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Ramism

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Abstract

The main aim of the French logician and philosopher Petrus Ramus was to provide a method of teaching the liberal arts enabling the completion of the undergraduate program of studies in 7 years. This method was based on a new logic, in which the complex structure of Aristotle's *Organon* and of the *Summulae logicales* of Peter of Spain is reduced to two main doctrines: the invention of arguments, by which it is possible to find the notions for reasoning and disputing in any discipline, and the disposition of arguments in judgment, i.e., in propositions and syllogisms. Since this logic applies both to demonstrative and to probable reasoning, Ramus and Rudolph Agricola, who first introduced it, labeled it as dialectic. Ramus completed this twofold dialectic with a method, according to which disciplines have to be taught by providing general definitions, to be explained by subsequent dichotomous divisions. According to Ramus, this method ensures a well-ordered hierarchy and division of disciplines, and an efficient means to teach them in a shorter time than in the pedagogical programs of Juan Luis Vivès, Johann Sturm, and Philipp Melanchthon. This method had its main diffusion in the pre-university institutions such as the German *gymnasia* and *gymnasia illustrata* (e.g., of Herborn), while in Reformed and Catholic universities the acceptance of Ramism was hindered by the predominance of the Aristotelian curriculum.

Keywords

Agricola; Analysis; Arguments; Dialectic; Education; Ramus; Logic; Method; Rhetoric; Sturm; *Trivium*

Heritage and Rupture with the Tradition

The overall aim of Petrus Ramus (1515–1572) was to provide a reform of logic, or dialectic, in

order to make it more suitable than scholastic logic for use in teaching the liberal arts. His dialectic was to be the basis of a 7-year program of studies in the liberal arts – outlined in an oration of 1551 (Ramus 1551) and explained in his *Scholae in liberales artes* (1569) – which he devised for boys from 8 to 15 years old, and which would replace both pre-university instruction and under-graduate academic studies. This aim can be traced back both to his personal circumstances, since Ramus worked as servant before obtaining his MA at the University of Paris in 1536, and had to study with limited time and resources, and to the effort of the French king Francis I to limit the power of the university, based on the scholastic curriculum, by creating Royal Professorships – like that bestowed on Ramus in 1551 – and the Collège Royal in 1529, modeled on the humanist program of the Collegium trilingue of Louvain, inspired by Erasmus. Ramus’s reform was part of a long-standing innovation in logic conducted by Rudolph Agricola, Juan Luis Vives, Johann Sturm, and Philipp Melanchthon, whose main change with respect to scholastic logic was to the order in which judgment and invention were treated in Aristotle’s *Organon* and the *Summulae logicales* of Peter of Spain, the main logical texts in European universities. Moreover, Vives, Sturm, and Melanchthon provided new pedagogical programs for undergraduate students, which inspired and favored the acceptance of Ramism as the backbone of a shortened curriculum of studies. Their theories constitute the background of Ramus’s reform (Skalnik 2002, 11–34, 63–87; Hotson 2007, 38–51).

Ramus refers to the *Summulae* in his *Scholae in liberales artes* (the texts of his lectures in Paris), labeling this work as useless for disputing and for acquiring skill in any discipline of the university curriculum (Ramus 1569, *Scholae dialecticae*, col. 153). Probably written by Pope John XXI (see Peter of Spain 2014), the *Summulae* was the most important example of a genre of logical textbooks which emerged in the thirteenth century, including manuals as those of William of Shyreswood and Lambert of Auxerre. The main function of the *Summulae* was to provide a textbook of logic covering the major topics of Aristotle’s *Organon* and to serve as tool for conducting university disputations. In the *Summulae*, logic is defined as the “science of sciences or art of arts possessing the way to the principles of all methods,” and consists of a theory of propositions, predicables, categories, syllogisms, topics (or places), and fallacies, which are dealt with by arguments taken from Aristotle’s *Organon*, Porphyry’s *Isagoge*, and Boethius’s *De topicis differentiis*. Added to these matters were different sections (*parva logicalia*) devoted to topics debated during the Middle Ages: supposition, relative terms, extension, appellation, restriction, distribution, and exponibles. Although attacked by Ramus for not providing a viable method of disputing and improving knowledge, the *Summulae* paved the way to a new kind of logic, in which the theory of invention of places or arguments precedes the explanation of their arrangement in

judgments, i.e., in propositions and syllogisms. In the *Organon* of Aristotle, indeed, the treatment of places and of probable reasoning (dealt with in the *Topica*) comes after that of categories, syllogisms, and scientific demonstrations, treated in the *Categoriae* and *Analytica priora* and *posteriora*, on the assumption that judgment is to be taught before the notions which constitute its matter and that scientific demonstrations have a priority over probable reasoning. The *Summulae* contains, as does the *Organon*, a treatment of places, which are, according to the definition given by Cicero in his *De topicis* and restated by Boethius in his *De topicis differentiis*, “seats of arguments,” and function as headings or sources of arguments which can be used as middle terms for syllogisms in any discipline. Places are ontologically loaded, i.e., they provide notions of things: for instance, the *Summulae* offers an ontological conceptualization of substances, as these are signified or represented by substantive names. However, the *Summulae* lacks the theory of scientific demonstration contained in Aristotle’s *Analytica posteriora*: the theory of places (treatise V) is dealt with just after that of syllogism (treatise IV). In this way, in the *Summulae* reasoning is reduced to a matter of probability instead of apodictic or scientific certainty. Logic, therefore, is equated to dialectic and is intended as an instrument of persuasion rather than of demonstration (*Summulae*; Ong 1958a, 55–67).

