The way fallacies were treated in scholastic logic.*

Sten Ebbesen

Summary.

From about A.D. 200 Aristotle's **Sophistici Elenchi** was the book on which teaching of the subject of fallacies was based. The late ancient literature on fallacies is lost, the Byzantine is of little philosophical interest, but there are many interesting works from medieval Latin scholasticism. The paper concentrates on the period 1260-1300 and explains the key terms used in works from the period, such as **peccans in materia/forma, causa apparentiae/defectus, locus, in dictione/- extra dictionem, multiplex actuale/potentiale/phantasticum, modi.** It ends with a list of matters treated in late thirteenth-century **quaestiones** on the **Elenchi.**

1. Historical Survey.
1.1 The Ancient Background[1].

The first European treatise on fallacies takes a practical approach. Aristotle's **Sophistici Elenchi** ("Sophistical Refutations") is to a considerable extent a manual of unfair argumentation and how to defend oneself against it. But, of course, it would be a bad manual if it did not contain some important theoretical insights; and it would not be Aristotle's if it did not present ample material for further discussion, pinpointing important problems that a logic must solve to work.

Aristotle assumes that to achieve their principal aim, a semblance of intellectual superiority, unfair debaters ('soph-

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1.   Cf. Ebbesen 1981a and 1982.

ists') strive to achieve one of five auxiliary aims (**metae** in medieval Latin terminology)[2]. Aristotle analyses the means to each **meta**, but he pays greatest attention to **meta** number one, 'refutation' (**elenchus**), which is achieved if the sophist can make it appear that the person he is debating with is convicted of inconsistency. The **Elenchi** contains a list of thirteen ways in which it is possible to arrive at such pseudo-refutation - the thirteen fallacies (**fallaciae**) of later terminology. He divides them into two main types, those which exploit features of language, and those which do not (**fallaciae in dictione, fallaciae extra dictionem** in Latin terminology)[3].

The greatest ancient logician after Aristotle was Chrysippus the Stoic. Apparently his approach to the study of fallacies was more theoretical. He seems to have investigated known sophisms and constructed new ones with the precise aim of testing his own and other philosopher's theories by seeing if they could solve them. Aristotle did not try to evade difficulties; Chrysippus went out of his way to find them.

Stoicism ceased to be an important philosophical school soon after the second century A.D. Its influence waned with the rise of Aristotelian scholasticism. By scholastics I mean such philosophers as teach their subject on the basis of a well-defined set of books by one or more classics who are supposed to have laid down the only sound principles of the discipline in question; the scholastic need not be a blind admirer of the classics, but his attitude to them is such that he thinks their endorsement of some thesis carries the weight of an argument; commentaries on the classics (**auctores** in medieval terminology) are one of the main vehicles of scholastic thought.

As far as logic is concerned, Late Antiquity and the Middle Ages knew one dominant **auctor**: Aristotle. Most of the Stoic classifications and some of the sophisms the Stoics had discussed survived because late ancient Aristotelian commentators, first and foremost Porphyry, realized the importance

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2. **Arist. SE** c. 3.
3. **Arist. SE** cc. 4-5.

of the problems involved and incorporated Stoic material in their commentaries on Aristotle's **Organon**. Once an example or a classification had been adopted by one of the major commentators, it would be passed on from century to century, often spreading from, e.g., commentaries on the **Categories** to commentaries on the **Elenchi**[4].

1.2 The Byzantine Tradition[5].

With the rise of Aristotelian scholasticism the **Sophistici Elenchi** became the fundamental book on fallacies. No ancient commentary on it came unscathed through the Dark Ages (ca. 650-850); only Galen's **De captionibus**, an oversize note on SE c. 4 165b24-30 written in the second century A.D., and some minor notes ('scholia') on other passages seem to have survived. When the Byzantines took up again the disrupted tradition of commenting on the **Elenchi**, they put all available ancient material to use, but in a rather mechanical fashion. In Byzantium originality of thought and expression was often viewed as a vice rather than a virtue, and so, while the Byzantine scholastics managed to conserve many fragments of ancient logical doctrine, their own contribution to the development of logic was negligible.

The extant works on fallacies[6] comprise some jejune manuals summarizing the doctrine of the **Elenchi** and some long, but incoherent, commentaries on the book. One commentry deserves special attention: Michael of Ephesus' (ca. 1120/40), first because it is the only one that is available in a printed edition, secondly because it influenced all later Greek commentaries, thirdly because it closely resembles the lost Greek original of the scholia that were translated into Latin about 1130/40 by "Jacobus Veneticus Graecus" and came to circulate under Alexander of Aphrodisias' name. The Latin trans-

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4. For examples, see Ebbesen 1981a.
5. See Ebbesen 1981a, summarized in Ebbesen 1979b.
6. See the bibliography at the end of this paper.

lation is now also lost, but it is often cited in extant works[7].

