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THE *ARBOR SCIENTIAE*: A »NEW« ENCYCLOPEDIA IN THE THIRTEENTH-CENTURY OCCITAN-CATALAN CULTURAL CONTEXT

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1. THE *ARBOR SCIENTIAE* WITHIN THIRTEENTH-CENTURY ENCYCLOPAEDIAS

If we disregard for a moment the *Arbor scientiae* as another materialisation of Ramon Llull's Art, and consider it instead within the framework of contemporary encyclopaedic works, a rewarding line of research opens up to us. A simple glance at the *Arbor scientiae* from this fresh viewpoint will immediately detect an unusual convergence of natural and moral philosophy, apologetics and theology, preaching literature and its wealth of entertaining didactic devices. The mnemonic power of its tree structure enables this eclectic work to become a manageable intellectual instrument, where one can »facile invenire«. The purpose of this introductory article is to identify and describe, within the Occitan-Catalan cultural context of the late thirteenth century, the texts that account for the diversity of aspects present in Llull's book. A comparative analysis of this textual context will suggest influences or common sources with the *Arbor scientiae*, while helping to appreciate Llull's singularity.

In 1997, the bibliographic exhibition »Tous les savoirs du monde« accompanied the opening of the new Tolbiac site of the Bibliothèque Nationale. The *Encyclopédie* was there presented as the paradigm of a universal genre, by means of which cultures as diverse as those of China, the Muslim Middle East and the European Middle Ages were able to transmit their stock of knowledge. Llull's *Arbor scientiae* (specifically an engraving of the 1515 Lyon edition) was displayed in the colophon of the main exhibition catalogue.¹ Within the Paris exhibition the *Arbor scientiae* found a meaningful context in the ideals of Pierre de la Ramée (1515-72): »The humanist encyclopaedia was a preparation to God's wisdom, the Lullian-Ramist encyclopaedia claimed to be its proof.«² However, the section of its catalogue that described medieval encyclopaedias did not mention Llull's *Arbor scientiae*, seemingly implying the impossibility of evaluating it before the Renaissance. In other words, before

¹ ROLAND SCHAEER, *Tous les savoirs du monde*, Bibliothèque Nationale de France / Flammarion: Paris 1996.

² »L'encyclopédie humaniste était une préparation à la sagesse de Dieu, l'encyclopédie lullisto-ramiste s'en voudra une démonstration«, Ibidem, p. 58.

anybody, with the exception of Ramon Llull, had clearly conceived the ideal of *encyclosophia* which Guillaume Budé defined as a »circular discipline«.³

Until now, few alternatives to the sixteenth-century universal circular science have been presented to interpret the *Arbor scientiae*. One of them is Mariateresa Fumagalli's suggestion that Bartholomaeus Anglicus and Ramon Llull epitomise two different models of medieval encyclopaedia: the »static«, i.e. an inventory of notions, and the »projectual« or »dynamic«, which teaches how to deduce these notions from certain starting points. It is especially interesting that the authors of dynamic encyclopaedias (Llull, Roger Bacon) are also put forward as the promoters of social reforms with an underlying ethical purpose.⁴

The suitability of studying the *Arbor scientiae* within the context of the encyclopaedia as its genre and the thirteenth century as its period is confirmed by the existence of an earlier vernacular version of this work and by the pervasive Romance substratum of Llull's Latin.⁵ Moreover, it is worth remembering here Llull's insistent production of »encyclopaedic« works in Catalan intended for a wide audience: the *Book of Contemplation in God* (1271-74), the *Doctrina Pueril* (1275), and the *Fèlix* or *Book of Wonders* (1289). The *Arbor scientiae* (1296-97) is the culmination of this series, and it gathers in one single framework a literary formulation of Llull's Art and a *summa* of all knowledge.

The premise of this article has been supported by Armand Llinarès who, unlike other Lullists, considered that the sixteen books of the *Arbor scientiae* fell within a single genre, thus defining the *Arbor scientiae* as the Lullian encyclopaedia *generalis et ultima*.⁶ In addition to its didactic character, other ency-

³ Guillaume Budé refers to a »disciplina orbicularis quem Encyclopaedia Graeci vocant«, which involves that »omnes disciplinas inter se conjunctionem rerum et communicationem habere«, quoted in *Historisches Wörterbuch der Philosophie* II, Darmstadt 1977, p. 575. Conversely, Schaefer's catalogue takes great notice of the Electorium by Thomas Le Myésier, which is effectively an encyclopedia of Lullian materials.

⁴ MARIATERESA FUMAGALLI, »Premessa«. In: *Rivista di storia della filosofia* 1 (1985), p. 4. For a more detailed account of this notion, see MARIATERESA FUMAGALLI - MASSIMO PARODI, »Due enciclopedie dell'Occidente Medievale: Alessandro Neckam e Bartolomeo Anglico«. In: *Rivista di storia della filosofia* 1 (1985) 51-90 and MARIA TERESA FUMAGALLI BEONIO-BOCCHIERI, *Le enciclopedie dell'occidente medievale*, Loescher: Torino 1981, pp. 47-48. For an interpretation of the *Arbor scientiae* within the context of sixteenth-century theory, see the article »Enzyklopädismus« in *Historisches Wörterbuch der Philosophie* II, Darmstadt 1977, p. 575, and its counterpart in *Encyclopaedia Britannica* 8, London 1971, p. 366.