While Ramus refers in negative terms to the *Summulae*, he praises the dialectic of the Dutch humanist Rudolph Agricola (Ramus 1569, *Praefatio*). Agricola attacked scholastic logic for the first time in his oration *In laudem philosophiae*, delivered in Ferrara in 1476 (Agricola 1518): in this text he appropriates the Stoic tripartition of philosophy into logic, physics, and ethics, excluding metaphysics as a branch of philosophy separated from logic. Moreover, he stresses the connections between grammar, rhetoric, and dialectic, which all contribute to the constitution of logic itself: grammar provides the formal basis for the comprehension of any discourse, dialectic serves to find or “invent” the places which make it possible to solve any kind of question, and rhetoric provides discourse with a disposition which makes it fit to persuade people. Agricola assumes these ideas on logic as guidelines in his *De inventione dialecticae* (1515, 1992). As it would be for Ramus, the main aim of Agricola is to reform logic in a way leading it to be more suitable for finding arguments for philosophy: in his view, natural and moral philosophy. For Agricola the logic of Aristotle and of the *Summulae* does not provide a reliable instrument to this end; he thus provides a reorganization of the matter of the *Organon* and the integration of logic with rhetoric; this integration is finalized to develop a logic or dialectic intended as “ars probabiliter disserendi,” i.e., the art of discoursing with probability, rephrasing the definition of dialectic of Cicero as “ars bene disserendi,” given in the *De oratore*: this art of discoursing, for Agricola, is also the art of

discerning concepts. Agricola's *De inventione* is divided into three books: the first is on the invention of places, the second is on the nature and use of dialectic, while the third is on the rhetorical means used in support of dialectic itself. The finding of places, which he appropriates from Aristotle, Themistius, Cicero, and Quintilian, consists of the establishment of tables ordering the concepts to be used in every discipline, being thus commonplaces. Agricola distinguishes between internal places, which define a subject according to its essence (e.g., definition, species, genre, proper, whole, part, adjacent, act, and subject) and external ones (e.g., cause, end, event, place, time, and so on). The definition of places themselves, such as what is a genre, difference, and so on, is left out of dialectic, as it belongs properly to metaphysics, which is now excluded from the domain of dialectic. The invention or finding of places precedes judgment, i.e., their disposition; however, judgment is treated in a scattered way by Agricola, who focuses instead on a theory of discourse appropriated from Cicero's rhetoric: this is divided into narration and confirmation (aimed at teaching), and exordium and peroration, which serves to move the listener or the reader. Judgment, on the other hand, is divided into induction or enumeration and syllogism (which are perfect forms of argumentation) and example and possible to solve any kind of question, and rhetoric provides discourse with a disposition which makes it fit to persuade people. Agricola assumes these ideas on logic as guidelines in his *De inventione dialecticae* (1515, 1992). As it would be for Ramus, the main aim of Agricola is to reform logic in a way leading it to be more suitable for finding arguments for philosophy: in his view, natural and moral philosophy. For Agricola the logic of Aristotle and of the *Summulae* does not provide a reliable instrument to this end; he thus provides a reorganization of the matter of the *Organon* and the integration of logic with rhetoric; this integration is finalized to develop a logic or dialectic intended as "ars probabiliter disserendi," i.e., the art of discoursing with probability, rephrasing the definition of dialectic of Cicero as "ars bene disserendi," given in the *De oratore*: this art of discoursing, for Agricola, is also the art of discerning concepts. Agricola's *De inventione* is divided into three books: the first is on the invention of places, the second is on the nature and use of dialectic, while the third is on the rhetorical means used in support of dialectic itself. The finding of places, which he appropriates from Aristotle, Themistius, Cicero, and Quintilian, consists of the establishment of tables ordering the concepts to be used in every discipline, being thus commonplaces. Agricola distinguishes between internal places, which define a subject according to its essence (e.g., definition, species, genre, proper, whole, part, adjacent, act, and subject) and external ones (e.g., cause, end, event, place, time, and so on). The definition of places themselves, such as what is a genre, difference, and so on, is left out of dialectic, as it belongs properly to metaphysics, which is now excluded from the domain of dialectic. The invention or finding of places precedes judgment, i.e., their disposition;

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Secondly, Ramus was influenced by the innovations of Vives, who aimed, as did Sturm and Melanchthon, at both a logical and a pedagogical reform. Vives, who taught at the Collegium trilingue of Louvain, criticized scholastic logic first in his *In pseudodialecticos* (1519, 1979), inspired by Agricola's *De inventione*. The main concern of Vives was with the uselessness of scholastic logic, represented by the *Summulae*, which for him – in line with the criticisms of Lorenzo Valla of the abstruse character of scholastic terminology – could not provide a method for discourse, as it relied on obscure metaphysical concepts which were not used in common linguistic practices. On the other hand, in his *De tradendis disciplinis* (1531) Vives delineates a dialectic based on the natural functioning of the human mind and capable of guiding it in the practice of discourse. For him, dialectic is simply the art of disputing and has no metaphysical function, which on the other hand characterized Aristotle's *Categoriae* and *Topica*, which are based on the concepts of difference, genre, and species and turn to be ontologically loaded, as in the *Summulae*. Vives dialectic is directly subservient to the liberal arts: it is an inventive logic aimed at finding places and arguments common to every discipline, to be dealt with in argumentation, or at connecting propositions by means of enumeration, induction, and syllogism. The basis of any argumentation is given by definition and division, by means of which places are identified and serve to provide the basic concepts of discourse. Vives's dialectic is naturally connected to rhetoric, since any discourse, since it is aimed at persuasion, relies on both disciplines. Moreover, given the new organization of dialectic, Vives reduces rhetoric to elocution from its classical fivefold division into invention, disposition or judgment, elocution, pronunciation, and memory. All the other parts more properly belong to dialectic itself, including pronunciation, which is reduced to elocution, and memory,

which is reasoning itself (Vasoli 2007, 319–362). The dialectic devised by Vives was to be included in a renewed program of studies: as he explained in *De tradendis disciplinis*, undergraduate students had to study Latin and Greek for 8 years (from the age of seven), followed by the liberal arts (dialectic, physics, metaphysics, and mathematics) for 10 years, and then the higher arts (Hotson 2007, 39).

