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THE INFLUENCE OF AGRICOLA AND MELANCHTHON ON HOBBES' EARLY PHILOSOPHY OF SCIENCE

1. Introduction

Stimulated by the rediscovery of Aristotelian writings on nature and on the logic of science in the twelfth century, a number of methodological controversies flourished which culminated in the sixteenth century. At first opinions differed only on the question of what was to be understood by the term 'method' and how methodology and science were to be related. Was method, for example, concerned with the actual acquisition of knowledge and as such part of science or did it supply only rules for the transmission of knowledge? In due time this primarily didactical way of posing the problem was exchanged for speculations which, mediated by the methodological problem, questioned the theory of principles and proof fundamental to the very concept of science.1 Debates now were no longer dominated by the opposition between research and teaching; rather, the question was whether science is a matter of describing and classifying or of invention and explanation. In other words, was science primarily concerned with concepts and words or with things?

In the end all these problems can be reduced to the Aristotelian distinction between purely theoretical and applied science, between scientiae and artes. Initially, 'artists' and 'scientists' diametrically opposed each other. 'Artists' emphasized practical and didactical aspects of methodology while 'scientists' considered methodology a discipline which taught one how to do research and how to demonstrate things. Beginning in the sixteenth century primarily in Germany, a humanist-Aristotelian kind of eclecticism evolved which attempted to reconcile both points of view by developing a sort of logic based on an identification of speech and reason. Rudolph Agricola was one of its chief founders.

2. Topics, teaching and the problem of probability

Agricola’s De inventione dialectica (1479) is one of the first answers to scholastic logic, which it saw as too dry, formalistic, complicated and unpractical. The book opens with the statement that the main function of

1 Cf. Gilbert, Renaissance Concepts of Method.
speech, by which we communicate our thoughts, is teaching, that is to say: making what is unknown more known. This can be done in two steps. First an exposition informs the listener about the matter at hand. Then some form of judgement on this matter is tested by way of an argumentation which intends to convince the listener. This procedure works only when things are said which are appropriate to the matter and which will increase the chance that the listener will indeed begin to believe what he is being told. According to Agricola this art is dialectic.\(^2\) As *ars probabiliter disserendi* it provides strategies for a rational discussion of problems and also a technique for proving statements. Both tasks can be performed by one kind of logic. Instead of the Aristotelian distinction between a logic of necessity and one of probability, Agricola begins with Aristotle’s *Topica* which he augments where necessary with elements from the *Analytics*. At the same time he puts its material and method on the same level as those of rhetoric. Emphasis thus lies on the pragmatic character of this kind of logic.

Together with grammar, dialectic and rhetoric make up the logical or rational arts which supply the rules for the adequate use of language. Now, every art is acquired by a process of generalization on the basis of sensory experiences. Since dialectic teaches one how to derive general judgements from particulars, it takes a central position and functions as the guide and stabilizing factor of all the other arts.\(^3\) Thus it does not supply the material but rather the universal instrument necessary for distinguishing truth from falsehood.\(^4\) Opposing the scholastic division of logic based on Aristotle’s *Organon*, Agricola instead follows the Ciceronian distinction between invention and judgement. He is primarily interested in invention because this part of logic had been neglected since Boethius. The *pars inveniendi* contains the method for finding arguments, the instruments which effect belief. Such a method is not a luxury when one considers the incalculable number of things and their properties in reality. In principle every normal human being through his senses has at his disposal an unlimited amount of material which, however, he is unable to grasp at the same time, let alone choose what is most useful at any given time. If this wealth is to be turned to good advantage it will have to be arranged in a ‘logical’ way. This can be done by classifying


\(^3\) DID (1528), p. 153 (= 1539, p. 191).