⁵ PERE VILLALBA, »Ramon Llull: *Arbor scientiae* o *Arbre de sciència*«. In: *Faventia* 17 (1995) 69-76, suggests that the Latin text predates the Catalan version. On the other hand, it seems likely that the production of the first fair copy of the book in Rome was the origin of the archetype for the Latin text. See ALBERT SOLER's remarks in his review of VILLALBA's article, *SL* 36 (1996). On the Catalan input of Llull's Latin, see FERNANDO DOMÍNGUEZ's introduction in *ROL* XV, pp. lxxxviii-xciv.

⁶ See ARMAND LLINARÈS, »Esprit encyclopédique et volonté de système chez Raymond Lulle«. In: ANNIE BECO, ed., *L'encyclopédisme*, (Actes du Colloque de Caen, 1987), Aux amateurs des livres - Klincksieck: Paris 1991, 449-458. For instance, CA I, p. 287 and PLA II, pp. 101-105, exclude the *Doctrina pueril* and *Fèlix* from their lists

clopaedic features can be detected in the *Arbor scientiae*: the distribution of its contents in fourteen trees, from the elements to God; the list of concepts discussed by Anthony Bonner in this volume; the introduction of the Hundred Forms (*Centum formae*); and also the sheer number and richness of the 4.000 questions in the *Arbor quaestionalis*. Finally, the presence of the Hundred Forms in the *Ars generalis ultima* (1305-8) confers an encyclopaedic feel to the definitive formulation of Llull's Art and confirms his interest in the genre with which this article is concerned.

In dealing with medieval encyclopaedias it is still essential to refer to Michel de Boüard's 1930 essay, one of the first works to stress the historical importance of this genre.⁷ Thirteenth-century encyclopaedias are not to be judged from the point of view of scientific or technological innovation but as the first general archives of systematised information in the Western world. The greatest glory of scholastic culture was precisely its compiling efficiency and all-encompassing ambition. When Ramon Llull started to produce his written works, in the 1270s, there was a body of monumental inventories available. They were the product of the labourious compilation of Greek and Arabic knowledge, which had been recovered thanks to more than a century of translations and adaptations. The three *specula* that Vincent of Beauvais (d. 1264) compiled, *naturale*, *doctrinale* and *historiale*, are prime examples of this activity.⁸ In the 1260s and 1270s laymen who were able to read Latin had access to a wide range of less monumental works to satisfy their need for information, usually entitled *summa*, *imago mundi*, *de rerum natura liber*, *elucidarium* or *thesaurum*. These works are usually referred to as »petites encyclopédies«.⁹ By the end of the century such laymen did not even need to resort to Latin, thanks to the proliferation of what Langlois described as »écrits français à

of encyclopaedic works, but they include the *Principia philosophiae complexa*. *Fèlix* is assigned to »narrative« or »literature«, while the *Doctrina pueril* is labelled as »didactic«. For the *Principia philosophiae*, see. *ROL* XIX, pp. 78-326, and DOMÍNGUEZ's preliminary study in pp. 1-77.

⁷ MICHEL DE BOÜARD, »Encyclopédies Médiévales. Sur la 'connaissance de la nature et du monde' au moyen âge«. In: *Révue des Questions Historiques* 112 (1930) 258-304. (See also his »Réflexions sur l'encyclopédisme médiéval«, in BECO's book, [cited in n. 6], pp. 281-290). For the evolution of scholarly attitudes, which would later consider the first half of the thirteenth century as the golden age of the genre, see MAURICE DE GANDILLAC - JACQUES FONTAINE - JEAN CHÂTILLON - MICHEL LEMOINE - JOHANNES GRÜNDEL - PIERRE MICHAUD-QUANTIN, *La pensée encyclopédique au Moyen Age*, Éditions de la Baconnière: Neuchâtel 1966; ANNIE BECO, ed., [cited in n. 6] and BERNARD RIBÉMONT, *De Natura Rerum. Études sur les encyclopédies médiévales*, Paradigme: Orléans 1995.

⁸ I quote from the facsimile VINCENTIUS BELLOVACENSIS, *speculum quadruplex sive maius: Naturale, Doctrinale, Morale, Historiale*, 4 vols., Baltazar Belier: Douai 1624 (Reprint, Akademischer Druck: Graz, 1965).

⁹ See GANDILLAC's work (and others cited in n. 7), pp. 103-120.

l'usage des laïcs», informed by the purpose of spreading the »connaissance de la nature et du monde«.¹⁰

By defining the *Arbor scientiae* as an encyclopedia written by a layman, with an earlier Catalan version, it follows that it should be compared with similar texts in its immediate context. However, it is difficult to list and date a corpus of »popularising« scientific texts in the Occitan-Catalan area during the second half of the thirteenth century. The only clearly local work is the *Breviari d'amor*, which will be discussed below.¹¹ As for Occitan or Catalan versions of French books, they obviously have to be given a later date than the original work (e.g. *Livre de Sidrac*, 1291; Brunetto Latini's *Trésor*, 1266). Dating problems get more complex when dealing with Eastern works first translated into Latin, for instance the *Secretum secretorum* or the *Calila et Dimna*.¹² Such a survey would also need to account for wide-spread French works, such as *Placides et Timéo* or Maître Gossouin's *Image du monde*, and for the tradition

¹⁰ CHARLES-VICTOR LANGLOIS, *La vie en France au Moyen Age du XII au XIV siècle*, 3 vols., Paris 1926-28. Reprint, Slatkine: Genève 1970-84. See especially vol. III. For a more recent study of the onset of vernacular encyclopaedism, see CLAUDE THOMASSET, *Une vision du monde à la fin du XIII^e siècle. Commentaire du dialogue de Placides et Timéo*, Droz: Genève 1982 and DANIEL POIRION, ed. *La littérature française aux XIV^e et XV^e siècles*, vol. I = *Grundriss der romanischen Literaturen des Mittelalters*, vol. VIII/1 Carl Winter: Heidelberg 1988. These studies discuss translations as well as works written originally in vernacular.