It was, however, the logic of Sturm and Melanchthon which constituted the immediate background to Ramus. Their programs are crucial for a comprehension of Ramus's dialectic, as they took into consideration the method within logic itself, as Ramus would later do. The problem of method had been already discussed in treatises on various topics such as the *De methodo gravitatis sive virtutis commode dicendi* (1531) by the ancient rhetorician Hermogenes, the *Methodus conscribendi epistolas* of Christoph Hegendorf (1533), and in Erasmus's *Ratio vel compendium verae theologiae* (1519). In these texts method was considered as a *via* or *ordo* in the context of teaching. With Melanchthon, method is dealt with for the first time in a logical context. He first mentions the problem of method in the 1537 edition of his *Dialectica* (Melanchthon 1537), defining it as a criterion for the teaching and exercising of any subject, and offering three main examples of method: Avicenna's Canon, valid for medicine; Quintilian's *Institutio oratoria*, for rhetoric; and St Paul's *Epistolae*, for catechism. He does not, however, provide a comprehensive theory of the method, focusing instead on dialectic. Two years later, Johann Sturm – whose lectures in Paris were attended by Ramus – treated method in his *Partitiones oratorias Ciceronis* (1539a), where he distinguishes between art and method: art is the collection of propositions and observations useful for practice, while method is a procedure of teaching and serves to establish arts themselves. Method is threefold: (1) “systasis,” which proceeds from simple notions to general conclusions; (2) “analysis,” or the resolution of complex notions into simple ones; and (3) “diaeresis,” consisting of division of definition. These methods are derived from Galen's *Ars medica*, although Sturm renders “synthesis” – the term employed by Galen – as “systasis,” which is borrowed from rhetoric. In the 1543 edition of his *Partitionum dialecticarum libri* this threefold characterization of method is transferred from rhetoric to dialectic or logic. The first book of the *Partitionum dialecticarum libri* (1539b) is devoted to invention while the second to analysis (which consists of the use of syllogisms to resolve any kind of argumentation), thus matching Agricola's reorganization of logic. In a third book, added in 1543 (Sturm 1543), Sturm included a section on method, changing the name of “systasis” to “synthesis” or composition; this threefold method serves, for him, to teach all the arts and the subjects of the university curriculum, although he is not clear about showing how it is to be employed. Finally, Melanchthon, on the basis of Sturm, introduced an entire section on

method in the 1547 edition of his *Erotemata dialectices* (Melanchthon 1547), which came out 1 year after Ramus's 1546 edition of *Dialecticae institutiones* (published as *Commentarii dialectici tres*, under the name of Omar Talon), in which Ramus introduced for the first time his own notion of method. In the *Erotemata*, Melanchthon, like Agricola, divides logic or dialectic into invention and judgment; however, he maintains the more traditional sequence of judgment (Books I–III) and invention (Book IV), and puts the treatment of method together with that of judgment, in Book I. Nevertheless, method still had an inventive function, as its aim was to find the “places,” i.e., to organize concepts in the right order and then to teach them. Accordingly, method is both a way of discovering and of exposition, as it also was for Ramus (Vasoli 2007, 405–475; Ong 1958a, 231–239). Both Sturm and Melanchthon, moreover, planned and realized a change in the undergraduate curriculum: Sturm reorganized the teaching of the gymnasium of Strasbourg on a ten-class model, including all the subjects of the liberal arts, which provided a model for the reform of pedagogy in western part of Germany. On the other hand, Melanchthon set up a more traditional program for the gymnasia of the eastern part of Germany, according to which pre-university education was based on the *trivium* only (Hotson 2007, 40). The pedagogical efforts of Sturm and Melanchthon are crucial for understanding the dissemination of Ramism in Germany and for its internal transformation.

Innovative and Original Aspects

Although Johann Freige reported in his *Vita Petri Rami* (1575) that Ramus started his attacks on Aristotelianism by defending the thesis “everything that was said by Aristotle is wrong” during his MA examination, his approach towards Aristotelianism did not entail a wholesale rejection of scholastic logic, i.e., of the of the *Organon* and the *Summulae* (Ong 1958a, 36–49). The innovative aspects of Ramus's dialectic with respect to scholastic logic, in fact, were the introduction of a theory of invention as the first part of dialectic and the development of a theory of judgment and method which was omitted by Agricola. Ramus presented his ideas on logic for the first time in his *Aristotelicae animadversiones*, published in 1543 together with the *Dialecticae partitiones* (Ramus 1543a and 1543b), which was reissued in the same year as *Dialecticae institutiones* (Ramus 1543c, Ramus 1964) and then evolved into his *Institutionum dialecticarum libri* (1553) and *Dialectique* (1555a) (for a complete account of Ramus's editions, see Ong 1958b). In his *Animadversiones* Ramus outlines a history of logic according to which dialectic had its highest development with Plato, who equated it with metaphysics itself, and was then corrupted by Aristotle and post-Aristotelians such as Theophrastus, Eudemus, and Chrysippus. Aristotle and his successors, indeed, made dialectic or logic into an overly abstract discipline, so that it was unfit for any real use in