1.3 The Western Tradition.

Little is known about the study of fallacies in the Latin world before the mid-twelfth century. Boethius translated the **Sophistici Elenchi** into Latin in the early sixth century[8] but during the next six centuries few people read the book. In the very earliest phase of Western medieval scholasticism (before 1130/60) men operated with a list of six fallacies extracted from Boethius' commentary on **De Interpretatione**[9]. There also grew up a more independent tradition for analysing complex expressions, obscure in structure and/or ambiguous in meaning, such as may be used in sophisms[10].

About 1130/40, then, the Byzantine **Elenchi** commentary ("Alexander's") arrived and courses of logic began to include the **Elenchi**. The next sixy years or so witnessed a process of harmonizing Aristotle's doctrine - as understood in the light of "Alexander's" commentary - with traditional Western views. This process is fairly well documented, several commentaries and treatises from the period having been edited in recent years[11]. The parallel continuation of the 'native' tradition for analysis of sophisms and complicated sentences is less well known[12], and I shall therefore omit any account of it in the remaining part of this paper, concentrating instead on the development in the genres that have closer ties to the **Elenchi**.

7. Edition of the fragments in Ebbesen 1981a.
8. Edition by B.G. Dod in **Aristoteles Latinus VI.1-3**, Leiden-Bruxelles 1975.
9. See De Rijk 1962: 24ff;   cf. Anonymus Aurelianensis II in Ebbesen 1976a:70-71.
10. This is evident from the works of Garlandus Compotista, Petrus Abaelardus, Adam Parvipontanus, and others; cf. De Rijk 1967: 1.595. For the "native" Western tradition, cf. Ebbesen 1985.
11. See the bibliography at the end of this paper.
12. MS Paris B.N. lat. 4720A is a good 12th-century example of symbiosis of the Greek and the native tradition: ff. 10-17v contain a summary of Aristotle's **Elenchi**, based to a large extent on "Alexander"; ff. 17v-22v contain a collection of sophisms in the Western tradition (cf. Ebbesen 1973b).

At the beginning of the thirteenth century the Boethian list of six fallacies had long ceased to be a real competitor to Aristotle's list of thirteen, leaving only minor traces in works on the subject. Men were beginning to have a good grasp of Aristotle's philosophy and elements from the Western tradition that did not fit his theories and classifications were gradually removed from works expounding his doctrine. In modern times, however, comparatively little has been done to follow the development of the literature on fallacies in the first six decades of the thirteenth century. There are several extant, but unedited, **Elenchi** commentaries. There is an 'Exposition' (paraphrase with digressions) by Albertus Magnus (late 1250s?), accessible in an uncritical edition. Finally, there are several minor treatises, some of which have been edited, including the **Tractatus or Summulae logicales** by Peter of Spain from the 1230s (used until much later times), and unedited commentaries on that work[13].

During the first six decades of the thirteenth century a consensus was reached on most elementary points of the **Elenchi** exegesis and the terminology to be used when speaking about fallacies became established in all essentials. During the same period the dubia or **dubitationes**, i.e., discussions of questions an intelligent reader might raise in connection with the text, gained increasing prominence in the commentaries and became increasingly similar to formalized **quaestiones** with arguments (**rationes**) pro et contra, solution, and refutation of untenable **rationes**.

The last four decades of the thirteenth century produced works that were to become classics, such as (? Ps.-) Thomas Aquinas' **De fallaciis** (1260s?) and Aegidius Romanus' bulky **Elenchi** commentary from the early 1270s; the former is available in a critical edition, the latter only in manuscripts and early printed editions. This was the period when 'modistic' logic and grammar flourished, and a feeling af confidence in the power of current logico-semantic theories seems to have

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13. Bibliography to this and the following paragraphs at the end of this paper. For commentaries on Peter of Spain, see De Rijk, pp. XCVsqq of his 1972 edition of the **Tractaus**.

prevailed. But is was also a period in which men engaged in penetrating discussions of problems that were difficult to cope with by means of these very theories. We find such discussions in collections of **quaestiones** on the **Elenchi**. The earliest collection is from about 1270 and has been edited together with a partly identical, but slightly younger one ("Incerti auctores", CPhD VII; see bibliography 1.3.3 below). Two related collections, by Simon of Faversham (ca. 1280) have also been edited recently. These quaestiones were written by masters at the university of Paris. Several later collections from Paris and Oxford remain unedited; there is, however, an uncritical edition of Iohannes Duns Scotus' **Elenchi** quaestiones (probably written in Paris in the 1290s).

By 1300 it was clear to the clear-sighted that the discussion had revealed many inconsistencies in the 'modistic' theories. Radulphus Brito' quaestiones from ca. 1300 (of which there is no printed edition) were written by such a clear-sighted man, though he still tried to save modism. In the succeeding century logic outgrew its old clothes. Quaestiones and commentaries on the **Elenchi** as well as summaries of the Aristotelian doctrine of fallacies continued to be written in the fourteenth century, but the new logic was so different from the one that had been current when these genres were established that it was almost impossible to expound it within the old framework. Raimundus Lullus (shortly after 1300) tried to free himself from the fetters of tradition[14], but the majority did not follow him. The traditional genres became dead wood. Only one fourteenth-century commentary has been edited in modern times; although the author is Ockham, it is not very exciting reading. The **Tractatus de fallaciis** in Iohannes Buridanus' **Summulae** and the same author's quaestiones on the **Elenchi** deserve edition, and so, perhaps, do Marsilius of Inghen's quaestiones. Later fourteenth-and fifteenth-century works appear to be of very limited interest - although it must be admitted that this impression could be due to lack of investigation of them in modern times.

