CHAPTER THREE

THE TEACHING OF LOGIC

1. Aristotelian Logic—Introductory Orientation

Scholastic professors devoted a great deal of attention to the part of logic that constitutes Aristotle’s most brilliant achievement as a logician, namely, syllogistic. The word “syllogism” can refer to one of the specific forms of valid deductive argument discussed in Prior Analytics I, 1–6, or to any valid argument with a conclusion different from any of its premises. The Prior Analytics challenged its readers to transform valid arguments into arguments using only syllogisms, at least for the purpose of making their reasoning more transparent.1 On the other hand, Aristotle himself suggests that not all arguments can be rendered syllogistically, and he probably wrote a treatise on the hypothetical syllogism that was lost. There has also been speculation about its relation to Stoic logic, and whether medieval scholars were influenced by Stoicism or independently rediscovered the connection of topics with hypothetical syllogisms.2 In fact, there are not many medieval authors who wrote about hypothetical syllogisms. Part of the explanation for this lack of consensus among scholars is that many treatises and manuscripts remain unedited, a consideration that feeds the worry that the standard interpretations are an artifact of selection and not fairly representative of the literature.

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1 This is a brief, general sketch of the territory, not a summary of expert and scholarly analysis. I have consulted the literature but I have selected issues relevant to the sort of education that Copernicus received at Cracow. Cf. Robin Smith, “Logic,” 27–65, esp. 27–35. In an earlier version of this chapter, I followed surveys that interpreted the development of topical inferences as absorbed into the logic of consequences (Otto Bird and Eleonore Stump) and as related to hypothetical syllogisms. E. Jennifer Ashworth raised doubts about these interpretations, and referred me to authors who proposed alternative interpretations that emphasized the literature on paradoxes and sophisms. I owe many of the references in the first section of this chapter to Ashworth. Judging from the literature, I have concluded that it is too early to write a definitive history of these developments. Instead, I present a selective survey with a tentative “trajectory” that led to the doctrines held by John of Glogovia and that are relevant to Copernicus’s arguments. Ashworth is not responsible for my reconstruction.

Recent scholarship suggests that the followers who reported and developed Aristotle’s views unwittingly conflated his account of the hypothetical syllogism with Stoic accounts. The process of conflation was evidently so complete that by the time Boethius translated Aristotle’s works in logic and wrote his own treatises, he was unaware of the conflation. As a consequence, Boethius transmitted to the Middle Ages the conflated account. The handbook treatment of the *Topics* introduced further confusions.\(^3\) According to some authorities, medieval masters picked up on these traditions to develop a theory of consequence or conditional argument derived from Stoic logic by way of Boethius. Some of them apparently concluded, however, that Aristotle’s *Topics* contains a broader doctrine of hypothetical syllogism, which they may have regarded as compatible with the logic of consequences.\(^4\) Experts on the history of consequences have not reached consensus on the medieval developments. Otto Bird, Jan Pinborg, and Eleonore Stump related the development to the dialectical tradition of topics, arguing that topics were absorbed into the theory of consequences in the fourteenth century.\(^5\) Niels Green-Pedersen, Franz Schupp, and Sten Ebbesen noted that while some medieval commentators did indeed draw a close relationship between topics and consequences, there is considerable evidence that topics appear in the sophistical literature (treatises on insolubles, obligations, paradoxes, and the like) where they played a major role in training students in disputation.\(^6\)

My account is driven by the teaching at the University of Cracow between 1490 and 1495, especially the views of John of Glogovia, one of Copernicus’s likely teachers. According to Mieczysław Markowski, an authoritative expert on the curriculum and instruction at the university in the fifteenth century, discussion of the sophistical literature

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\(^3\) Speca, *Hypothetical Syllogistic*.