philosophy and the arts. In order to amend this corruption, Ramus first analyzes their theories in the *Aristotelicae animadversiones* and then proposes his own logic in the *Dialecticae partitiones* and *Dialecticae institutiones*. The *Organon* is treated in accordance with a scheme that Ramus appropriates from Agricola: invention is considered by commenting on the *Categoriae*, *Topica*, and Porphyry's *Isagoge*, while judgment is dealt with in commenting on *De interpretatione* and the *Analytica priora* and *posteriora*. To this scheme Ramus adds a section on the practice or use of dialectic, treated in commenting on Book VIII of the *Topica* and on *De sophisticae refutationes*. However, the criticisms contained in the *Animadversiones*, as noted by Ong, cannot be summarized in a consistent way, as Ramus systematically misrepresents Aristotle's positions (Ong 1958a, 174). He attacks Aristotle's *Categoriae* as not providing a reliable classification of beings, while the *Topica* are mainly devoted to metaphysical issues such as the nature of definitions, accidents, genus, and properties. In the *Topica*, moreover, Aristotle misunderstands the role of dialectic, considering it not as the art of reasoning and discoursing – as it was for Plato – but rather as the art of reasoning with probability. Finally, Ramus criticizes Aristotle for not providing any account of second judgment, which is the use of dialectic in long chains of arguments (which would be treated by Ramus as the method or order), and third judgment, or the use of dialectic as metaphysics. In order to restore the original function of dialectic as the art of reasoning and discoursing, Ramus provides in his *Dialecticae partitiones* and *Institutiones* a threefold division of dialectic and of its treatment, which consists of: (1) “natural” dialectic, (2) dialectic as an art (*ars*) and as a doctrine or teaching (*doctrina*), and (3) the exercise of dialectic. For Ramus, this scheme is the basis of the presentation of any art (Hotson 2007, 47–48). Dialectic is defined, first, as the *virtus disserendi*, i.e., the natural power of discoursing, discerning and the use reason itself, which is a natural ability. Secondly, dialectic is an art, consisting of the imitation of this power, as well as of the classical models, above all, Cicero, as Ramus explains in his *Ciceronianus* (1557a). Accordingly, dialectic one can find in any discipline. Moreover, dialectic is a doctrine, i.e., it teaches the ways of discoursing and reasoning: it is the *ars* or *doctrina bene disserendi*, as it was for Cicero, and serves to correct natural discourse by making it well formed. In addition, it is used to dispute, i.e., to answer questions or solve problems; therefore, in Ramus's 1555 *Dialectique* (Ramus 1555a, 1996), dialectic was redefined as the art of disputing well. Since it is aimed at answering questions, Ramus accepts Agricola's foundation of dialectic on a theory of the invention of arguments. In order to answer the question “whether man is a dialectician,” for instance, Ramus proposes to find a means to connect (or dissociate) the subject and predicate of this sentence, what he calls the “major” and “minor” part of the question. This is made possible by a syllogism with a middle term that connects these parts. In this case, the middle term “invented” is “rational,” by which one can demonstrate

that man is a natural dialectician. Therefore, Ramus proposes a list of places for all kinds of middle terms or arguments, by which he seeks to replace categories themselves. Furthermore, as stated in his 1555 *Dialectique*, he wants to substitute places as “seats of arguments” with arguments themselves, insofar as arguments are parts of places. In the 1543 editions of his dialectic (Ramus 1543b and 1543c), there are 14 places: five first arguments (causes, effects, subjects, adjuncts, disagreeing) and 9 derived arguments (genus, form, name, notations, conjugates, testimonies contraries, distributions, definitions). This list, in fact, would undergo several changes in later editions of the work. Arguments are then treated in relation to judgment, which concerns their collocation or disposition (*dispositio*); there are three kinds: first judgment, i.e., syllogism (including induction, example, and enthymeme, which are syllogisms defective in some part); second judgment, i.e., the concatenation of arguments; and third judgment, which is the use of dialectic as a metaphysics or a rational theology. The treatment of first judgment is based on Aristotle’s *Analytica*, although Ramus does not consider induction, example, and enthymeme as probable syllogisms, as Aristotle did, but only as defective ones, like Boethius. If first judgment allows to answer singular questions, second judgment allows to conduct a whole discourse and proceeds by a series of definitions and divisions, of which the demonstration consists. Demonstration, indeed, for Ramus, does not have the character of a proof, but rather of an explanation. This is noticeable above all in his mathematical writings; for instance, in 1545 Ramus published a Latin edition of Euclid’s *Elementa* (Euclid 1549), but with no diagrams, in order to make them less expensive and suitable for use by students, as it provided only explanations. Thirdly, judgment is used by Ramus as a metaphysics or rational theology, insofar it concerns the rational structure of reality: in this case, Ramus (like Plato) envisages dialectic as a move towards divinity. Finally, dialectic can be seen as the use or practice of the precepts conveyed by its doctrinal part, across various disciplines: in this respect, dialectic is not a habit of the mind (*habitus intellectualis*) or an instrumental discipline guiding other arts and philosophical disciplines, but is itself a discipline concerning discourse and reasoning as such. It consists of the reading of texts and of their interpretation by examining the disposition of arguments, finding the goal and cause of the discourse, and using syllogisms to analyze or resolve it into a clear structure. Accordingly, interpretation is defined by Ramus as analysis, while the composition of texts is its form in reverse, i.e., genesis or synthesis.

This threefold structure of logic was maintained by Ramus in the editions of the *Dialecticae institutiones* which appeared after 1543, although with the introduction of a theory of the method, i.e., of second judgment and the omission of third judgment. In the 1572 edition of this work, for