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14. Cf. Lohr 1972.

2. The System.
2.0 Introduction.

If one were to ask a medieval scholar, "How many fallacies are there?", one would almost certainly receive the answer, "Thirteen in all, six **in dictione** and seven **extra dictionem**, viz. **in dictione** equivocation, amphiboly, composition and division, accent, and figure of speech; **extra dictionem** accident, secundum quid et simpliciter, ignorance of refutation, petitio principii, consequent, not-cause as cause, more questions as one." The list comes from Aristotle's **Elenchi**, but if we were to ask the medieval scholar for more information about the fallacies, he would use much non-Aristotelian terminology and he would be able to expand the **auctor**'s meagre descriptions of the fallacies considerably.

The word 'fallacy' (**fallacia**) itself has no exact counterpart in Aristotle. It is used in a variety of senses, and it does occur in the **Elenchi**, as a translation of ἀπάτη ("deception")[15], but not in the sense intended in the question about the number of fallacies, where it means "class of paralogisms, i.e., of arguments that appear to be good syllogisms but are not so". Aristotle's own term for the thirteen 'fallacies' was 'ways to produce (apparent) refutation'.

The medievals subdivided each fallacy into moods (**modi**) and spent a remarkable amount of energy on establishing the number and names of such sub-classes under each fallacy. But let me start 'in accordance with nature from first things', as Aristotle would say, and let me explain late thirteenth-century terminology and examine its background.

2.1 Peccans in materia, peccans in forma.

Unsound syllogisms are either (1) materially defective (**syllogismi peccantes in materia**), which means that they have at least one false premiss, though they may be valid syllogisms, or (2) formally defective (**s. peccantes in forma**), i.e., in-

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15. See the index in **Aristoteles Latinus** VI.1-3, p. 121 s.v. ἀπάτη.

valid, and properly speaking not worthy of the name of syllo-
gisms because they do not fulfill the requirements of a valid
syllogism laid down in the **Prior Analytics**[16].

Rudiments of the doctrine are found in Aristotle[17], but
the terminology is later; it was used by Alexander of Aphro-
disias (about A.D. 200) in his commentary on **Topics** I[18], and
in later Greek commentaries on the **Elenchi**[19], whence it passed
to the West with the translation of "Alexander's" scholia[20].
In Greek the terms are ἡμαρτημένος παρὰ τὴν ὕλην - ἡμαρτημέ-
νος παρὰ τὸ σχῆμα (or: παρὰ τὸ εἶδος). To all appearances
Stoic logicians were the first to make consistent use of the
division and the term ἡμ. παρὰ τὸ σχῆμα seems to go back to
them.[21] The introduction of ὕλη and εἶδος helped Aristotelize
the terminology when the division was taken over by Aristotel-
ian scholasticism.

In the thirteenth century it was often asked whether a
materially defective syllogism is a syllogism at all.[22] The
normal answer is 'Yes' - provided, of course, that the same
syllogism does not also have a formal defect - but somebody
must have answered 'No', for the proposition 'A materially
defective syllogism is no syllogism' was publicly condemned by
the English archbishop Robert Kilwardby in 1277.[23]

Defective syllogisms falling under one of the thirteen
Aristotelian fallacies were commonly assumed to be formally
defective.[24] An exception was usually made, however, with re-
gard to the fallacy of petitio principii, which many held not
to invalidate a syllogism.[25] Moreover, the class of formally

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16. For a more detailed discussion of the terms **p. in m.** and
p. in f. see Incerti Auctores quu. 11 ff.
17. **Topics** I c.1 100b23sqq., **SE** c.18, **Physics** I c.3 186a6-8,
Physics II c.3 195a15sqq. (cf. Simplicius ad loc., **Commentaria
in Aristotelem Graeca** IX:319-20, Berlin 1882).
18. **Commentaria in Aristotelem Graeca** II.2 pp. 20-21, Berlin
1891.
19. Thus Michael Ephesius, **In SE** ed. ultima p.4 etc.
20. See **Anonymus Bodleianus** in Ebbesen 1979b:182.
21. Cf. Galen, **De animae passionibus** II.3, ed. Marquardt p. 57
(**Claudii Galeni Pergameni Scripta minora** vol. I, Leipzig
1884).
22. Thus Incerti Auctores qu. 14.
23. See Lewry 1981.
24. Thus Incerti Auctores p. 25; Aegidius f. 9vb.
25. Thus Incerti Auctores qu. 98, Aegidius f. 9vB.

