

Scientia Sermocinalis: Grammar in Medieval Classifications of the Sciences

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Figures are at the end of the paper.

Most linguists today do not feel that they are lacking anything important if they cannot, on a moment's notice, set out and defend a theory of the relationships between all existing fields of knowledge. In the Middle Ages, the situation was different. Everyone subscribed to some theory of the classification of the sciences, and the usual way to begin a treatise on any subject was to discuss how that subject fitted into the system. In this paper I want to look briefly at the place grammar occupied in various medieval classifications of the sciences.¹

Two preliminary points need to be made. First, in Latin, *scientia* means either 'science' (i.e., field of study) or simply 'knowledge.' So a classification of the sciences is a classification of types of knowledge, and it implies theories of reasoning and cognition that we do not have time to explore here. Second, the distinction between 'science' and 'art' varied from period to period, and some authors made no distinction. To the medievals, a classification of the sciences was a classification of things one might study or things one might know about.

The most important classification (Fig. 1) consists of the Seven Liberal Arts. This list of fields of study goes back to the classical Roman grammarian Varro, and the division into *trivium* 'three-way crossroads' and *quadrivium* 'four-way crossroads' was

¹ An earlier version of this paper was presented at the Annual Meeting of the Linguistic Society of America, Baltimore, December 1984. I am now working in a completely different field, but it is fitting to honour Vivien Law with a paper written during her lifetime, on a subject of great interest to her, and never previously published.

well established by the beginning of the Middle Ages. The importance of the *trivium-quadrivium* system can hardly be overstated. It formed the basis of almost all medieval education; a student always studied the subjects of the *trivium* before taking those of the *quadrivium*. More importantly, later classifiers were unwilling to break up either the *trivium* or the *quadrivium* when they developed more elaborate schemes. There was strong pressure to treat grammar, logic, and rhetoric as a single subgroup, and arguments about the status of one of them would often result in all three being moved to a new place in the classificatory tree.

(Incidentally, the *trivium* has nothing to do with our word *trivial* ‘unimportant.’ Already in classical times *trivialis* is attested as meaning ‘commonplace,’ i.e., ‘so common that you meet it at every crossroads.’)

The second most important medieval classification is the system that can be inferred from scattered statements in Aristotle’s works. Fig. 2 shows this system as it was expressed in Boethius’ *De Trinitate* (c. 500 A.D.), a work that was available throughout the Middle Ages. We find this system, or slight elaborations of it, in the works of Willam of Conches (c. 1125), Albertus Magnus (c. 1260), and many others, including the Arabic philosophers Al-Ghazzali and Avicenna.

In the Aristotelian system, all knowledge is either practical, meaning it is oriented toward action, or theoretical (speculative), meaning it is oriented toward contemplation of truth. Practical knowledge comprises ethics in a very broad sense. It has three divisions: *monastica* or *monomatica*, duties to oneself; *oeconomica*, duties to one’s family and household; and *politica*, duties to society as a whole. Each of these includes not only morality but also what we might call management skills. Theoretical knowledge covers the study of physical changes (physics, including medicine); the study of quantity or shape abstracted from any particular physical qualities (mathematics); and the study of the non-physical (metaphysics or theology).

The subjects of the *quadrivium* fit neatly under mathematics. The *trivium* is outside the Aristotelian scheme; both Aristotle and his medieval followers were inclined to view grammar, logic, and rhetoric as methods or skills rather than areas of knowledge. Hugh of St. Victor (c. 1140) calls them *scientiae sermocinales* ‘sciences of discourse’ (from *sermocinari* ‘engage in discourse’) and treats them as another kind of science,

alongside theoretical and practical; he has a fourth branch for the mechanical arts, i.e., trades and crafts (Fig. 3).

Later philosophers preferred to stay closer to Aristotle's original system by treating grammar, logic, rhetoric, and the mechanical arts as types of *scientia practica*. Fig. 4 shows the classification proposed by Michael Scotus, a translator of Aristotle who was active in the early 1200s. Here the high-level distinctions are taken from Aristotle, but *scientia practica* has been split into several additional branches. The first new division separates the mechanical arts from other kinds of practical knowledge, and the second division separates grammar, logic, and rhetoric from ethics. A similar system, with a somewhat different subgrouping of the practical sciences, was put forward by Robert Kilwardby in his *De ortu scientiarum* around 1250.

Meanwhile, of course, speculative grammar was on the rise – that is, there was a movement to treat grammar as a theoretical science. As early as 1125, William of Conches had argued that grammarians should try to explain the facts of language rather than merely describing them, and he and his pupil Peter Helias soon afterward made important steps toward abstract theories of syntax and semantics. But it was not until about 1250 or 1260 that grammar, logic, and rhetoric began appearing on the speculative side in classifications of the sciences (as in Fig. 5).