instance, Ramus reduces judgment as whole to *iudicium* axiomaticum, i.e., proposition, which was neglected in the first two editions, and *dianoeticum*, which includes syllogism and method. In 1546, he presented a full account of method in his *Dialectici commentarii tres* (published by Talon, Talon and Ramus 1546), as part of the treatment of disposition (Book II). Method is presented by Ramus as twofold. First, it is a method of teaching, which is the arrangement of knowledge from general to particular notions; according to this method, one first has to establish all the definitions and precepts of an art and then to proceed into its parts. Grammatical teaching, for instance, starts with the general definition of grammar and then proceeds into its branches. Such a division is made by means of dichotomies: this procedure has no theoretical justification in Ramus's texts and may be motivated by his overall aim of providing a simplified teaching of academic disciplines. The division of different matters, in fact, was thoroughly refined by Ramus in the course of the various editions of his dialectical treatises: in the 1547 edition of his *Dialecticae institutiones*, for instance, one can find fully at work the use of tables of division, which serve to explain the matter of every discipline. As argued by Ong, the method of dichotomies made Ramist dialectic a "visual" representation of thought (Ong 1958a, 199–202). Second, Ramus introduces a "method of prudence" that prescribes how to dispose notions according to the actual conditions of the audience, but whose treatment was not taken further in his works. The topic of the method, in fact, underwent several changes through the editions of his works and was omitted in the 1569 *Scholae dialecticae* (part of the *Scholae in liberales artes*), where the reader is redirected to the *Dialectici commentarii tres*. The final version of Ramus's method can be found in his 1572 *Dialecticae libri*. The main variations with respect to the first formulation of the method, on the other hand, can be found in the 1555 *Dialectique*. In 1555, he updated his method of teaching in light of the difference between what is known better either according to its nature (*notiora naturae*) or according to our mind (*notiora nobis*). For Ramus, the method of teaching corresponds to the order of what is known better according to nature, as this made it possible to equate the two kinds of order. This point is clarified in an excerpt from Book IX of the 1556 edition of the *Aristotelicae Animadversiones*, published in 1557 ("Quod sit unica doctrinae instituendae methodus", Ramus 1557b): there he deals with the problem of the "priority" of notions. For Ramus, as for Aristotle, in knowing we start from particulars, which are *notiora nobis*; however, by means of education it is possible to make the apprehension of the general more easy than that of the particulars: in this way, priority of nature and of time coincide. On the other hand, after the 1555 *Dialectique*, the method of prudence disappeared from Ramus's works: in his 1569 *Dialecticae libri* (Ramus and Talon 1569), for instance, he is committed to only one method, although divided into two: one for philosophy and arts – which is method as such; and the other for historians, orators, and poets, which differs from the former in

that it teaches us how to convey probable premises to an audience as if these amounted to perfect knowledge; in order to do this, poets, historians, and orators have to reverse the order of exposition and start with conclusions. In this edition, moreover, method is based on an axiomatic theory: that is, instead of beginning with general definitions, the method starts with axioms which are known by themselves or by syllogisms, and proceeds by means of the general to the particular as from antecedents to consequents; however, Ramus does not clarify how this progression from antecedents to consequents works. Finally, in the 1572 *Dialecticae libri* method is equated with “dianoia” or intelligible order, and is guided by three rules, also called “rules of philosophy” by Ramus. These rules are appropriated from Aristotle’s *Analytica posteriora*, where they show how to conduct a scientific demonstration, i.e., a *demonstratio* propter quid. For Aristotle, these laws are the: (1) *lex de omni*, (2) *lex per se*, and (3) *lex de universali*, and they prescribe that in a scientific demonstration: (1) the subject is to be taken in its full extension, i.e., without restrictions to its validity; (2) the predicate has to be linked by essence to the subject; and (3) the predicate cannot be more extended than the subject. Ramus intends such laws as the guidelines for proceeding in any discipline, and he renders them as (1) the law of necessary truth, according to which a statement in one art has to be absolutely and necessarily true, and, therefore, has to be taken without restrictions and has to be necessary to the given art; (2) the law of justice or homogeneity, according to which statements in one art cannot be used in other arts; and (3) the law of wisdom, according to which all the statements in one art have to be compatible and not confused with each other – for instance, general and particular statements have to be dealt with separately. The provision of such rules had the function of making the teaching of disciplines more efficient by avoiding any meddling between different fields of knowledge and by providing an order of teaching from the more general to the more particular. In accordance with these rules, for instance, general disciplines such as logic and arithmetic have to be taught first in the curriculum. The foremost example of such meddling is the confusion between metaphysics and logic characterizing the Aristotelian tradition – in Ramus’s account – as Aristotle dealt with logical notions (such as cause, opposition, comparison, genre, and species) in metaphysics and vice versa. The relation of these disciplines is resolved by Ramus by reducing metaphysics to dialectic itself, as it was for Plato (Pozzo 2000; on Ramus and method, see Ong 1958a, 245–263; Jardine 1974, 41–74; Bruyère 1984).

Ramus’s Platonism and his use of the laws of philosophy can be seen in his dealing with mathematics. In his *Oratio de studiis mathematicis* of 1544 (Ramus 1544), Ramus expresses the highest appreciation for mathematics, as it was used by Archimedes for practice and by Plato for contemplation, i.e., paving the way to dialectic as the highest science and to its use as a third

judgment. Moreover, in the preface to his edition of Euclid's *Elementa* (1549) Ramus labels mathematics as part of the natural dialectic, and, as soon as he identifies dialectic with metaphysics, he can set forth a correspondence between the mathematical, the rational-dialectical, and the divine domains. In his mathematical textbook, *Arithmetica* (1555b), however, Ramus changed this view (apparently after having difficulties in dealing with mathematics) and came to consider that Euclid had violated two of the laws of method, since he broke the law of homogeneity by mixing geometry and arithmetic, and the law of wisdom, since he started with geometry, whereas the treatment of quantity (in arithmetic) has to come first. Finally, in the *Proemium mathematicum* (1567), later expanded as the *Scholae mathematicae* (1569, which was part of the *Scholae in liberales artes*), Ramus criticizes Plato as a philosopher, on the grounds that he was responsible for the corruption of mathematics, which in his hands became an overly abstract discipline; and he also criticizes those ancient mathematicians – such as Euclid and Archimedes – who did not apply mathematics to practical disciplines (Goulding 2010).