defective syllogisms was not considered coextenxive with the class of paralogisms committing one of the thirteen fallacies, since a fallacy in this sense is only committed when the paralogism is such as to be (in principle) capable of deceiving somebody, the formal defect being covered in some way.[26]

2.2 Causa apparentiae, causa defectus.

It was common doctrine in the late thirteenth century that a fallacy is identified by its **causa apparentiae** ("cause of appearance").[27] The idea is this: for any fallacious argument it must be possible to explain why it is not a good argument. The reason may, for instance, be that its premisses contain four terms, each occurring just once, which in medieval terminology could be called either "the cause of not being" a good syllogism (**causa non existentiae**) or the "cause of deficiency" (**causa defectus**). But while stating the **causa defectus** is a sufficient explanation why the argument is a bad one, it does not explain how anybody can be deceived by it, and so it is necessary to add, e.g., that as two of the terms are represented by one word, a semblance is created of there being only three terms, one of which is used twice. Indicating this fact would be stating the **causa apparentiae** or **principium motivum** of the paralogism. The meaning of the first term is clear; the original sense of the second term seems to be "that which induces (**movet**) somebody to believe in the validity of the paralogism".[28]

All paralogisms falling under the same fallacy must have the same **causa apparentiae**, and the same c.a. must not characterize two fallacies. In principle two different fallacies could have the same **causa defectus**, but the normal practice was to formulate the **causa defectus** of a fallacy as a 'negative copy' of its **causa apparentiae**. Thus, if the c.a. of some fallacy is unity on the level of words, the c.d. will be plurality on the level of meanings.

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26. See, e.g., Incerti Auctores pp. 27, 71-2.
27. See, e.g., (Ps.-) Thomas **De fallaciis** c.3 p. 405A; Incerti Auctores pp. 71-2, 167.
28. Cf. Petrus Hispanus VII.27 p.98.

The origin of the doctrine of **causae apparentiae et defectus** has never been thoroughly investigated. It is not Aristotelian, but it was easy to read it into his text. Thus one early/mid-thirteenth century commentator says that in chapters 4-5 of the **Elenchi** Aristotle deals with the apparent syllogism with regard to its **principia motiva**, in chapter 6 with regard to its **defectus**, while in chapter 7 he relates it to the failing judgment of the man it deceives.[29]

Chapter 7 starts, "The deception occurs" (ʿΗ δ᾽ ἀπάτη γίνεται - Fallacia autem fit) and goes on to explain the origin of deception in the single fallacies. Michael of Ephesus comments: "He states the reason why we are deceived by the sophists" (λέγει καὶ τὴ.....................................μεθα).[30] "Alexander's" commentary probably contained the same remark; if it did, the sentence must have run approximately like this: "dicit etiam **causam secundum quam a sophistis fallimur**"; was this the origin of the later term **causa fallendi**? At present, the guess has no substantial support, but at any rate, in the second half of the twelfth century **causa fallendi** turns up in comments on chapter 7 of the **Elenchi**.[31] It seems

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29. Anonymus Monacencis, **Comm. SE**, MS Admont 241:15rA: "Ad hoc quod per sophisticum syllogismum deveniamus ad redargutionem sive ducatur respondens ad redargutionem vel ad aliam metam tria concurrunt: principium motivum ex parte sophistici syllogismi et defectus ipsius et imperitia a parte respondentis. Ut ergo complete determinet quae exiguntur ad hoc quod sophisticus syllogismus vel apparens deveniat ad finem, haec tria determinat, et secundum hoc tres sunt partes: primo determinat de huiusmodi syllogismo apparenti quantum ad principia motiva, et haec est illa pars in qua docet generationem ipsorum penes ipsa principia motiva; secundo ut ibi "Aut ergo sic dividendum" determinat de sophistico syllogismo quantum ad defectum ipsius; tertio ut ibi "Fallacia autem fit in hiis" determinat de ipso per relationem ad impotentiam iudicantis sive respondentis."
30. Michael Ephesius, **In SE ed. ultima** 66.14-15.
31. Anonymus Cantabrigiensis, **Comm. SE**, MS Cambridge St. John's D.12:95vB "**Fallacia <169a22>**: Distinctis fallaciis et paralogismis qui secundum fallacias fiunt causam fallendi in omnibus assignat. Est autem duplex causa fallendi sophisticae accommodata, interior scilicet et exterior. Interior causa, quae et efficacior est, est ipse locus sophisticus, idoneitas scilicet orationis ut per eam aliquis decipiatur. Causa autem exterior est imperitia auditoris non attendentis fallaciam. Hucusque sufficienter egit de causis intrinsecus, quoniam eas enumeravit et qualiter secundum eas fiat paralogismus edocuit. Amodo incipit agere de causis extrinsecis, ostendens per ordinem quae fallacia sit causa deceptionis." - Cf. Anon. Aurel. I in Ebbesen 1979b:39, 41, 75-6, 103.