A major reason for this is that, in the meantime, Aristotle's *Posterior Analytics* had been rediscovered and become widely known. The *Posterior Analytics* were first translated into Latin around 1150, but not widely studied until after 1200; early scholars found the treatise exceptionally difficult, and it was slow to be accepted into the curriculum.

The *Posterior Analytics* state a criterion for identifying theoretical scientific knowledge. According to Aristotle, knowledge is scientific if and only if it is universal and non-arbitrary. Physics, for instance, is concerned with all possible physical changes, not just the few that have actually occurred in some arbitrarily chosen region of space and time. Medieval grammarians reasoned that, by the same criterion, the scientific study of grammar would have to state principles applicable to all languages at all places and times – what we today call language universals, or possibly something even deeper, the kind of properties that Chomsky (1995) calls “virtually conceptually necessary.”

The important thing about the recovery of the *Posterior Analytics* is that it made it possible to argue about whether a particular field of study was a science. It was no longer necessary to accept traditional classifications of the sciences on authority; an important principle behind the classification of the sciences had now been made explicit.

The next question was whether there were any language universals; if so, there could be a theoretical science of language. A forceful argument in favour of language universals came from Dominicus Gundissalinus, who translated Alfarabi's *Catalogue of the Sciences* into Latin around 1150 and elaborated some of Alfarabi's arguments. Picking up on Alfarabi's distinction between knowledge of vocabulary and knowledge of grammatical rules, Gundissalinus ventured the opinion that although vocabulary is arbitrary, the rules that allow words to be put together to express meanings are *paene eadem apud omnes* 'almost entirely the same for everyone.'

Gundissalinus' translation was titled *De divisione scientiarum* or *De divisione et ortu scientiarum* and is probably the *Liber de ortu scientiarum* that was influential in convincing Vincent of Beauvais that grammar, logic, and rhetoric are theoretical sciences. Vincent's system, proposed after a lengthy discussion of alternatives, is shown in Fig. 5.

The heyday of speculative grammar was of course the period of the Modistae, around 1260 to 1320. The Modistae held that there were language universals and that they had to do with the ways in which words express meaning ('modes of signifying,' *modi significandi*), which they held to be the basis of all syntax and semantics. Most of the Modistae presented arguments that grammar is a theoretical science, usually under the subtitle *Utrum grammatical sit scientia*. However, they did not usually give full classifications of the sciences; one of the few who did so was Johannes Dacus, whose system, proposed in 1280, exactly matches Vincent's.

Early in the fourteenth century, modistic grammar fell under attack from nominalists and members of other philosophical schools that questioned the validity of the abstract entities on which modistic theory depended. It is far beyond the scope of this paper to discuss the nature of the attack in detail. However, the fall of modistic grammar had the expected effect on classifications of the sciences: Ockham (cited by Pinborg 1967:106) explained that "logic, rhetoric, and grammar are in fact practical and not theoretical knowledge, since they guide the intellect in its operations, which are

dependent on the will.” That is, grammar, logic, and rhetoric are skills or methods rather than theories, in accord with the views of Aristotle and Boethius as against the speculative grammarians.

References

(For detailed references to primary sources see Covington 1984.)

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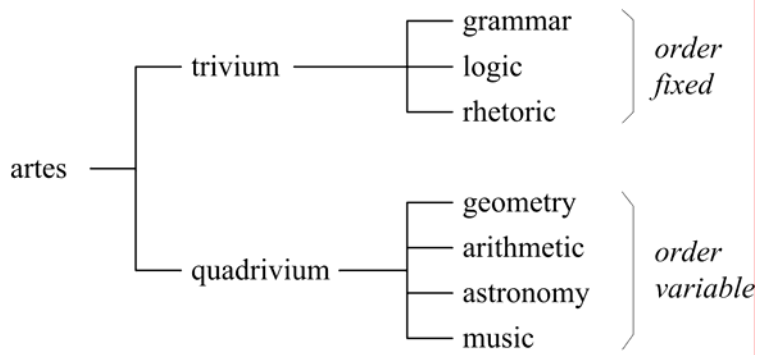
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Covington - Fig. 1

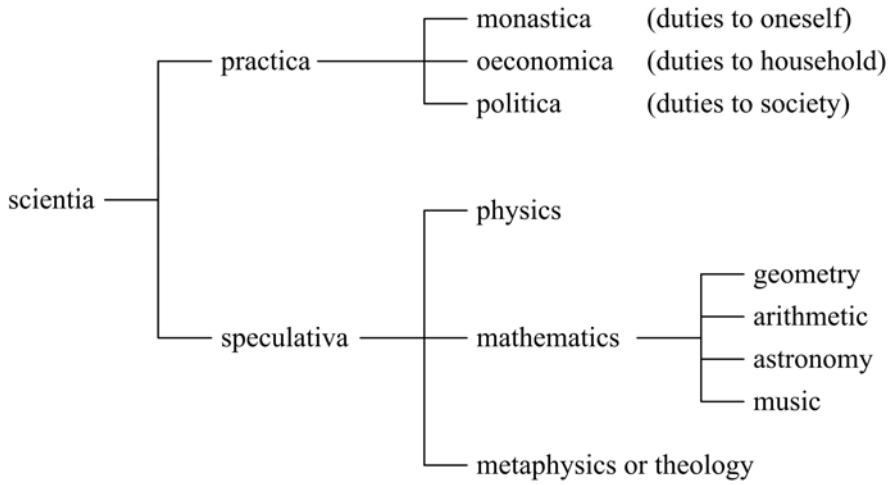
The Seven Liberal Arts

(Goes back to Varro; well established by early Christian era)