The distinction between different kinds of art is reflected, moreover, by the sharp differentiation formulated by Ramus between dialectic and rhetoric. This differentiation is at work, for instance, in his *Brutinae quaestiones in Oratorem Ciceronis* (1547), where he attacks Cicero's and Quintilian's rhetoric for lacking a clear order, i.e., of treating grammatical and dialectical topics within rhetoric itself, and of giving a misleading order of the disciplines. Cicero, for instance, subordinated the knowledge of rhetoric to that of philosophy. Although rhetorical means were integrated into dialectic in the scholastic and humanist traditions, the aim of Ramus in establishing his rhetoric was to differentiate it from dialectic. The traditional scheme of rhetoric – which can be traced back to Cicero's *De inventione* – included five parts: invention, disposition or judgment, elocution, pronunciation, and memory. Since invention and disposition had been included in dialectic, and since the art of memory is useless insofar as our knowledge always has to start with general notions and then proceed by following a natural order, Ramus considers that only elocution and pronunciation are branches of rhetoric. His rhetoric can be found in 1544 Talon's *Institutiones oratoriae* (Talon and Ramus 1544), likely written by Ramus himself, and in Talon's *Rhetorica* (1548), deeply influenced by Ramus, who then rewrote this text in its 1567 and 1569 editions (Talon and Ramus 1567, Talon and Ramus 1569); so, Ramist rhetoric was composed by the "Ramus-Talon team" (Ong 1958a, 270–271). These texts served to complement Ramus's *Institutiones dialecticae*. This treatise of 1545 follows the same threefold structure which Ramus imposed on dialectic. Intended as the power of speaking well, or "vis bene dicendi" (as defined in Quintilian's *Institutio oratoria*), rhetoric consists of (1) natural eloquence, (2) the art and the

teaching of eloquence itself, and (3) its exercise. Natural eloquence is based on two main powers: thought and discretion of thought, corresponding to invention and disposition, which are then systematized in the art of rhetoric. In Talon's 1548 *Rhetorica* these parts are replaced by elocution and pronunciation or delivery, which, however, is almost entirely neglected; indeed, in this text the art of rhetoric consists of elocution alone, which is the ornamentation of speech provided by tropes (i.e., metaphors) and rhetorical figures. Thirdly, there is the exercise of rhetoric, which is divided, like dialectic, into interpretation (which is the analysis of the ornaments of speech), and writing and speaking, which are guided by the imitation of classical models. This third part, however, is also omitted in the 1548 *Rhetorica*. Eventually, Ramist rhetoric was restricted to a theory of the ornaments of speech, which are dealt with according to the Ramist method of analysis from the general to the particular in the 1567 and 1569 editions of the *Rhetorica* (Ong 1958a, 270–279; Meerhoff 1986, 175–199; Mack 2011).

Impact and Legacy

Ramism, across the different geographic areas of its reception, mainly influenced the disciplines of the *trivium* taught in Latin schools and gymnasia, where students were prepared for the study of philosophy at university faculties of arts. This phenomenon was due to the distinctive character of Ramus's teaching, which was primarily aimed at a reform of dialectic and rhetoric. Moreover, the limited dissemination of Ramism in universities was the result of resistance to innovation in the traditional teaching of logic on the basis of the *Summulae* and commentaries on Aristotle, Porphyry, and Boethius. This is clear in the main countries where Ramus's thought was received. First and foremost, Ramism characterized the teaching of logic in the gymnasia and gymnasia illustria (i.e., academies entitled to give bachelor and master degrees) in Central Europe, specifically in the German-speaking cities of the lower Rhine area, in northwest Germany, and in the Hanseatic cities. In France, Ramism had its main diffusion before the death of Ramus in the massacre of St Bartholomew's Day (1572); however, only his rhetoric was widely accepted at the University of Paris, because the entrenched Aristotelian logical tradition there prevented the

acceptance of Ramus's dialectic. Along with Talon, the foremost French Ramists were Antoine Foquelin, who wrote a *Rhetorique française*, published in Paris in 1555 (Foquelin 1555), and Christophe de Savigny, who wrote a *Tableaux accomplis de tous les arts libéraux* (1587) presenting a Ramist dialectic and rhetoric (Ong 1958a, 295–298; Meerhoff 1986, 320–325; Angelini 2008). After the St Bartholomew's Day massacre, André Wechel – the publisher of Ramus in Paris (Maclean 2009, 163–226) – moved to Frankfurt, and Germany cities became the leading

centers of European Ramism, as reconstructed by Howard Hotson. The works of Ramus and Talon on dialectic and rhetoric went through 27 editions in the area of Dortmund-Düsseldorf: Ramist logic became the standard at the Dortmund gymnasium, where it was taught by Johann Lambach from 1543 to 1582, and was then spread by Bernhard Copius, rector of the gymnasium of Lemgo (1559–1566), and by Heinrich Betuleius, who taught in Essen, Soest, Wesel, Düsseldorf, and Lemgo (1557–1581). In Düsseldorf, Ramism was introduced by Franciscus Fabricius of Düren and was then consolidated by the teaching of Betuleius, Lazarus Schöner, Martin Hopping, and Sylvester Pribenius (from 1559 to 1609). In Hessen, Ramism was introduced at the Marburg Paedagogium by Wilhelm Roding, who published Ramus's *Dialectica* in 1574 (Ramus and Roding 1574). It was the Landesschule of Korbach, however, the first main center of German Ramism: founded in 1578, this pre-university school was directed by Schöner, who provided editions of Ramus's mathematical writings; moreover, Wilhelm Adolf Scribonius taught dialectic, rhetoric, physics, astronomy, ethics, and medicine in Korbach using the Ramist method of dichotomies, thus broadening its use outside the boundaries of the *trivium*. From Korbach Ramism was transplanted into northern Germany: into Kassel, by Jodocus Jungmann, from 1581; and into Stade, by Copius's son-in-law, Reiner Lange, from 1587. Moreover, it was from Korbach that Ramism was disseminated to Herborn, the most important center of German Ramism, by Schöner, Herman Germberg, and Heinrich Crantz, who helped to introduce the teaching of Ramism at the newly founded Herborn Paedagogium or gymnasium illustre from 1584. Johannes Piscator, who had already taught Ramus's *Scholae* in Mörs, also contributed to setting up the program of the Herborn Gymnasium Illustre, which constituted a model for the foundation of those of Steinfurt (1591) and, by Matthias Martinus, of Bremen (1610). In Hanseatic cities, hosting simple gymnasia rather than academies, Ramism was also taken up because it fulfilled the need to teach a complete curriculum of studies in a short period of time; this was the case in the gymnasia of Danzig, Elbing, and Thorn in Prussia. As a consequence of its dissemination, Ramism assumed a confessional character. Even if it was rejected in major Reformed universities, with its introduction into schools Ramism served confessional aims: in Herborn, for instance, Ramism was part of the reform of the state based on Calvinist principles promoted by Johann VI of Nassau-Dillenburg. Piscator, in his *Animadversiones in dialecticam Petri Rami* (1580), carried out such a confessionalization by illustrating Ramist method with religious examples; this led to an association of Ramism with Calvinism and to the subsequent rejection of Ramism in Lutheran states, as, for instance, in Leipzig from 1592.

