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How Do Spaces Represent Classes?

Diagrams have long been used in logic. The most familiar diagrams appeal to spaces, usually circles, to represent classes. The idea is simple: gathering all the individuals of a class within a single space. This type has been popularised by Leonhard Euler and John Venn. Charles S. Peirce made high claims for that system of diagrams and considered that its beauty and other merits "spring from its being veridically iconic, naturally analogous to the thing represented, and not a creation of conventions" (*CP*, 4. 368). In *Segno* (1973), Umberto Eco disputes this view and argues that the representation of classes with spaces is rather purely conventional because belonging to a class is not a spatial fact in itself, "except the fact that I might be defined to belong to the class of all those who are located in a certain place". We propose to discuss this argument by considering how logicians make a circle represent a class. The idea is to assess what cognitive and semeiotic processes are at work when one mentally conceives a class and visually represents it with a space.

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