This essay argues that one way to explain the presence and location of the many mathematical references in *Ulysses* is to see Joyce as establishing a structural relation to Dante’s *Commedia*. The focus of the *Commedia* represents Dante’s sense of the cosmos as a perfectly ordered, Euclidean space. Joyce’s ambition for *Ulysses* was to write the *Commedia* of the twentieth century, not the fourteenth, and he therefore needs *Ulysses* to be structured with an eye to contemporary maths and science, just as the *Commedia* is. Joyce therefore structures his epic not according to Euclid but rather according to contemporary thinkers like Bertrand Russell. The mathematical and astronomical material in *Ulysses* is clustered toward the end, in “Ithaca”, in partial imitation of the similar clustering towards the end of the *Paradiso*. However, Joyce revises his model here: “Ithaca” may send Bloom into space, like the character Dante, but Joyce’s epic turns back and ends in the social and personal space of “Penelope”.

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Any consideration of Joyce’s “medievalism” ought to start with the realization that Joyce’s relation to medieval culture is a very different matter than his relation to, say, Victorian culture or the Irish

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1. Ray Mines and Reed Way Dasenbrock have been working on mathematics in *Ulysses* for some time, work that has already resulted in an article, “‘Nought nowhere was never reached’: Mathematics in *Ulysses*”, *James Joyce Quarterly* 35.1 (1997), pp. 25-36. The present paper represents an early stage of some work in progress based on that joint research, though it was presented by Reed Way Dasenbrock alone at the Fifteenth International James Joyce Symposium in Zurich in 1996.
Literary Revival, in that it was a much less determined relationship. You couldn’t be an Irish writer born in 1882 and not have a relation to the works of William Butler Yeats, but there was nothing necessary in the same sense about Joyce’s use of Aquinas or Dante or Nicholas de Cusa. Neither relation is completely determined or completely undetermined, of course, since the stance one might take towards Yeats is not determined in advance, but nonetheless Joyce’s medievalism is only in parts and to a small degree a matter of inheritance from a cultural milieu. It was to a much larger degree a willed relation, a matter of conscious imitation.

With what kind of theory of imitation did Joyce approach his medieval cultural ancestors? One which found expression in the medieval period, of course. If we can for a moment claim someone Joyce had no interest in, Francesco Petrarca, as a medieval figure and ignore boundary disputes with Renaissance specialists, Petrarca defines in a famous letter to Boccaccio of 1366 two kinds of imitation:

> A proper imitator should take care that what he writes resembles the original without reproducing it. The resemblance should not be that of a portrait to a sitter – in which case the closer the likeness is the better – but it should be the resemblance of a son to his father…. As soon as we see the son, he recalls the father to us, although if we should measure every feature we should find them all different.²

Our focus in this paper is how Joyce’s attempt to set himself in relation to Dante, to set in particular *Ulysses* in relation to the *Commedia*, influences one of the peculiar and not well understood features of *Ulysses*, which is the presence of a great deal of mathematics in the “Ithaca” chapter. But it is worth beginning by

² *Letters from Petrarch*, trans. Morris Bishop, Bloomington: Indiana UP, 1966, pp. 123-124. This is 23:19 of *Rerum familiarum libri*, generally referred to as the *Familiares*. It should also be noted that there is a classical source for Petrarch’s image here in Seneca, which means that the passage embodies the very process of imitation it is describing.