

Where Is Aristotle's Modal Logic Heading ?

— Between the *Prior Analytics* and the *Posterior Analytics* —

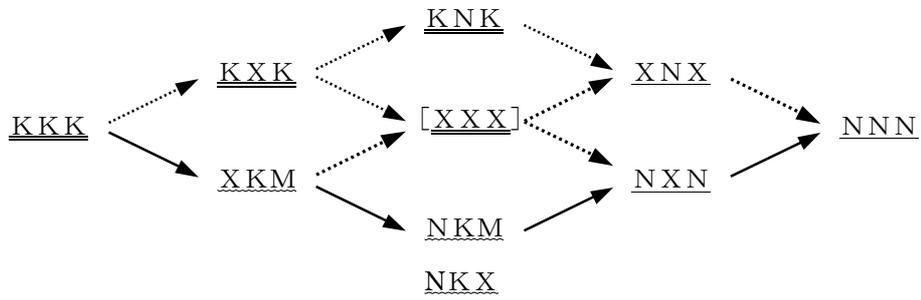
Kazuhisa SHINOZAWA

In the paper, I make a methodological suggestion to extract an underlying relationship between Aristotle's modal logic in the *Prior Analytics* and his theory of demonstration in the *Posterior Analytics*. In *Prior Analytics* A4, Aristotle definitely outlines a schematic conception, according to which there is a formally close relation between the two *Analytics*. For he says that a demonstration is a kind of syllogism but not every syllogism is a demonstration. Nevertheless, as Barnes argues, it seems to be a difficult task to form a bridge between Aristotle's syllogistic system and his theory of demonstration. For Barnes insists that modal logic remains acutely relevant to demonstrative science but it is not the logic of demonstrative science. Hence, if Barnes is right, Aristotle is supposed apparently to set up a misleading, or rather, almost completely wrong guidepost for the whole *Analytics*.

My objective is to reconstruct the framework of Aristotle's modal syllogism so that we can find a route from the *Prior* to the *Posterior*. In order to do that in a succinct way, I take the following strategy. (1) For an overview of Aristotle's logical system, I make the most of the table of valid syllogisms that Ross makes up in his *Commentary*. The table makes us reconsider which modal syllogisms are *perfect* or *imperfect* from the viewpoint of Aristotle's logic. (2) As a tentative method, I push aside the application of a straightforward essentialist interpretation to his logical system. I methodologically give importance to syntax rather than semantics. (3) I place emphasis on a contextual interpretation of how Aristotle rearranges the order of valid modal syllogisms.

In conclusion, I point out that the following diagram emerges from the rearrangement. The diagram, which functions as a bridge between the two *Analytics*, shows a gradual shift of the first figure *Barbara* from contingent syllogisms to necessary ones and also indicates the main route of modal syllogisms in the *Prior Analytics*, i.e., $KKK \rightarrow XKM \rightarrow NKM/X \rightarrow NXN \rightarrow NNN$. As a result, this route is not only closely relevant to but also indispensable to the investigation of how the logic of

demonstrative science can be constructed in the *Posterior Analytics*.



 (Perfect syllogism) (Imperfect syllogism)

 (Indefinite syllogism in the *Prior Analytics* = Demonstration in the *Posterior Analytics*)