capacity that can't be explained by reference to parts is a substance.
An observational fact	Human beings have mental states.	
Cf. Chalmers about the hard problem of consciousness & Searle about consciousness, though they do not go as far as this.	Having mental states is an operational capacity that can't be explained by reference to parts.	So, Human beings and animals have an operational capacity that can't be explained by reference to parts.
		So, Human beings and animals are substances.

and a judgment about machines & organisms

Conclusion of previous argument		Human beings and animals are substances.
Definition of a substance	A substance is a thing has some operational capacity that can't be explained by reference to parts.	
An observational fact	A machine is a thing all of whose operations can be explained by reference to parts.	So, no machine is a substance.
		So, no human beings and animals are machines.

Aristotle & Democritus' Legacy

Aristotelian Challenge to Democritus' Legacy

1. Hylomorphism vs. Materialism

note the different conceptions of matter

Democritus' legacy—there is nothing but atoms & the void

atoms are matter and substances

atoms the only substances (independently existing things)

there's only one kind of substance

each substance (atom) is purely material

Aristotle's alternative—there are lots of kinds of substances

matter is a principle, not a substance

there are lots of *kinds* of substances

each substance is a composite of matter & form

2a. Antireductionism vs. Reductionism

Democritus' legacy—natural objects are nothing but collections of atoms

Aristotle's alternative—natural objects are matter-form composites

2b. The Necessity of Formal & Final Explanation vs. the Sufficiency of Structural Explanation

Democritus' legacy—the arrangement of atoms explains everything that there is to be said about natural objects

Aristotle's alternative—explanation requires an account of matter, form, agent, and end

substances have the powers they do because of the kinds of thing they are
(= centrality of formal explanation)

ultimate understanding of the powers requires understanding of what they are for (= primacy of final explanation)

3. Mechanism

Democritus' legacy—organisms are not different in kind from machines

Aristotle's alternative—organisms & machines different in kind

organisms have powers that are due to their forms

not merely to the arrangement of their parts

for a tabular summary, see Handout #5