¹¹ For an overview of the problems involved, see LLUÍS CIFUENTES »*Translatat scientia en romans catalanesch*. La difusió de la medicina en català a la Baixa Edat Mitjana i el Renaixement«. In: *Llengua i Literatura* 8 (1997) 7-42. CLOVIS BRUNEL, *Bibliographie des manuscrits littéraires en ancien provençal*, Droz: Paris 1935 and WALTER METTMANN, »La Littérature Didactique. Dokumentation«. In: *La littérature dans la Péninsule Ibérique aux XVI^e et XV^e siècles* (= *Grundriss der romanischen Literaturen des Mittelalters*, vol. IX/2,7), Carl Winter: Heidelberg 1983, are the two more comprehensive inventories of extant materials. For the Occitan edition of MATFRE ERMENGAUD's treatise, see GABRIEL AZAÏS, ed., *Le Breviari d'amor de Matfre Ermengaud*, 2 vols., Société Archéologique - Librairie Franck: Besiers - Paris 1862-81. Reprint, Slatkine: Genève 1977. For the Catalan version, see ANTONI FERRANDO, ed., MATFRE ERMENGAUD, *Breviari d'amor. Manuscrit valencià del segle XV (Biblioteca Nacional de Madrid)*, 2 vols., Vicent García Editores: València 1981. See also PETER RICKETTS, »The Hispanic Tradition of the 'Breviari d'amor' by Matfre Ermengaud de Béziers«. In: *Studies in Honour of Joseph Manson*, Clarendon Press: Oxford 1972, pp. 227-53 and his edition in progress: PETER RICKETTS, ed., *Le Breviari d'amor de Matfre Ermengaud*, vols. I and V, E.J. Brill: Leiden - Westfield College, Londres 1976-89.

¹² VINCENZO MINERVINI, *Il »Libro di Sidrac«. Versione catalana*, Lerici: Bari 1982; CURT WITTLIN, ed., Brunetto Latini, *Llibre del Tresor*, 4 vols., Barcino (Els Nostres Clàssics): Barcelona 1971-89. The Catalan *Secret del secrets* is unpublished; see THOMASSET's book, (cited in n. 10), LANGLOIS, (cited in n. 10), pp. 71-121, and W.F. RYAN - CHARLES B. SCHMITT, *Pseudo-Aristotle The »Secret of Secrets«. Sources and Influences*, The Warburg Institute: London 1982. For the *Calila et Dimna*, which has no Catalan translation, see EUSTAQUIO SÁNCHEZ SALOR, ed., *Fábulas latinas medievales. Juan de Cápuia y Odón de Cheriton*, Akal: Madrid 1992.

of sapiential literature, which produced hybrids with the encyclopaedic tradition such as the *Llibre de doctrina del rei Jaume d'Aragó*.¹³ Finally, the vernacular versions of the above mentioned »petites encyclopédies« should be added to make a list comprehensive. These amount, in Catalan, to William of Conches' pre-Aristotelian *Dragmaticon philosophiae* (1151), translated before 1338, which continued being copied until the fifteenth century; and, in Occitan, to a version of Bartholomaeus Anglicus' *De rerum proprietatibus*, which was commissioned well after Llull's time by Gaston Fébus de Foix (1380).¹⁴ The lack of monographic studies and critical editions concerning most of the works mentioned and the circulation of these translations only within isolated groups of readers make it difficult to reach general conclusions.¹⁵ However, when considering the »systematic will« that characterises Llull as an encyclopaedist, according to Llinarès' assertion (see the reference in n. 6), it becomes obvious that the constant variation in the structure of contemporary encyclopaedias must be analysed. Some of these contemporary texts are structured by means of pairings of question-and-answer, with no thematic order, such as the *Livre de Sidrac*; on the other hand, alphabetisation by *lemmae* did not solve all the problems and was not regarded as a suitable tool. The more ambitious the compilation, the more out of his depth would the »orderer« find himself, confronted with uncontrollable materials.¹⁶

Despite the variation in the ordering of their contents that I mentioned above, scholastic compilations, both Latin and vernacular, followed a general convention of collecting disperse data which was considered within the canon. It was the quantity and quality of their sources that validated such works. Thus Bartholomaeus Anglicus, a Franciscan who aimed his well-structured mind at clarity, began his *De rerum proprietatibus* with a list of cited authors.¹⁷ The

¹³ For the *Placides et Timéo*, see CLAUDE THOMASSET, ed. *Placides et Timéo ou Li secrés as philosophes*, Droz: Paris - Genève 1980, as well as THOMASSET's book cited in n. 11. For the *Image du monde*, see LANGLOIS' work, (cited in n. 11), pp. 135-197. For the sources of the *Llibre de doctrina*, see JOSEP M. SOLÀ-SOLÉ, ed., *El Llibre de Doctrina del Rei Jaume D'Aragó*, Borràs Edicions: Barcelona 1977. For Llull's contacts with sapiential literature, see BARRY TAYLOR »Some Complexities of the *Exemplum* in Ramon Llull's *Llibre de les bèsties*«. In: *The Modern Language Review* 90 (1995) 646-58.