Covington - Fig. 2

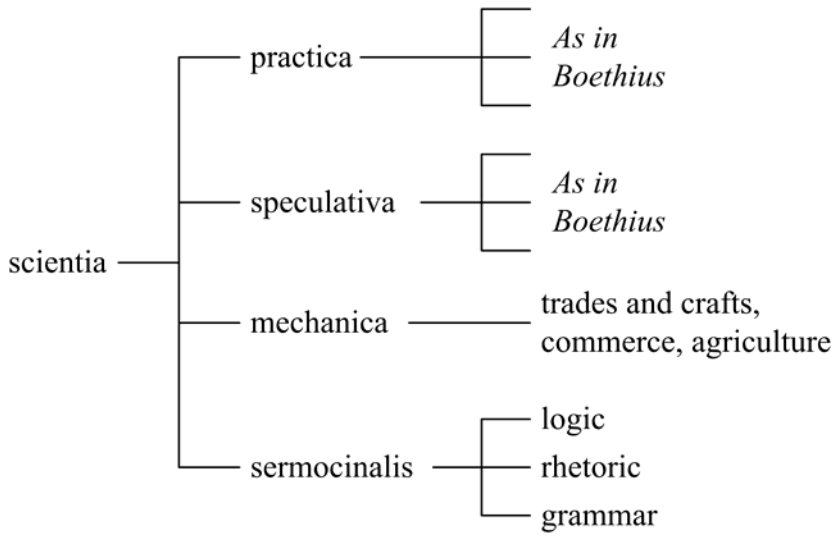
Standard Aristotelian system
Boethius, *De Trinitate*, c. 500 AD (Weisheipl 1978)



(Grammar, logic, rhetoric, and other arts and crafts are not in this system. Aristotle himself apparently considered them a third type of science which Weisheipl terms 'productive arts.')

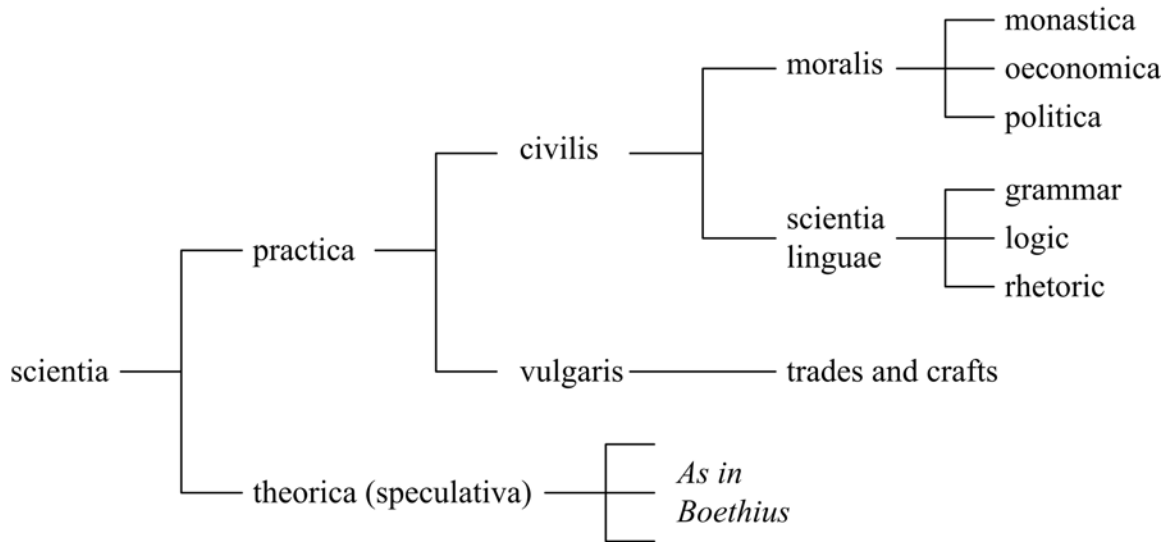
Covington - Fig. 3

Hugh of St. Victor (educator, c. 1040)



Covington - Fig. 4

Michael Scotus (translator of Aristotle, active c. 1215-1230)
(As cited by Vincent of Beauvais)



Covington - Fig. 5

Vincent of Beauvais (encyclopedist, c. 1260)
Johannes Dacus (modistic grammarian, 1280)

