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Comments on Thomas McLaughlin, "A Defense of Natural Place in a Contemporary Scientific Context"

In his paper professor McLaughlin advances two theses: First, that the Thomistic concept of natural place as that environment towards which a body naturally moves and which is perfective of it is still valid in a contemporary scientific context. Second, that Aquinas' theory of gravitation as due to a natural active principle in the heavy body must give way to the view that it is due to a natural passive principle.

I am very much in agreement with Professor McLaughlin in regards to the first thesis. David Oderberg and Ed Feser distinguish living from non-living beings by claiming that only the former engage in immanent activity, that is, act of themselves for the sake of their own good. Nothing is good for inanimate beings, they claim, although such beings can naturally promote the good of other beings. Feser, at least, claims that this is St. Thomas' view. However, Aquinas clearly holds that non-living beings naturally pursue their own good, including by moving towards a natural place that is good for them. For example, Aquinas states that "everything naturally seeks to procure what is good for itself, as fire seeks the upwards place." (*ST* I, q. 60, a. 3, c.[1]) An inanimate body's natural place conserves and perfects it.

Steven Baldner rightly recognizes this aspect of Aquinas' thought, but believes that it can no longer be maintained in the context of modern science. Professor McLaughlin, however, defends Aquinas on this score. He points out that science itself teaches that bodies naturally

[1] See also *ST* I, q. 60, a. 4, c.: "Et hoc etiam apparet in his quae cognitione carent, nam ignis naturalem inclinationem habet ut communicet alteri suam formam, quod est bonum eius; sicut naturaliter inclinatur ad hoc quod quaerat bonum suum, ut esse sursum." *ST* I, q. 65, a. 2, c.: "In partibus universi, unaquaeque creatura est propter suum proprium actum et perfectionem." Also I-II, q. 94, a. 2, c.: "Because in man there is first of all an inclination to good in accordance with the nature which he has in common with all substances: inasmuch as every substance seeks the preservation of its own being, according to its nature." Also, *In IV Phys*., l. 1, n. 412.

move towards dynamically constituted places such as centers of gravity. Professor McLaughlin has made his point well, and it seems hard to deny.

Yet defending Aquinas' position requires more. The place towards which a body spontaneously moves must plausibly be good for the very body that moves there. McLaughlin argues that it is, and I agree with him. In Aquinas' view existence itself is a good for each and every being, as well as the actualization of its potentialities. For Aquinas a natural place both preserves and perfects the body naturally placed there. I think this is plausible in light of modern science, even though scientists are unaccustomed to thinking in such terms. Let me give some examples. Water easily evaporates, but it also naturally pools by seeking the lowest point. By pooling, water reduces its surface area per unit volume, thus slowing the process of evaporation and conserving the water. Water also resists division by means of its surface tension. Furthermore, if water remains in the condition of isolated molecules, it cannot ripple. It needs to be gathered together to manifest in actuality this potentiality of its nature. Water only fully manifests what it is, however, when gathered into vast oceans, seas, or great lakes. Then it is actualized in all its majestic beauty, as it waves and roars and undulates.

Consider another example. Hydrogen gas is scattered all over the universe. In certain portions of the night sky, however, one can see it gathered by gravity into great nebulae, which glow and display the full power of this gas. The pictures of these nebulae from the Hubble telescope are truly sublime. The tendency of hydrogen gas to move towards centers of gravity actualizes its full potentialities. These nebulae can eventually give birth to stars. In fact, all inanimate bodies have a tendency to either form stars, planets, and moons undergoing orbital motion, or to fall as small objects to the surfaces of such massive bodies. This establishes the conditions in which the physical and chemical potentialities of inanimate bodies can be

actualized. For only when gathered together, and only when heated and energized by light from a nearby star, can bodies exist in all their states and actualize their full potential.

I turn now to the cause of gravitational motion. Professor McLaughlin holds that bodies gravitate in virtue of a passive principle, and this is plausible. It fits with the common conception that gravity is due to the pull of a massive external body, yet it preserves the distinction between natural and violent motion by making this pull actualize a natural potentiality in the pulled body. However, I would like to suggest that we also consider another possibility. Imagine an asteroid somewhere between Mars and Jupiter. It will accelerate towards the one or the other depending upon their relative distances and masses. The asteroid will move towards the nearest massive body, but one cannot attribute cognitive abilities to the asteroid. Hence, in order for its direction of motion to be determined, Mars and Jupiter must make contact with the asteroid through some kind of physical medium. Let's call the medium the "gravitational field." I suggest that a gravitating body such as this asteroid moves spontaneously, in virtue of its own natural *active* principle, along the gradient of the field in which it exists, and with an intensity that corresponds to the degree of that gradient. Mars and Jupiter affect the medium and establish this gradient. I think this view accords well with the framework of general relativity.

In conclusion, I wish to thank Professor McLaughlin for his valuable paper.