¹⁴ The edition of the Catalan *Dragmaticon* (Mss. esp. 255 and. esp. 473, Paris, Bibliothèque Nationale), has been prepared by LOLA BADIA and JOSEP PUJOL as an appendix to CCCM 1502: ITALO RONCA, ed., GUILLELMUS DE CONCHIS, *Dragmaticon philosophiae*, Brepols: Turnhout 1997.

¹⁵ See LOLA BADIA, *Textos catalans medievals i 'ciència de natures'*, speech of admission to the Reial Acadèmia de Bones Lletres, Barcelona 1996, pp. 39-44.

¹⁶ See bibliographic references in previous notes, such as Thomasset's book cited in n. 10, pp. 13-19. See also DENIS HÜE »Structures et rhétoriques dans quelques textes encyclopédiques du Moyen Age«, ANNIE BECQ, ed., (cited in n. 6), pp. 311-318, and MONIQUE PAULMIER-FOUCART, »Ordre encyclopédique et organisation de la matière dans le *speculum maius* de Vincent de Beauvais«, *ibidem*, pp. 201-226.

¹⁷ See LOLA BADIA, »Pour la version occitane du *De rerum proprietatibus* de Barthélemy l'Anglais (XIV^e siècle)«. In: *Le rayonnement de la civilisation occitane à l'aube d'un nouveau millénaire. 6^e Congrès International de l'Association International d'Etudes Occitanes* (1999). GEORG KREMNITZ et al., Edition Praesens: Wien 2001, pp. 310-326.

prologue of the first speculum by Vincent of Beauvais, a Dominican driven by the ideal of exhaustivity, formulates the model attitude of contemporary compilers:

»[...] I have indeed added very few things, virtually none, of my own. Authority lies with them [the cited authors], I only bring the ordering of the parts. I am aware that I have not been able to find everything that has been written nor to read it all [...] Nevertheless I have collected, so I hope, the best of good writers and something of the best.«¹⁸

Ramon Llull is not overpowered by the impossibility of controlling all sources. What is more, he applies to the *Arbor scientiae* the same practice of suppressing *auctoritates* that characterises all of his production. It is a well-known fact that in his works, not only in encyclopaedic treatises but also in scientific monographs, Llull does not cite any other author than the Aristotelian canon in the *Doctrina pueril*, the names of some physicians and some unspecified astronomical tables.¹⁹ On the other hand, Llull rises the ordering of the parts (*ordinatio partium*) to a superior intellectual standard. In the *Arbor scientiae*, science is put to the test of the method of »raons necessàries«, at the core of the »demostració artística«. Llull had already applied this method to the rational foundation of faith in his *Llibre del gentil* (1274-76). In the *Arbor scientiae*, the flowers of the *Arbor apostolicalis* present the fourteen Articles of Faith as a necessary deduction from the principles in its roots, that is to say the virtues. In the previous trees and also in the *Arbor caelestialis*, a »natural deductive philosophy« goes side-by-side with this »deductive theology«. The singularity of his method acknowledged, Llull can be assumed to be formulating the contents of Vincent of Beauvais' *Specula doctrinale* and *naturale* in »dynamic« terms, by suppressing the *auctoritates* and setting logical and ontological connexions in the foreground. It is worth stressing here another significant

¹⁸ »Nam ex meo ingenio pauca, & quasi nulla addidi. Ipsorum igitur est auctoritate, meum autem sola partium ordinatione. Nec ignoro me non omnia, quae scripta sunt inuenisse, vel legere potuisse [...] Sed de bonis, ut arbitror, meliora: vel certe de melioribus, nonnulla collegi«, *Speculum naturale*, col. 4, edition cited in n. 8.

¹⁹ MICHELA PEREIRA, »Le opere mediche di Lullo in rapporto con la sua filosofia naturale e con la medicina del XIII secolo«. In: *EL* 23 (1979) pp. 1-35, account for the mention of Avicenna, Matheus Platearius and Constantinus Africanus in Llull's *Començaments de medicina* by his connection with the polemics in Montpellier on the grades of the medicines, in which Llull sided with Al-Kindi's supporters; see *OS* II, pp. 453-455. Aristotelian formulations on natural philosophy in Chapter 77 of the *Doctrina pueril* mirror the contents of the curriculum in the Faculty of Arts from mid-thirteenth century. See *ROL* XVII, p. 218 for the mention of a »tabula« which, together with the astrolabius, obviates a written practical section for the *Tractatus de astronomia*. In the prologue to the *Principia philosophiae*, FERNANDO DOMÍNGUEZ accounts for the omission of Euclid in the geometry section (*ROL* XIX, p. 38).

absence in Llull's encyclopaedia: the contents of the *Speculum historiale*, which he substituted for the »deductive« morals and politics in the *Arbores humanalis, moralis* and *imperialis*.²⁰

2. THE ALTERITY OF THE ENCYCLOPEDIISM IN THE *ARBOR SCIENTIAE*

The alterity of the *Arbor scientiae* is not only evident by comparing it with scholastic encyclopaedias but also with the three remaining Lullian encyclopaedic compilations. For instance, the structure of the treatise on religions and the description of the seven arts and the university sciences, contained in chapters 68 to 79 of his *Doctrina pueril*, conform to the standard Aristotelian curriculum of the Faculty of Arts. Even the *Book of Contemplation in God* presents a table of its books and paragraphs, as well as suggesting four *maneres* to use the compilation (in the third part of chapter 366), among which Llull mentions searching for specific items in a »taula de les rúbriques«.²¹