The dissemination of Ramism in German areas was not only favored by the need to provide pre-university schools with a curriculum, which was felt also by Vives, Sturm, and Melancthon.

Its acceptance was eased by the earlier spread of Agricola's dialectic from Louvain, where his *De inventione* was printed in 1515. It was then taught in Deventer by Alexander Hegius and at the cathedral school of Münster by Johannes Caesarius. Moreover, two editors of Agricola were active in Cologne: Bartholomeus Latomus – who, together with Johann Sturm, taught Agricola's dialectic in Paris – and Johannes Phrissemius. Agricola's dialectic also spread to Essen and Herborn via Marburg, where it was taught by Caspar Rudolphi. Finally, Sturm played the foremost role in the use of Agricola, providing a model for the reorganization of gymnasia in western Germany based on a sevenfold structure of teaching: this “stratified” structure favored the adoption of Agricola's simplified dialectic, and then of Ramus's. On the other hand, Ramism had a more limited impact in universities: Isaac Casaubon in Heidelberg and Joannes Caselius in Helmstedt opposed Ramism on the ground that it was necessary to teach philosophy by means of commentaries on Aristotle, and to include in the curriculum not only rhetoric and dialectic but the whole corpus of disciplines, whose contents were already available in scholastic textbooks. In Helmstedt, for instance, Cornelius Martini exhorted students in 1597 to cultivate the logic of Aristotle and Melanchthon rather than that of Ramus (Pozzo 2000, 2012). Yet, Ramism was gradually disseminated in universities as well. The transplantation of Ramism from gymnasia to gymnasia illustria and universities was made possible by its transformation into a methodology applicable to the higher arts of law, medicine, and theology, for which such institutions prepared students. This process is noticeable in Johannes Piscator's *Animadversiones*, where Ramus's method is integrated with the logic of Melanchthon, giving rise to Philippo-Ramism or semi-Ramism. Also, in 1585 Piscator prescribed, in the *Leges Scholae Herbornensis* (Piscator 1585), learning Ramus's dialectic and Talon's rhetoric together with that of Melanchthon and of Aristotle himself. Such semi-Ramism spread to other academies modeled on that of Herborn, such as those in Steinfurt and Bremen; it is also observable in textbooks like that of Michael Sonleutner (*Institutiones dialecticae*, 1584), which aimed to find a *via media* between Melanchthon and Ramus. At the beginning of seventeenth century German Ramism was more and more integrated with alternative logical theories: this is the case of the *Systema logicum* (1600) and *Systema systematum* (1613) of Keckermann, professor at the University of Heidelberg, who integrated a Ramist explanation of disciplines – based on definitions and divisions – with Jacopo Zabarella's distinction between *ordo* and *methodus*. With his systematization, Keckermann paved the way to the ultimate outcome of Ramism in Germany: the *Encyclopaedia* of Alsted (1630), which is equally based on definitions, divisions, and dichotomies as means of exposition.

With its dissemination outside gymnasia, Ramism was thus applied not only to *trivium* but

to the whole curriculum of the university. Scribonius published a Ramist natural philosophy in 1577 (Scribonius 1577), while Rudolph Snell (1594) and Freige (1585) lectured on the same subject in Marburg and Altdorf. Scribonius and Rudolph Goclenius then published Ramist texts in ethics in 1588 (Scribonius 1588) and 1592 (Goclenius 1592), while Johannes Althusius published his *Politica methodice digesta* in 1603 (Althusius 1603). At the University of Heidelberg Piscator subsequently applied Ramist method to the teaching of theology, providing a series of commentaries on the Bible from 1589 to 1597, while at the University of Basle Polanus von Polansdorf provided a systematic, Ramist theology in 1609 (Polanus Von Polansdorf 1609), and, Freige devoted his *Partitiones iuris utrisque* (1571) to the exposition of legal instructions in a Ramist way. Johannes Althusius, professor in Herborn, also published a Ramist exposition of Roman law in Basle (1586) (on the use of Ramism in jurisprudence, see Oldrini 2001). In medicine Ramism had less diffusion, with Scribonius's *Idea medicinae secundum logicas leges*, published in Lemgo in 1584 (Scribonius 1584), the most notable example. The dissemination of Ramism in academies and, partially, in universities was moreover made possible by textbooks in which it was applied to metaphysics, such as those of Daniel Cramer, Nicolaus Taurellus, and the *Metaphysicae systema methodicum* of Clemens Timpler (1604) (Hotson 2007).