not to have a very precise meaning, but it was probably the ancestor of the preciser terms **causa apparentiae** and **causa non existentiae** (or **causa falsitatis**) that appear in **Dicalectica Monacensis**, a work from about 1200.[32] It looks as if the old **causa fallendi** had been split into two under the influence of Arist. SE 1.165[a]17-19 "For this reason, therefore, and for others which will be mentioned hereafter, there exist both reasoning and refutation which appear to be genuine but are not so" - in Latin: "Ob hanc ergo **causam** et quae dicendae sunt est et syllogismus et elenchus **apparens, non existens** autem."[33]

The term **causa fallendi** fell into disuse, though **principium fallendi** could be employed as a synonym of **causa apparentiae** as late as the 1270s;[34] a much commoner synonym was **principium motivum**,[35] not used but foreshadowed in **dialectica Monacensis**.[36] **Causa non existentiae** became much used; it soon got a synonym in **causa (principium) defectus**;[37] **causa falsitatis** ceased to be much used, though the term continued to be known for a long time.[38]

2.3 Loci sophistici and maximae apparentes.

By saying that one fallacy is distinguished from another by its causa apparentiae, the scholastics showed they had grasped the fact that by listing thirteen fallacies Aristotle does not pretend to list the ways in which an argument may fail to be sound, but the ways in which it is possible to produce a sound-looking bad argument.

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32. **Dialectica Monacensis**, in De Rijk 1967 vol. 2 pp. 560, 565, 569-70, 575, 579, 585, 589, 592, 596, 598, 600, 603.
33. **Aristoteles Latinus** VI.1-3 p.6.
34. Incerti Auctores qu. 53, 1. 72, p. 114.
35. Petrus Hispanus VII.27 p. 98 De Rijk; Anon. Monacensis (text in note 29); (Ps.-) Thomas **De fall.** c.4 p.405; Incerti Auctores qu. 51 p.110 (etc.).
36. De Rijk 1967 vol. 2 pp. 560, 579.
37. Petrus Hispanus VII.27 p. 98 De Rijk; Lambertus, **Summa** pp. 142, 148; Incerti Auctores **passim**.
38. Petrus Hispanus l.c.; Lambertus, **Summa** p.148; Incerti Auctores qu. 5 p.12.

The **causa apparentiae** and the **causa defectus** are normally expressed in nominal phrases. Thus the fallacy of equivocation could be said to have 'unitas vocis incomplexae secundum materiam et formam' for its **c.a.**, and 'diversitas rerum significatarum' for its **c.d.** But then, it could be argued, the man who is deceived by a paralogism depending on equivocation believes (consciously or not) in the false proposition 'Every one word means just one thing' (Omne nomen unum significat unum), and it might be argued that the proposition is implicit in the paralogism 'Every dog (canis) can run; the star that is also called Sirius is a dog (canis = the Dog-star); consequently the star can run', which would not have been a paralogism at all if the proposition were true. In other words, the proposition is such that if it were true and generally known, it would strongly support the legitimacy of this and similar inferences.

Propositions with a real capability of lending such support to arguments were called **maximae (propositiones)** or **loci maximae** in the Middle Ages.[39] The dominant (the notion is difficult, but need not be discussed here) term of a maxim was called **(locus) differentia (maximae)**. The **differentiae** were used to label **loci** in the sense of 'class of arguments supported by maxims in which the such-and-such term is the dominant one' or 'class of relations, with this term as the dominant relatum, on which reasoning can be based'. Thus 'The genus can be predicated of whatever the species can be predicated of' is a maxim; 'species' is the **differentia**, and men would speak of a **locus a specie**.

If the doctrine of **loci** is applied to the fallacies, a sophistical maxim will be a 'propositionalized' **causa apparentiae**, and a sophistical **locus** in the sense of class of arguments will be one of the thirteen fallacies. A consistent nomenclature then requires that the fallacy of equivocation be called 'locus ab aequivocatione' rather than 'fallacia secundum aequivocationem', and so on. As a matter of fact, one often finds this kind of terminology, and some writers explicit-

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39. Cf. Green-Pedersen 1984.

ly state that the fallacies are 'apparent loci', comparable to the 'true loci' of dialectic; that they have false - but apparently true - maxims corresponding to their **causae apparentiae**; and that they are named after the **causa apparentiae** (or c.a. + c. defectus), 'locus ab aequivocatione' being named after 'unitas vocis', that is, 'aequivocatio'.

The 'locistic' interpretation of the fallacies occurs in a fairly developed form in works from the late thirteenth century,[40] but it was never worked out in all details. Thus no medieval writer, I think, formulates the maxims of every single fallacy.

The term **locus sophisticus** was used as a synonym of **fallacia** throughout the Middle Ages. It had some foundation in Aristotle's **Elenchi**,[41] and it occurs in Boethius' **De differentiis topicis**,[42] the work that had given the Middle Ages the theory of dialectical ("true") loci, maxims, and **differentiae**. Boethius' theory was the result of a combination of the Aristotelian theory of demonstrative proof based on axioms (**maxima propositio** is Boethius' translation of ἀξίωμα) with Aristotelian and Ciceronian ideas about 'topical' dialectical argumentation. The history of 'axiomatic topics' before Boethius is not well documented, but it looks as if both Themistius (fourth century A.D.) and Galen (second c. A.D.) played a role.[43]

In twelfth-century works the fallacies or sophistical loci are paralleled to the dialectical ones,[44] but there is no attempt to formulate sophistical maxims before the second half of the thirteenth century.