The general introduction to the *Arbor scientiae* and the specific introductions to the *Arbor exemplificalis* and the *Arbor quaestionalis* suggest a richer and more complex treatment of data.²² The first fourteen trees can be regarded as a systematic repertoire, but Trees 15 and 16 – exactly one half of the *Arbor scientiae* – function according to an analogical principle (cf. Observations 3 and 4 at the end of Bonner's contribution to this volume). The examples and stories (recontaments) in the *Arbor exemplificalis* are generated by analogy, and so are the maxims which answer those of the 4.000 questions that have not been explicitly dealt with in the fourteen initial trees. For instance, Question 50 in the trunk of the *Arbor humanalis* says: »Question: Why do men die? Solution: If the bottle breaks, wine spills out«.²³ More specifically, in his prologue to the *Arbor quaestionalis* Llull expects the reader to decode by himself all these maxims. These have to be deduced from the implicit data in the fourteen initial trees or elsewhere in his works (for instance in the *Art inventiva*, the *Taula general* or the *Arbre de filosofia*):

²⁰ See LOLA BADIA, »La literatura alternativa de Ramon Llull: Tres mostres«. In: *Actes del VII Congrés de l'Associació Hispànica de Literatura Medieval, Castelló de la Plana 1997*, SANTIAGO FORTUÑO LLORENS / TOMÀS MARTÍNEZ ROMERO, eds., Universitat Jaume I: Castelló de la Plana 1999, pp. 11-32 and ANTONI BONNER - LOLA BADIA, *Ramon Llull. Vida, pensament, obra literària*, Empúries: Barcelona 1988, p. 96.

²¹ *OE* II, p. 1255.

²² In references to the *Arbor scientiae*, I quote from PERE VILLALBA's edition. I am very grateful to him for having allowed me to use a diskette of his edition. I always add the reference to the *OE* (for the texts mentioned in this paragraph, *OE* I, pp. 556, 779 and pp. 842-43) and I cite the *Arbor quaestionalis* from the later edition.

²³ »Quaestio: Homo, quare moritur? Solutio: Dum rumpitur ampulla, exit uinum ex ipsa.« *ROL* XXVI, p. 876 (*OE* II, p. 854).

»By means of the *Arbor quaestionalis* the art and method of posing questions and solving them is understood, as well as that of finding the truth of things and confounding the errors that are written in many books, by which many men remain in the dark.«²⁴

The omitted *auctoritates* are replaced with deductive »necessary reasons«. In this way, Llull creates a highly original expositive method. He exploits it especially in the *Arbores exemplificalis* and *quaestionalis*, where he mixes scientific contents with literary (*exempla*, stories) and dialectic (*quaestiones*) devices.

A few examples concerning natural philosophy will illuminate Llull's treatment of encyclopaedic materials. Question 164 in the *Arbor quaestionalis*, which is related to the roots of the *Arbor caelestialis*, deals with the seasonal variation in the temperature of subterranean water:

»Question: Why is the water in springs colder in summer than in winter? Solution: [Because] winter expels the friends of the sun from his house.«²⁵

This maxim suggests that cold, i.e. the opposite of heat, is one of the friends of the sun, which are expelled by winter from his house. A fragment in *Fèlix* offers some additional clues to interpret this:

»The philosopher asked the prince why the water in a well was warm in winter and cold in summer. The prince replied that in the summer the pores of the earth are open, and through them escapes the heat which the sun and fire draw towards themselves; and the more the vapour of the fire rises up, the more the cold that remains below is purified, and the greater heat there is, the greater is the cold of this vapour. But in winter water causes the surface of the earth to contract so that the vapour of the fire cannot escape, which is why the vapour of fire which is underground warms the water in wells and springs in wintertime, just as fire heats the water in a kettle.«²⁶

²⁴ See the Introduction to *Arbor quaestionalis*, OE I, p. 842, where Llull affirms that he will not give the solution to all the questions for brevity's sake, since »de hoc doctrinam dedimus in *Arte inventiva*, et in *Tabula generali*, et in *Arbores philosophiae*.« (ROL XXVI, p. 843). Compare with the general prologue to the *Arbor scientiae* (OE I, p. 556): »Per Arborem questionalem artem intelligimus et modum quaestiones faciendi et ipsas soluendi. Et datur cognitio ad inueniendum rerum ueritates et ad destruendum et confundendum errores, qui in multis libris ponuntur, per quos multi homines tamquam caeci in tenebras existunt.« (ROL XXIV, p. 10).

²⁵ OE I, p. 849: »Quaestio: Quare aqua fontium frigidior est in aestate quam in hieme? Solutio: Hiems amicos solis de domo eiicit.« (ROL XXVI, p. 862)

²⁶ SW II, p. 750. »Lo filosof demanà al fill del rei per qual natura és l'aigua del pou calda en hivern, e freda d'estiu. Lo fill del rei respòs, e dix que en estiu són oberts los porus de la terra, per on ix la calor que el foc e el sol atraen a ensús; e on pus la vapor del foc puja a ensús, pus se depura de la fredor qui roman a enjús; la qual vapor és major en fredor, on més hi ha de calor. Mas, car en hivern la aigua estreny la faç de la terra que no pas la vapor del foc, per açò la vapor del foc que està sots la terra, escalfa d'hivern l'aigua en los pous e en les fonts, enaixí com foc qui escalfa l'aigua en la olla« (OS II, p. 96).

