THE CONCEPT OF MATTER IN DESCARTES AND LEIBNIZ

It has been the recent fashion to accuse Descartes, and hence all Baroque thinkers, of a simple and disastrous dualism, made famous by Whitehead's phrase "the bifurcation of nature." In the *Lowell Lectures*, Whitehead indeed admitted that rarely had the world ever seen such an assembly of distinguished minds as that period produced, which gives one pause to consider whether they were really as naive as some have pretended. Certainly this dualism was no more primitive than Aristotle's physics of contraries with its crude reduction of Eudoxus' mathematical theory of celestial motions, its four qualities and its arbitrary distinction of substantial and accidental forms the former of which perpetuate themselves in everlasting cycles without shadow of turning. Nor was Aristotle's notion of the Cosmos with its natural place and motion of heavy bodies to its center, the earth, calculated to enrich our experience in spite of Mr. Koyré's attempt to make it seem interesting.[1] In fact, Bishop Tempier of Paris judged it so dreary as to be unfit as a representation of the creation of the Almighty Christian God and banned it from the University of Paris with the most fortunate consequences for the science of physics in the fourteenth century.[2]

But even among the Baroque thinkers, there are, of course, several traditions: (1) that of Kepler and, perhaps, Bruno which passes on to Leibniz and Newton; (2) that of Galileo; and (3) that of Descartes, Huyghens, and Malebranche which passes also through Leibniz. Of these, of course, that of Descartes is the most susceptible to the criticism of Whitehead, but we hope to show that the Cartesian concept of matter and the resulting physics are a fruitful and necessary moment in the dialectic of Baroque theories whose consequences are not yet exhausted. The greatest mind in physical theory and the most important was perhaps Kepler, the least susceptible to the attacks mentioned above, yet unknown to Descartes except for his treatises on light, as he was to Galileo, by design, perhaps, more than by inadvertence. And the stone which Descartes and Galileo rejected will become the chief cornerstone of classical mechanics, although it is with their unconscious help.

The obvious intent of the Cartesian *cogito* is to convert the world to a structure of thought, where thought is equated to awareness.[3] For thought, for Descartes, consists of all sensations as well as clear and distinct ideas, imaginations, and volitions. This all embracing world of thought is divided into active thought, consisting of clear and distinct ideas, and of passive thought consisting of sensations which are not representations of theoretical truths but of useful reactions, that is, of my body's relation to other bodies for pure purposes of bodily survival.[4] Hence the Cartesian intent is even more radical: it is to convert the world to active thought, the thought of clear and distinct ideas, for only in this way is it open to our conquest, not

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1 A. Koyré, *Etudes Galiléennes*, I, Paris, 1939; pp. 11-17.

2 P. Duhem, *Le Système du Monde*, Tomes VI-VIII, Paris.

3 *Principia Philosophiae*, I, *Oeuvres de Descartes*, Adam et Tannery, T. VIII, p. 17. This will be quoted as AT hereafter. There are many places here where the same thing is stressed, as well as in the other major works.

4 *Principia*, I, 48, AT VIII, p. 23.