Remote Learning Module for 27 March 2020

Lecture Notes on Part II of Spinoza's *Ethics*

Last class we explored the lineaments of Spinoza's solution to the mind/body problem, a solution that followed logically from the combination of Naturalism and Substance Monism in Part I, and characterized in the early propositions of Part II by three thematic implications: Parallelism, Property Dualism, and Materialism. Today we'll examine the Lemmas on Bodies that Spinoza deploys in order to account for the nature and limits of human understanding.

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(1) The Lemmas on Bodies.

Spinoza's physics is advanced via a series of axioms and lemmas to E2Pr13: "The object of the idea constituting the human mind is the body--i.e. a definite mode of extension actually existing, and nothing else."

Axiom 1: All bodies are either in motion or at rest.

Axiom 2: Each single body can move at varying speeds.

Lemma 1: Bodies are distinguished from one another in respect of motion and rest, quickness and slowness, and not in respect of substance.

Lemma 2: All bodies agree in certain respects.

Lemma 3: A body in motion or at rest must have been determined to motion or rest by another body, which likewise has been determined to motion or rest by another body, and that body by another, and so ad infinitum.

Lemma 4: If from a body, or an individual thing composed of a number of bodies, certain bodies are separated, and at the same time a like number of bodies of the same nature take their place, the individual thing will retain its nature as before, without any change in its form.

Lemma 5: If the parts of an individual thing become greater or smaller, but so proportionately that they all preserve the same mutual relation of motion-and-rest as before, the individual thing will likewise retain its own nature as before without any change in its form.

Lemma 6: If certain bodies composing an individual thing are made to change the existing direction of their motion, but in such a way that they can continue their motion and keep the same mutual relation as before, the individual thing will likewise preserve the same mutual relation as before, the individual thing will likewise preserve its own nature without change of form.

Lemma 7: Furthermore, the individual thing so composed retains its own nature, whether as a whole it is moving or at rest, and in whatever direction it moves, provided that each constituent part retains its own motion and continues to communicate this motion to the other parts.

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Ax1 and Ax2 together assert that to be at rest is to be doing something (rest is not the cessation of motion but a dynamical state of equilibrium); to be at rest is to be holding a place. Whether a body is moving or at rest depends on the frame of reference one happens to adopt for that body in conjunction with its surrounding physical environment. Spinoza uses this position to refute Descartes' contention that God must act so as to conserve the total amount of motion in the universe: if motion is relative, the requisite conservation laws can all be achieved through shifts in mathematical analysis.

Lem1 considers Galileo's problem: how are bodies to be distinguished from the space they inhabit; Spinoza argues (as Newton will later affirm) that bodies are not distinguished by anything other than the forces operative within them (stack this up against the "standard model" in particle physics today).

Lem2 contends that all bodies move and establish equilibria.

Lem3 is Spinoza's version of the principle of inertia: this principle is a corollary to the no-vacuum argument: bodies are an infinite totality. Spinoza regards individuals as groups of bodies nominally lumped together so as to communicate their motion to the equilibrium of the whole; the more parts a body has, the more easily it will retain equilibrium.

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(2) Physiology Unlocks Cognitive Psychology.

Recall that the Lemmas on Bodies are introduced immediately after E2Pr13. In the scholium to this proposition Spinoza contends that from the vantage provided by the conjunction of parallelism, property dualism, and materialism we can comprehend the nature and limits of human cognition. To begin with, E2Pr13 implies that if we are to understand the nature of mind, any mind, then we must understand the nature of the object to which that mind is necessarily related. Consequently, the more a body surpasses others in its capacity (that is, its *power*) to do many things at once, and to be acted on by many other bodies at once, the more its mind surpasses others in its capacity to perceive many things at once. Furthermore, and by way of preparing the way for Part V of *Ethica*, the more the actions of a body depend on itself alone, the more the mind will be capable of understanding things clearly and distinctly.

Notice how radically this latter contention differs from the Cartesian doctrine that ideas, however they may range from muddy to pellucid, are the sole province of *res cogitans*—of thinking things. Suitably adjusted to take stock of what neuroscience has uncovered in the centuries between the 17th and 21st centuries, Spinoza's philosophy of mind is entirely consistent with today's physicalist reductionism: mental states supervene entirely on physical states.

The Lemmas on Bodies provide just enough physics to establish the idea of composite bodies. That is, they explain how a body, understood simply as a collection of regions of space endowed with the properties of motion and rest, will be capable of being acted on in many ways without losing its identity.

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(3) Degrees of Complexity.

We have, then, the following scale of diachronic identity.

(a) The simplest bodies are individuated by their position and momentum alone. Consider how we might distinguish one electron from another in atomic theory today.

(b) The first compound bodies (having the first degree of complexity) will retain their identity via the substitution of numerical parts. This is the purport of Lemma 4; consider how we nowadays think of molecules as combinations of atoms, such that replacing, say, each hydrogen atom in one molecule of H_2O with a different electron will leave the molecule of water unchanged.

(c) The second degree of complexity arises for bodies compounded by the *proportional* substation of their elemental parts (Lemma 5).

(d) At the third degree of complexity, bodies will retain their identity under dynamical conservation (Lemma 6). Here you might think of the phases of matter: a water molecule will retain its identity/integrity regardless of whether it appears as a unit of ice, liquid, or vapor.

(e) At the fourth degree of complexity, a composite body will retain its identity under dynamical diversity, that is, a sufficiently complex composite body can occupy different places at different times and move at different speeds so long as its parts conserve their momentum (Lemma 7). To this last lemma, Spinoza adds the scholium: "We may easily proceed thus to infinity, and conceive the whole of nature as one individual, whose parts, that is, all bodies, vary in infinite ways, without any change in the individual as a whole." This, of course, describes the Universe.

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(4) Consequences.

At this point, Spinoza brings his foray into fundamental physics to a close with the obvious assertion that the human body exhibits *at least* complexity of the fourth degree. He then offers a series of postulates to indicate that human bodies are in fact far more complex, since, given psycho-physical parallelism, human minds possess:

(a) Knowledge of the external world (E2Pr16). (Moreover, our knowledge of the external world is such that "… the ideas which we have of external bodies indicate rather the constitution of our own body than the nature of external bodies.")

(b) Knowledge of common properties (E2Pr37-39).

(c) Knowledge of the past (E2Pr18).

(d) Knowledge of themselves (E2Pr20-23).

(e) Knowledge of God or Nature (E2Pr. 45-47).

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(4) Determinism in Decision.

With these consequences squarely in view, Spinoza has set the stage for the remainder of the *Ethics*. Given the exposition of psycho-physical parallelism in E2, moral philosophy must proceed to examine the conditions for both human misery and human liberation as constrained by the following causal model in which the order of reasons for our decisions is the same as the order of causes that drive our appetites.

The Order of Decision: $\text{Idea}_1 \rightarrow \text{Idea}_2 \rightarrow \text{Idea}_3$

Strictly parallels ⫴ ⫴ ⫴

The Order of Desire: $\text{Appetite}_1 \rightarrow \text{Appetite}_2 \rightarrow \text{Appetite}_3$

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On Monday, we'll turn our attention to Leibniz. Be well everyone, and remember: social distancing saves lives, which is presumably why we are still not in JUB 202 presently.

Also note that we've set Monday, the 30th as the due date for submitting your abstracts of E1Ap (the Appendix to Part One of the *Ethics*). If you need more time, just let me know; these are extraordinary times.