The dialogue structure of this passage in *Fèlix* is highly unusual, since it is the prince who provides us with the necessary information, rather than the philosopher. This situation contravenes the conventional role of the prince as student in the didactic dialogues of encyclopaedias for a lay readership. Compare the treatment of Llull's *quaestio*, for instance, in the *Dragmaticon philosophiae*:

»Duke: If the earth and the water are naturally cold in winter, and winter is cold, why is the water in a well hot in winter and cold in summer?

Philosopher: Because of the cold, in winter the pores of the earth close up, the vapour from the earth cannot evaporate, and thus it is retained in the earth and heats the water. In summer, the pores of the earth are opened up by the heat; then vapour escapes, the heat decreases and the water comes out colder.«²⁷

The inversion of roles in Llull's dialogue in *Fèlix* adds a new dimension to conventional acquisition of knowledge. Llull implies that the prince has already learnt the philosopher's doctrine, and, consequently, he is able to solve questions and even establish analogies. He is actually in the position in which the readers of the *Arbor exemplificalis* and *quaestionalis* should find themselves.

However, it should be born in mind that it is not always easy to find the necessary keys to interpret the maxims that solve these questions. This is especially true in the case of questions of natural philosophy, for which it is very hard to find suitable background material in Llull's works. Question 96 in the roots of the *Arbor sensualis* is a good case in point.

»Question: Why do women not have as much hair on their chin as men? Solution: That tree, thanks to its bigger roots, is stronger, and reaches the roots of the *Arbor sensualis*.«²⁸

Fèlix lends no help to interpret this question, and in the before mentioned *locus* of the *Arbor sensualis* (ROL XXIV, p. 132-133; OE I, pp. 594-95) we learn that goodness is manifested in different fashions in sensory bodies. There is no mention, however, of the specific question, which is a standard entry in conventional encyclopaedic texts:

²⁷ »Dux: Cum terra et aqua naturaliter sint frigidae, hiems uero frigida, unde est quod in hieme aqua putei est calida, in aestate frigida? Philosophus: Frigiditate hiemis pori superficiei terrae clauduntur, unde fumus terrae non potest exire, qui intus remanens aquam calefacit. In aestate uero poris superficiei terrae ex calore apertis fumus euaporat minuiturque calor, unde aqua abintus erumpens exit frigida« 5,11,3 (see the editions quoted in n. 14).

²⁸ OE I, p. 846. »Quaestio: Feminae, quare non habent tot capillos in barba sicut homines? Solutio: Illa arbor, quae maiores habet radices, fortior est. Et uade ad radices *Arboris sensualis*.« (ROL XXVI, p. 854).

»Duke: Since women and children have hair, why do they not have a beard?

Philosopher: As we have said before, men are hotter than women because of their complexion and testicles, and for that reason the pores in their jaws open wider. Conversely, women are cold and moist, and their small pores close up because of the moisture. Consequently vapour cannot escape through them and hair cannot grow. The same reason applies to children, who have small pores that close because of the moisture.«²⁹

It is necessary to reach Question 46 in the branches of the corporeal *Arbor humanalis* to somehow recover this conventional context:

»Question: Why are male bodies hairy? Solution: Each hair is an instrument for the purification of the vapour inside, and it compresses the vapour that escapes through the pores so that digestion should have many friends.«³⁰

A familiarity with the notions of natural philosophy contained in the *Doctrina pueril*, *Fèlix* or any »petite encyclopédie«, such as the *Dragmaticon philosophiae*, would ease the understanding of the elliptic formulations in the *Arbor scientiae*. However, it is also worth remembering that Llull's deductive method is expressed by means of calculated obscurity – I mean an obscurity that can be surmounted – in order to stimulate the intellect. This purpose is patent in some questions in the *Arbor quaestionalis* and the complementary maxims:

»Question: It is asked whether the sensual trunk, when touched, replies through reason or through nature.

Solution: Nature was asleep and her reasons awoke her, so she would not be idle.«³¹

We learn in the *Arbor sensualis* that its trunk is equated to the Aristotelian common sense. It is the central point where the sensory intellect articulates the data from the senses within a global overview: »and its nature allows the

²⁹ »Dux: Cum mulier et puer capillos habeant, quare carent barba? Philosophus: Vt dictum est superius, uir est calidior femina tum ex complexione tum ex calore testiculorum, unde circa maxillas apertiores habet poros. Femina uero est frigida et humida, unde strictos habet illos poros et ex humiditate inuiscatos, ideoque non potest fumus per eos exire nec pili ibi crescere. Eademque ratione in pueris, qui strictos habent poros et ex humiditate inuiscatos,« 6,17,5 (see the editions quoted in n.14).

³⁰ OE I, p. 867. »Quaestio: Corpus hominis, quare est pilosus? Solutio: Pilus est instrumentum, cum quo uapor depuratur, qui intrat, et cum quo restringitur uapor, qui exit per poros, ut digestio plures habeat amicos.« (ROL XXVI, p. 916).