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40. (Ps.-) Thomas, **De fall.** cc. 1&3, pp.403-5; Aegidius 9r-v; Incerti Auctores quu. 33-36.
41. Arist. **SE** 1.165a5, 4.166b20, 6.169a18, 7.169a37, 9.170a35, 11.172b5.
42. Boethius, **De differentiis Topicis** I (Patrologia Latina 64:1182C).
43. See Ebbesen 1981a: 1.106ff.; 1982.
44. See, e.g., Anonymus Aurel. I in Ebbesen 1979b:5, 64-5.

2.4 In dictione, extra dictionem - ex parte vocis, ex parte rei.

Aristotle himself operated with two main types of sophistical 'ways of refuting', **in dictione** (ἐν λέξει, six subtypes), and **extra dictionem** (ἔξω τῆς λέξεως, seven subtypes); an apparent refutation **in dictione** is possible if the sophist's victim overlooks ambiguities or differences between similar expressions; an apparent refutation **extra dictionem** does not depend on such features of language. The scholastics say that fallacies **in dictione** have their **causa apparentiae** 'ex parte vocis', while fallacies **extra dictionem** have it 'ex parte rei'.

(? Ps-) Thomas Aquinas explains what this means, saying, "For as the deception in the fallacies **in dictione** arises because some things which coincide in some respect with regard to their vocal expression are taken to be in fact (**secundum rem**) the same, so in the fallacies **extra dictionem** the deception arises because some things which coincide or differ in some respect are taken to be the same or different in every respect (**simpliciter**)."[45]

The substitution of the positive **ex parte rei** for Aristotle's negative **extra dictionem** caused some difficulties. Thus it was not easy to formulate the **causa apparentiae** or the fallacy of 'asking many questions as one' as a partical identity or difference of some extra-linguistic entity.[46] The ultimate explanation of the difficulty is that the **vox/res** classification was not originally devised for the Aristotelian fallacies: the Western schoolmen had inherited it from Greek scholasticism, via "Alexander";[47] Greek Aristotelian scholasticism had inherited it from Stoic logicians.[48] It is not known precisely how the Stoic distinction between sophisms depending on expression (σοφίσματα παρὰ τὴν φωνήν) and soph-

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45. (Ps.-) Thomas, De fall. c. 10 p.411B;   cf. Aegidius 19rB, Incerti Auctores qu. 35.
46. See Incerti Auctores qu. 103.
47. See Ebbesen 1981a:2.390 & 3.171.
48. Cf. Diogenes Laertius, **Vitae philosophorum** 7.43, and notice the Stoic terms in Michael **In SE** ed. ultima pp.20-21; the history of this classification of sophisms is further expored in Ebbesen 1981a: 1.33ff.

isms depending on the expressed (σοφίσματα παρὰ τὰ πράγματα) worked, but at least Stoics did not use the Aristotelian list of thirteen fallacies.

2.5 Multiplex actuale, potentiale, phantasticum.[49]

There were attempts in the thirteenth century to provide a rationale for the division of fallacy **extra dictionem** into seven species, but no system of classification won general approval; thus the proposal advanced by (?Ps.-) Thomas Aquinas in **De fallaciis** was rejected by Aegidius Romanus.[50] By contrast, everybody agreed on a classification of fallacies **in dictione** based on an allegedly exhaustive list of the ways an expression may have or appear to have more than one sense. It was held that a multiplicity of senses (**multiplicitas** - in my terminology: polysemy) may attach to single words (**voces incomplexae, dictiones**) or to sentences (**voces complexae, orationes**). It was further assumed that a polysemy may be actual, potential, or imaginary (**actualis, potentialis, phantastica**). Actual polysemy of single words is the cause of the fallacy of equivocation; the fallacy of amphiboly has its origin in actual polysemy of sentences. Potential polysemy of single words causes the fallacy of accent; the fallacies of composition and division depend on cases of potential polysemy of sentences. Finally, the fallacy of figure of speech has imaginary polysemy of single words for its cause.

    This system could be 'translated' into **causae apparentiae** and **causae defectus** as follows: Material and formal unity on the level of words or sentences, concealing a multiplicity of meanings, causes the fallacies of equivocation and amphiboly, respectively. Material, but not formal, unity on the level of words or sentences, concealing a multiplicity of meanings, causes the fallacies of accent and composition/division, respectively. Imaginary, and neither material nor formal, unity on the level of words, concealing a multiplicity of meanings, causes the fallacy of figure of speech.

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49. Cf. Ebbesen 1980; 1981a,b.
50. (Ps.-) Thomas, **De fall.** c. 10 p.411B; Aegidius 16rB.

