Roger Bacon and Aristotle’s Doctrine of Place

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Introduction

Aristotle’s most systematic discussion of place is found in *Physics* IV.1-5, where he argues that place is the inner limit of a containing body.¹ For instance, the place of the water contained in a vessel is the surface of the vessel in contact with water. Thus, as to its quantitative structure, place is a two-dimensional extension, being the surface of a body. Although medieval commentators on the *Physics* occasionally introduced some modifications in Aristotle’s original account of place, they generally followed him in maintaining that place is a two-dimensional extension. However, a recent investigation has shown that there were also important exceptions to this general tendency. In fact, among English commentators of the years 1250-1270s the problem of the quantitative structure of place was much debated. Many of them denied that place is a two-dimensional extension and claimed that it must have also a third dimension, namely a depth, in virtue of which it “immerses itself” (*profundat se*) in the located body.²

Roger Bacon (ca. 1214-1292) dealt with Aristotle’s theory of place on three main occasions: in his first set of questions on the *Physics* (henceforth: *Questiones prime*), in his second set of questions on the same work (henceforth: *Questiones altere*) and in the first book of his *Communia naturalium*.³ Especially in the last two works Bacon too is much concerned with

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³ For the three works see *Opera hactenus inedita Rogeri Baconi*, Fasc. VIII, *Questiones supra libros quattuor Physicorum Aristotelis*, ed. F.M. Delorme with the collaboration of R. Steele, Oxford 1928 (*Questiones prime*); Fasc. XIII, *Questiones supra libros octo Physicorum Aristotelis*, ed. F.M. Delorme with the collaboration of R. Steele, Oxford 1935 (*Questiones altere*); Fasc. III, *Liber Primus Communium Naturalium*, Parts III and IV, ed. R. Steele, Oxford 1911 (*Communia naturalium, I*). The two sets of questions on the *Physics* were discussed by Bacon while he

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problem of the quantitative structure of place. In particular, in the Questiones altere, like many English commentators of his time, he advocates the view that place is a three-dimensional extension. Such a view, however, is totally absent in the Questiones prime and is explicitly rejected in the Communia naturalium.

The central topic of this paper is the original notion of three-dimensional place found in Bacon’s second set of questions on the Physics, but in analysing this notion we shall also reconstruct the development of Bacon’s position in the debate on the quantitative structure of place. First, however, it is necessary to clarify the Aristotelian background of such a debate. For, although nowhere in the Physics Aristotle suggests the idea that place is a three-dimensional extension, he does suggest it in the short account of place given in the Categories. In fact, the debate on the quantitative structure of place arises mainly from Aristotle’s conflicting views in the Categories and in the Physics.

1. Place in the Categories

At the beginning of his discussion of the category of quantity (Categories, 6), Aristotle distinguishes between discrete quantities and continuous quantities. The latter are those whose adjacent parts join at a common boundary, the former are those for which such a common boundary does not exist (e.g., numbers). Among continuous quantities, he lists a line, a surface, a body and, besides, time and place. As medieval commentators remarked, in this list a surface and place figure as two distinct species of continuous quantity. But this is contrary to what is implied by Aristotle’s definition of place in the Physics as limit, i.e., surface, of a containing body.

In the Categories Aristotle gives no explicit definition of place; in fact, he restricts himself to explaining in which sense place is a continuous quantity. Yet, even his account of the continuity of place is enough to confirm the suggestion that the notion of place he has in mind in the Categories is radically different from that of the Physics. He presents the following argument:

was teaching in the Faculty of Arts of Paris in the 1240s. The Communia naturalium were probably written in France in the 1260s. For the chronology of these three works, in addition to the Introduction to their editions, see also S.C. Easton, Roger Bacon and His Search for a Universal Science. A Reconsideration of the Life and Work of Roger Bacon in the Light of His Own Stated Purposes, New York 1952 (reprint Westport 1970), especially 59-66, 111, 188.

Aristotle, Categories, 6, 4b20-25. On Aristotle’s definition of continuity, see also Physics, V.3, 226b18-227b2.