Outside Germany, Ramism had a consistent dissemination in Transylvania and Hungary: in 1629 Alsted and Ludwig Philipp Piscator (son of Johannes Piscator, and a Herborn Ramist himself), came to Alba Iulia – part of the Kingdom of Hungary – to establish an academy in 1629. In particular, Piscator introduced Ramist rhetoric into Hungary, where his *Rudimenta oratoriae* had five editions in 1630s and 1640s (Piscator 1649). Afterwards, Ramist dialectic was disseminated by Miháli Buzinkai, Istvan Tolnai, and Gyorgy Martonfalvi Toth, who provided commentaries on Ramus in the second half of seventeenth century (Kecskeméti 2011). In Switzerland, Ramism was mainly taught in Basle. As well as Polandorf and Freige, Theodor Zwinger – a former student of Ramus in Paris – lectured in Basle on the ethics and politics of Aristotle by using the Ramist method of dichotomies, definitions, and divisions. Afterwards, Ramism in Basle was mainly represented by Ludwig Lutz, who provided an integration of Aristotle's and Ramus's logic (*Organum*, 1619). In Berne and Lausanne, Ramism was used in high schools, for example, by Markus Rütimeyer and Jean-Rodolphe Le Fèvre (Rother 2001). In the Netherlands, before the breakthrough of Cartesianism, Rudolph Snell and his son Willebrord taught Ramus's dialectic and arithmetic at Leiden University. In Franeker, William Ames and Johannes Hachtingius were well-known Ramists. However, since scholastic philosophy was officially supported by orthodox theologians at the Synod of Dordrecht (1618–1619), Ramists never formed a consistent faction in

Dutch universities. As in Germany, Ramism played a more consistent role in the pre-academic course of the *trivium* at the Illustrious Schools – a form of higher education preparing students for the academic quadrivium. Yet Ramism was acknowledged as a full-blown school of logic by Franco Burgersdijk, who was entrusted by the States of Holland to provide a revision of Keckermann's *Systema logicum* and to make it more understandable to younger students. In his *Institutionum logicarum libri* (1626) Burgersdijk distinguishes between three schools of logic: the Aristotelian, which formed the basis of all logic; the Ramist, which had an overly narrow conception of logic; and Keckermann's logic, which combined Aristotelian and Ramist logic and dialectic.

As in Continental Europe, so, too, in England, Ramism was mainly taught as part of pre-university education, with hardly any presence in the curricula of universities themselves. Moreover, even at this level, it did not constitute a paradigm for teaching. As testified by the library catalogues of Cambridge scholars who owned Ramist texts, these do not make up a majority of their textbooks in logic, which included in most cases the *Organon* and the dialectic of Agricola and Sturm. Since in the sixteenth century pre-university education in England was often left to private teachers, Ramism could not be imposed by any central authority in education (Feingold 2001). Ramism was mainly embraced by Puritans, as it offered an efficient method of sermonizing and disputing. Under the influence of Laurence Chaderton, Ramism was received in Cambridge by Gabriel Harvey and George Downham, professors of rhetoric and logic at the Christ's College in 1570s and 1580s, and by William Temple, a fellow of King's College from 1576. Temple was the foremost exponent of Ramism in England: besides providing a commentary on Ramus's dialectic (1584), in 1580 he entered into a quarrel with Everard Digby, who attacked Ramus in his *De duplici methodo* (1580), to which Temple replied with his *Admonitio de unica Rami methodo* (1580). Temple, moreover, developed a Ramist ethics in his *Methodica adumbratio ethicae* (manuscript). In theology, Ramism was adopted by William Perkins, a fellow of Christ's College, Cambridge, who elaborated a method of sermonizing based on Ramus's rhetoric (*The art of prophesying*, 1616–1618), and by Temple himself, who produced a Ramist analysis of the Psalms (*A logical analysis of twenty select Psalmes*, 1605). In Oxford, notorious Ramists included Laurence Humphrey (at Magdalen College) and Charles Butler. Ramism was also disseminated in London at the Inns of Court and in Church schools, by the teaching of Chaderton and Richard Hooker. Moreover, Temple spread Ramism to the grammar school of Lincoln, where he became a schoolmaster in 1581 (Mack 2004; Oldrini 1997, 227–308). Ramism also extended its influence through drama in the Elizabethan era: Christopher Marlowe portrayed Ramus's death in his play

The Massacre at Paris (1592); moreover, Ramism appeared in plays written by students in the 1590s, ridiculing its use in the curriculum. A similar view appears in Marlowe's *Doctor Faustus* (1588) (Feingold 2001; Wilson 2011, Knight 2011). In Scotland, the foremost Ramist was Andrew Melville, whose reform of teaching served as the basis for the curriculum at the universities of St Andrews and Glasgow (re-founded in 1577), although the presence of Ramism is more discernible in the latter, because Melville was the only teacher of logic there, whereas at St Andrews, a bigger institution, the teaching was mainly based on Aristotle (Reid 2011). In Ireland, Ramism was taught in the *trivium* at Trinity College Dublin, where Temple was provost from 1609 to 1610 and reorganized the college (Boran 2001).

In Catholic countries, Ramism had less success, as it was officially banned by the Council of Trent in 1568. Before that date, Ramist rhetoric – which was more easily accepted than logic in universities – had an important dissemination in Spain, especially in Valencia, where Pedro Juan Núñez, a disciple of Ramus and Talon, wrote his *Institutiones oratoriae* on the basis of Talon's rhetoric (1552), followed in 1567 by Juan Lorenzo Palmireno's *Rhetorica* (Palmireno 1567) and in 1568 by Andrés Sempere's *Methodus oratoria* (Sempere 1568). After 1568 Ramist rhetoric was still taught in Valencia by means of *De arte dicendi* of Palmireno (1573) and the *Institutiones rhetoricae* of Núñez (1578). At the University of Alcalá de Henares, Benito Arias Montano taught his *Rhetoricorum libri* (1569), while in Salamanca there was a partial acceptance of Ramus's dialectic, as testified to by Francisco Sanchez de las Brozas's *De auctoribus interpretandi* (1581), based on Talon's theory of elocution and on Ramus's dialectical disposition (Jiménez 2004). In Italy, Ramism was scarcely disseminated: the only traces of Ramism can be found in the unpublished *De numero et qualitate elementorum* of Antonio Persio, who was sympathetic to the ideas of Bernardino Telesio and who used Ramus's *Scholae physicae* against Aristotle.

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