The idea is this: If one feels obliged to admit he has eaten raw meat because he has admitted that he has bought raw meat (**crudum**) and eaten all that (**quantumcumque**) he bought, he is attaching a meaning of quantity to 'crudum' and/or meaning of quality to 'quantumcumque' which the words do not have at all. The polysemy is imaginary.

If one thinks he must admit that an invalid syllogism besides not being valid has also had some limb broken, he is overlooking that 'inválid' is not the same word as 'inválid' and attaches the sense of the latter to the former, which does not really have both senses. Overlooking the difference of accentuation is overlooking the form of the words, paying attention only to the matter, i.e., to the sequence 'i,n,v,a,l,i,d'. Insofar as that unaccentuated sequence can be said to have any sense, it is polysemous, being the common matter of 'inválid' and 'inválid'. The identity between the two words is material, not formal, and the polysemy is potential, not actual (the potential becomes actual when form is added).

If, finally, one thinks he must admit that the Dog-star can run because he has admitted that (1) every dog (**canis**) can run, and (2) the star in the sky is (a) dog (canis), he has overlooked the polysemy of 'canis'. If he discovers his error, he can protest that he was thinking of one sense when he admitted (1) and of another when he granted premiss (2), but he cannot say that 'canis' really means one thing only. The word that means a quadruped and the word that means Sirius are identical in matter as well as in form, and so 'canis' is actually polysemous.

The **causae apparentiae et defectus** that I listed above are not accepted by all writers, but they all knew them and all or most writers accepted them to some degree, but found them insufficient because, for instance, the **causa apparentiae** 'material unity of sentence' would be common to the fallacies of composition and division, which could hardly be accepted, since it would entail that the two fallacies were identical.[51]

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51. See, e.g., Incerti Auctores qu. 63.

The idea of formulating **causae apparentiae & defectus** in such a way as to reflect the kinds of polysemy was a thirteenth-century invention, but the classification of polysemous expressions and the use of it to explain Aristotle's list of fallacies **in dictione** were old: as old as Galen, in fact; his **De captionibus** was used by Greek commentators on the **Elenchi**; "Alexander's" commentary acquainted the West with the idea.[52]

Galen had used the expression 'actually (etc.) double' (ἐνεργείᾳ, κλπ., διττόν),[53] borrowing the term διττόν from the **Elenchi**.[54] In early Latin scholastic texts this is rendered literally as 'actu (etc.) duplex', but as the number of senses one word or sentence can have, may exceed two, 'actu (etc.) multiplex' soon became the current expression; finally, a substantive noun was created and 'actualis (etc.) multiplicitas' began to be used. In that way the Westerners improved on Galen's terminology, but one defect of his classification they could not overcome: it did not quite fit the Aristotelian fallacies. The difficulty concerning the fallacies of composition and division had been noted already by the Greeks, and indeed by Galen himself, but whereas he did not hesitate to let the two fallacies coalesce,[55] the Westerners generally shrank back from reducing Aristotle's six fallacies **in dictione** to five. They were more willing to split the fallacy of accent into two to make it parallel to composition and division; the reason, they often said, why Aristotle did not perform the split was that he did not consider it worth the trouble to give a detailed analysis of a fallacy that rarely deceives anybody in real life.[56]

2.6 Modi.

Aristotle's thirteen fallacies are perhaps rather satisfactory as a broad classification of paralogisms. But many arguments

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52. See Ebbesen 1979b: XXXI-XXXIII; id. 1981a.
53. Galenus, **De captionibus** c. 3.
54. Arist. SE 4.166a12, 6.168a24, etc.
55. Galenus, **De capt.** c.1, quoted by Michael **In SE** ed. ultima 142.29sqq.; cf. Ebbesen 1976a:108-9, 1981a:1.447-51.
56. Thus Incerti Auctores qu. 71 lines 39-43 p.166.

are such that it is difficult to decide which Aristotelian box to put them in; and if they must all be squeezed into just those thirteen boxes, each one will contain so many obviously different paralogisms that further classification seems required. The medievals displayed great ingenuity and patience in their attempts to think up reasonable subdivisions of each fallacy. The sub-classes were called **modi**. In the twelfth century many writers produced classifications with no or only slight support in Aristotle's text, but gradually the view prevailed that the division into moods ought to be based on hints in the authoritative text. There was still room for discussion, but in the second half of the thirteenth century a tolerable measure of agreement had been reached. (?Ps.-) Thomas Aquinas' **De fallaciis** is a fairly reliable guide to the **communis opinio** of the time. I shall not deal further with the subject.

3 Problems.

Almost every student of logic from the period 1150-1500 was taught about fallacies on the basis of the **Elenchi**. The medievals classified fallacious arguments and tried to improve on Aristotle by developing and justifying his classification. But they did much more than that. They sought not only to be able to expose sophists and avoid falling into traps. They were as aware as Chrysippus had been that the best test of a theory is to see if it can solve both old sophisms and new ones designed to exploit its weak points. Failure to pass the test indicates the theory that must be emended or rejected.