³¹ OE I, p. 853. »Quaestio: Vtrum truncus sensualis, cum tangitur, per rationes respondet aut per natura. Solutio: Dormiebat natura, cuius rationes ipsa euigilauerunt, ut otiosa non esset.« (Ib., p. 874).

natural sense to make a judgement«; hence when »touched«, it replies both »through reason« and »through nature«.³²

This analogic network and its literary and didactic implications transform the *Arbor scientiae* into such a different product from the encyclopedias in its immediate context that it deserves the label of »new encyclopaedia«. Similarly, Llull has already been attributed a »new« astronomy, a »new« rhetoric, a »new« logic and a »new« geometry. The scope of the novelty in these Lullian reformed sciences can be evaluated from the point of view of his Art, which is presented (adopting the phrase coined by Bonner) as an »alternative authority«. The alterity of Llull's versions of contemporary intellectual disciplines extends also to his »new« literature, on account of its hermeneutic and didactic functions.³³

3. THE *ARBOR SCIENTIAE*, THE *BREVIARI D'AMOR* AND *CERVERÍ DE GIRONA*

In the last decade of the thirteenth century Occitan was the common language for Catalan lay intellectuals. Other than some translations which cannot be accurately dated, the literary production of the time in Catalan language mainly consisted of a handful of historiographic texts and Llull's works. It is therefore more fruitful, for comparative purposes, to look at the contemporary production in Occitan. Specifically, I am thinking of Matfre Ermengaud's *Breviari d'amor* and Cerverí de Girona's *La Faula del rossinyol*.

The Franciscan Matfre Ermengaud of Béziers, near Montpellier, wrote his *Breviari d'amor* in 1288, while Ramon Llull was composing his *Fèlix* in Paris. Matfre, like Ramon, used a symbolic tree as a framework for his encyclopaedia, the Tree of Love. In order to judge this structural coincidence accurately, we must bear in mind that he was militant in his attachment to the national cultural tradition. Tell-tale signs of this attachment are his choice of verse to write his treatise and his plan to deal within a single work with God's love for humanity, human love of God and the love between man and woman (amor de mascle e feme). This last subject-matter is at the origin of troubadour lyrics, a major contribution to the reputation of the Occitan language. This is also the topic chosen by Matfre to conclude his *Breviari* with the *Perilhós tractat* (vv. 27.253-34.597).

³² OE I, pp. 595-96. »Qui quidem truncus sensualis est sensus communis, natura cuius eius sensus particulares faciunt iudicium.« (ROL XXIV, p. 135). Metaphorically speaking, this is the moment when a hypostatised nature wakes up and ceases to be blind and deaf: it is the first emergence of sensory animal intelligence.

³³ MICHELA PEREIRA, »Le nuove scienze di Raimondo Lullo«. In: *Actas del V Congreso Internacional de Filosofía Medieval II*, Editora Nacional: Madrid 1979, pp. 1083-1089; ANTONI BONNER, »L'Art lul·liana com a autoritat alternativa«. In: *SL* 33 (1993) 15-32; JORDI GAYÀ, »Els exemples lul·lians: noves referències a la influència àrab«. In: *EL* 23 (1979) 206-11 and »Sobre algunes estructures literàries del *Llibre de Meravelles*«. In: *Randa* 10 (1980) 63-70. See also LOLA BADIA, »La literatura alternativa de Ramon Llull«, (quoted in n. 20).

The topics included in the *Breviari* up to v. 27.252 are trinitary theology, an introduction to natural sciences (from cosmology to astronomy and mineralogy), the reproduction of different species, man's moral duties, an outline of the estates of society, a treatise on virtues, and a commentary on the *Credo* and the Articles of Faith.³⁴ Some of the moral points discussed find their solution in a *cento* of troubadour quotations. For theological and philosophical issues, Matfre resorts to versifications of Vincent of Beauvais' *specula*, as well as references to the names of authoritative figures (Augustine, Aristotle, Galen, Pliny, etc). The Tree of Love in the *Breviari* is a »memory image«. It aims at establishing a notion of universal love, with its roots in Augustine and Bonaventure, which accounts for creation, the requirements of salvation and the place of the sin of lust within this framework. Thus vv. 1-998 generate a visual representation and a gloss.³⁵ The iconographic representations of the Tree of Love in the manuscripts of the *Breviari* (which are often very lavish) vary considerably because of the vague description provided by the author. The Plate reproduces the Tree of Love from the *Breviari*'s Catalan translation (MS. Res. 253 of the Biblioteca Nacional de Madrid, fol. 3v).

Matfre Ermengaud describes twice the material picture of a Tree of Love which keeps its flowers and leaves both in winter and summer («L'albres es mot maravilhos, / tot l'an es floritz e folhos / aissi ben d'ivern cum d'estieu,» vv. 411-413), and which is never depleted no matter how much people strip it (vv. 422-432). Its leaves and flowers, with which lovers are crowned, represent respectively contemplative and active life. The names of the properties inscribed on the flowers are the fruit of the Tree of Love: Everlasting life and Children (vv. 433-528). The Tree of Love has twelve roots, whose names must be read in the picture, and they correspond to good works. The Tree stems from God, who is located in an upper circle and rules the lower one, that of Nature. Two branches stem from Nature: the Law of nature (Dreg de natura) and the Law of people (Dreg de gens), that is to say the animal and moral dimensions of man. Each has two daughters, a good and a bad one. Those of the Law of nature (Dreg de natura) are Love of man and woman (Amor de mascle e feme) and Love of one's child (Amor de son enfan); the daughters of the Law of people (Dreg de gens) are Love of God and of one's neighbour (Amor de Dieu e de son prueime) and Love of worldly goods (Amor de riquesas temporals). Love of man and woman produces Offspring, Love of one's child, Happiness; Love of God and one's neighbour produces Eternal life, and Love of worldly goods, Pleasure. Above the Tree of Love there is a feminine figure

³⁴ See FERRANDO's edition, (quoted in n. 11), II, pp. xv-xvi, and RICKETTS' I, pp. 2-58.

³⁵ XAVIER RENEDO, »Una imatge de la memòria entre les *Moralitates* de Robert Holcot i el *Dotzè* de Francesc Eiximenis«. In: *Annals de l'Institut d'Estudis Gironins* 31 (1992) (= MARIÀNGELA VILALLONGA ed., *La tradició clàssica i la didàctica del Llatí a Catalunya. Actes de les Jornades d'homenatge a Dolors Condom*) 53-64, attests to the presence of these pictorial representations in Catalonia during the fourteenth century. These mnemonic devices for preachers were not originally meant to be seen, but they could be represented in a drawing or a miniature.

representing the Virgin Mary: she is trampling under foot Love of man and woman and Love of worldly goods, while she takes to her heart Love of one's child and places Love of God and of one's neighbour in her crown.³⁶

The treatment of these topics in the *Breviari* has no connection with the parts of the Tree of Love. Conversely, the introduction to the *Perilhós tractat* presents two further symbolic trees. Mirroring the two trees that God set in the earthly paradise, that of life and that of knowledge of good and evil, Matfre structured his *Breviari* in two parts: the first is thoroughly beneficial, the second has to be approached with care.³⁷

In the second of the series of Observations which close Anthony Bonner's contribution to this volume, he notes that Lullian scholarship has failed to detect an immediate precedent for the arboreal symbolism of the *Arbor scientiae*. However, it is worth remembering Llull's familiarity with »memory images«, more so after Josep Enric Rubio has found traces of conventional arts of memory in the *Book of Contemplation in God*.³⁸ When Matfre Ermengaud's Tree of Love is placed in this context, the reader of the *Arbor scientiae* can find familiar elements in the work of the Franciscan: a divine and a natural cir-

³⁶ The first 998 lines of the *Breviari* (ed. Ricketts, pp. 2-58) are divided into two parts by a gloss in pp. 28-34, after l. 528. The verse fragments amplify the excellences of love, both spiritual and human, using the language of mystical and fantastic literature, respectively. The gloss in prose describes the Tree of Love (branches, leaves, flowers, fruits, the superior and inferior circles, the feminine figure).

³⁷ MICHEL PASTOREAU, »Bonum, malum, pomum. Une histoire symbolique de la pomme«. In: MICHEL PASTOREAU, ed., *L'arbre. Histoire naturelle et symbolique de l'arbre, du bois et du fruit au Moyen Age*, Le Léopard d'Or: Paris 1993, pp. 155-199, describes the ambivalent value of fruit in the thirteenth and fourteenth centuries; see *ibidem*, p. 130, for the references to *Genesis*.

³⁸ JOSEP ENRIC RUBIO ALBARRACÍN, »Una incursió lul·liana en l'*Ars memoriae* clàssica al *Llibre de contemplació en Déu*«. In: *Actes de l'onzè Col·loqui de l'Associació Internacional de Llengua i Literatura Catalanes*, Mallorca 1997, JOAN MAS I VIVES et al., eds., Montserrat 1998, pp. 61-72. For further information on the images associated to knowledge, see JOHN E. MURDOCH, *Album of science. Antiquity and the Middle Ages*, Charles Scribner's Sons: New York 1984, pp. 38-51. This study discusses the most common »Dichotomies and Arbores« in medieval scientific manuscripts. They represent the division of sciences, the chart of virtues and vices, the principles of medicine, the family relations of descent, the relationships among prophets, the genealogy of pagan gods, the ages of man, logic (Porphyry, Aristotle). None of Llull's trees are reproduced (cf. his circles in p. 60). DANIELE ALEXANDRE-BIDON, »L'Arbre à l'Alphabet«. In: MICHEL PASTOREAU ed. (cited in nr. 37), pp. 127-143, remarks on the presence of arboreal symbolism in fifteenth-century preaching. For the lack of specific sources (even in Arabic literature) for the Lullian arboreal system, see DOMINIQUE URVOY, »Le symbole de l'arbre chez les auteurs arabes antérieurs à Llull«. In: FERNANDO DOMÍNGUEZ - JAIME DE SALAS, eds., *Constantes y fragmentos del pensamiento luliano*, Trujillo 1994, Niemeyer: Tübingen 1996, pp. 91-97. The *Arbre de Filosofia d'amor* is to be considered a descendant of the *Arbor scientiae*, see JORDI RUBIÓ BALAGUER, *Ramon Llull i el lul·lisme*, Obres Completes de J.R.B., vol. II, Publicacions de l'Abadia de Montserrat: Barcelona 1985, p. 340.

cular figure, the coexistence of circles and trees, the location of virtues in the roots of the tree (within Llull's *Arbor scientiae*, I have already mentioned the virtues in the roots of the *Arbor apostolicalis*), the symbolic gesture of picking up flowers and fruits from the trees. These are »contemplative« leaves in the *Breviari* and »accidental« in the *Arbor scientiae*, while flowers are »active« for Matfre and »instrumentative« in the sixth level of Llull's structure. Thanks to his »systematic will« