

Motion and Its Principles

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O Creator ineffable, who of the riches of Thy wisdom didst appoint three hierarchies of Angels and didst set them in wondrous order over the highest heavens, and who didst apportion the elements of the world most wisely: do Thou, who art in truth the fountain of light and wisdom, deign to shed upon the darkness of my understanding the rays of Thine infinite brightness, and remove far from me the twofold darkness in which I was born, namely, sin and ignorance. Do Thou, who givest speech to the tongues of little children, instruct my tongue and pour into my lips the grace of Thy benediction. Give me keenness of apprehension, capacity for remembering, method and ease in learning, insight in interpretation, and copious eloquence in speech. Instruct my beginning, direct my progress, and set Thy seal upon the finished work, Thou, who art true God and true Man, who livest and reignest world without end. Amen.

(St. Thomas Aquinas *Oratio ante studium*)

Summary of Last Lecture

- “Potency and Act so divide being that whatsoever exists either is a Pure Act, or is necessarily composed of Potency and Act, as to its primordial and intrinsic principles.”
 - 1st of the *24 Thomistic Theses*
- Potency is real, else the actual (act) could not come from it.
- Potency = matter
- Act = form

Motion is a Mixture of Act and Potency

- Aristotle's definition of motion: "The fulfillment of what exists potentially, insofar as it exists potentially."
- Aristotle: "The actuality of the build-able as build-able is the process of building."
 - He can't just say that motion is the
 - "actuality of the build-able" (e.g., "a house")
 - "the act of a potency"
- \therefore motion \neq act or potency.

Without act and potency, motion is absurd.

- Solution to the Heraclitean-Eleatic controversy:
 - Parmenides: only saw actual, neglected potential
 - He saw a completely determined universe.
 - Heraclitus: neglected the actual, only saw potential
 - He saw a completely undetermined universe.
- Potency + more potency \neq act
- “Act is on a higher level” than potency.

Without act and potency, motion is absurd.

- Quantity \neq motion.
- Hume: causality is only a succession of states
 - But motion is not a succession.
- Can the metrical (that which can be measured) be equated with motion?
- E.g., relativity theory says a car can move relative to a stationary road or the road moves relative to the stationary car.
 - Does this prove Parmenides? Motion is illusion?

Art and Nature are Opposites.

- What is nature?
 - Is it everything contained in the whole universe?
 - Is it applied to individual things?
- Greek τὰ φυσικά = lit. 'natural things'
- Empirical sciences used to be called "natural philosophy."
- Opposite of nature: art
 - How does or doesn't art imitate nature?

Art and Nature are Opposites.

- Velasquez's *King Philip of Spain*
- Philip was a man with a soul.
- The canvas and paint are dead.
- Philip and horse aren't determined by outside forces.



Art and Nature are Opposites.

- John Dewey: “[W]ith the perceiver, as with the artist, there must be an ordering of the elements of the whole that is in form, although not in details, the same as the process of organization the creator of the work consciously experienced.”
- V. E. Smith: “Art, for both the creator and the beholder, has its principle outside itself. Philip and the horse had such a principle from within.”
- St. Thomas Aquinas said art imitates nature.

Art and Nature are Opposites.

- Art is never pure art; it is an imitation (artificial).
 - Human artists work with a limited medium for his art (natural things).
- Art in the broad sense:
 - Fine arts: music, painting, sculpting, literature, etc.
 - Liberal arts organize thought, like logic.
 - Mechanical arts: carpentry, shoe-making, homemaking, sewing, etc.
- Man imposes something on nature

Art and Nature are Opposites.

- But what *is* nature? How is it defined?
 - Related to the word “nativity” = birth, being born
- Aristotle’s more exact definition: “a source and cause of motion and of rest in that to which it belongs primarily in virtue of itself and not in virtue of a concomitant attribute”
 - Natural things have intrinsic *tendencies*.
 - The nature is not an accident (*accidere* = “to add onto”).
 - Teleology (*telos* = end)

Art and Nature are Opposites.

- “Law of Inertia” in empiriological physics
 - “a thing is entirely determined from the outside”
 - confirms a realist interpretation of art
 - This shows that empiriological physics is an art.
- Empiriological physics neglects nature’s inherent principles.
 - It says: “Art is what nature becomes.”
 - It views nature as art, whereas philosophical physics views nature as nature.

Natural Motion Involves Matter, Form, and Privation

- Philosophical physics deals with motions of nature; it is the study of *ens mobile*.
- Philosophy discovers principles.
 - *Principium* = “beginning” (e.g., St. John 1:1: “In principio erat Verbum...”)
 - Principles may be a cause.
 - E.g., my legs moving is the principle (cause) of my walking.
 - Principles may not be a cause.
 - E.g., as a point is the principle of a line

Natural Motion Involves Matter, Form, and Privation

- Philosophers since Kant view “principle” as merely a “regulative idea” (*regula* = “rule”) with no ontological status.
 - Empiriological physicists often equate “law” and “principle”:
 - “Principle of Inertia”, “Principle of Gravitation”, “Principle of Relativity”, etc.
 - Equations express these laws.
- V. E. Smith: “A principle of motion corresponds to the facts or factors responsible for its origin and especially for its end result.”

Natural Motion Involves Matter, Form, and Privation

- Three “ultimates” in the thing moved:
 - Novelty
 - E.g., oxygen + hydrogen = water, something new, neither oxygen nor hydrogen
 - Subject
 - With a subject, there cannot be motion of said subject! It must exist to be moved!
 - Original lack (privation) of novelty, perfection
 - E.g., oxygen cannot combine with hydrogen to form water if it already has so combined.

Natural Motion Involves Matter, Form, and Privation

- Principle has to do with origins;
 - ∴ novelty, a subject, and privation are the principles from which motion originates.
- Aristotle's terminology:
 - Subject → matter (ύλη)
 - Not just something massive
 - Perfection → form (μορφή or εἶδος)
 - Not just the shape (morphology) of something
 - Term of motion
 - “something novel in the matter's being”

Natural Motion Involves Matter, Form, and Privation

- “This use of form (Aristotle's μορφή or εἶδος) and matter (ὕλη) is a metaphorical extension of their popular use. In ordinary speech, a portion of matter, stuff, or material, becomes a 'thing' by virtue of having a particular 'form' or shape; by altering the form, the matter remaining unchanged, we make a new 'thing'. This language, primarily applied only to objects of sense, was in philosophical use extended to objects of thought: every 'thing' or entity was viewed as consisting of two elements, its form by virtue of which it was different from, and its matter which it had in common with, others.”

–Oxford English Dictionary

Natural Motion Involves Matter, Form, and Privation

- Privation as a principle of motion
 - Negative (not a positive reality)
 - “[T]he negative cannot be part of the essence of anything.”
 - Motion involves privation accidentally.
 - Privation “is a denial or lack, within a determinate subject, hence not simply a negation.”
- Form can be called nature.
- Form determines matter to a specific thing and thus of a specific nature.

References

- V. E. Smith's *Philosophical Physics*
 - Please continue reading ch. 2 (Motion and Its Principles).
 - We will send out a scanned PDF of this required reading.