The analysis of sophisms, within and outside the framework of the Aristotelian fallacies was indubitably a factor in the development of the twelfth century theory of 'supposition' which taught how the context of a term influences its contribution to the truth conditions of the proposition it stands in.[57] Research on sophisms with ambiguous terms helped show the weaknesses of thirteenth-century modism that had tried to

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57. See De Rijk 1967 vol.1 ch. XVI.

explain both logical and grammatical properties of terms and sentences through an analysis that uncovered a conceptual reality underlying surface language, and an extra-mental reality underlying the conceptual reality. The fourteenth-century revival of the theory of supposition was in part, at least, the result of this research on sophisms.[58]

Treatises on fallacies, commentaries and quaestiones on the **Elenchi** are a rich source for the history of medieval linguistics and logic. The following sample of problems treated in late thirteenth century quaestiones ought to give an impression of that:[59]

A) Theory of inference:

1. Is all syllogistic validity founded on the relationships formulated in dialectical maxims?[60]

2. Is a dialectical argument supported by a **locus**, and is the same the case with a sophistical argument?[61]

3. Is a syllogism vitiated if different words are used for the terms the first and the second time they occur?[62]

4. Can inferences be drawn from a sentence containing an equivocal term?[63]

5. Does the occurrence of a premiss which is actually two propositions compressed into one invalidate a syllogism[64]

6. Does petitio principii invalidate a syllogism?[65]

7. Is an inference from the assertion of the consequent to the assertion of the antecedent sound?[66]

8. Is an inference from the denial of the antecedent to the denial of the consequent sound?[67]

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58. Cf. Ebbesen 1979a, 1980.
59. In the following notes I often refer only to Incerti Auctores; more sources may be found via the apparatus of the edition of Incerti Auct.; cf. the lists of quaestiones in Ebbesen 1973a.
60. Incerti Auctores quu. 16, 19; cf. Green-Pedersen 1984:257.
61. Incerti Auctores quu. 33-34.
62. Incerti Auctores qu. 97.
63. Incerti Auctores qu. 47.
64. Incerti Auctores qu. 104.
65. Incerti Auctores qu. 98.
66. Simon Q.N. 36 (= 35 in Ebbesen 1973a).
67. Simon Q.N. 37 (= 36 in Ebbesen 1973a).

9. Does the inclusion of an irrelevant premiss invalidate a syllogism?[68]

B) Grammar, semantics, problems of verification and modal logic:

1. What is the difference between a phonetic word (**vox**), a sign in the phonic medium (**dictio**), and a constituent of a sentence (**pars orationis**)?[69]

2. Can a word with two unrelated senses (**terminus aequivocus**) be treated as one sign in the phonic medium and one constituent of a sentence?[70]

3. Can an equivocal term be disambiguated by context?[71]

4. Can an equivocal term be analysed as a conjunction or a disjunction of terms?[72]

5. Do accentuation, intonation, and the like possess phonemic status?[73]

6. How is one to describe the different functions of 'man' in 'man is a species', 'every man runs', 'that man runs', '(a) man runs', 'there is a dead man', 'there is a man', etc.? And which are the consequences of those different functions for the inferences that can be drawn from these propositions? (Theory of supposition).[74]

7. Do different methods of verification (**causae veritatis**) make a term equivocal?[75]

8. Can a proposition about an empty class be true or false?[76]

9. Can a term refer to the statement it is part of?[77]

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68. Simon Q.N. 38-9 (=37-8 in Ebbesen 1973a).
69. Incerti Auctores quu. 40-42.
70. Incerti Auctores quu. 43-4, 54; cf. Ebbesen 1980.
71. Incerti Auctores qu. 55; cf. Ebbesen 1979a.
72. Incerti Auctores qu. 45; cf. Ebbesen 1977a.
73. Incerti Auctores quu. 65, 70-73; cf. Ebbesen 1981b.
74. Incerti Auctores qu. 80; cf. Ebbesen 1975-6, 1979a.
75. Incerti Auctores qu. 48.
76. Incerti Auctores qu. 92; cf. Ebbesen & Pinborg 1970.
77. Incerti Auctores qu. 95.

10. What is the scope of modal operators and conjunctions[78]

It is important not to be deceived by appearances. A **quaestio** beginning "The next question concerns the paralogism 'it is possible to walk while sitting'" may turn out to deal mainly with the role of pauses in determining the sense of an utterance. It may also deal with the semantics of accidental terms, such as 'sedentem' in 'sedentem ambulare est possibile', and thus ultimately with an ontological question: is the distinction between substances and accidents tenable?[79]

Many of the issues explored in quaestiones on the **Elenchi** are also treated elsewhere in scholastic literature. But few genres deal with such a broad spectrum of logico-linguistic problems, several of which are still debated.

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78. Incerti Auctores quu. 66-69, under the fallacies of composition and division, which is the regular place for discussion of such matters. For compositons and division, see Ebbesen 1981b, Sinkler 1985, de Libera (forthcoming).
79. Cf. Ebbesen 1986, and (forthcoming).

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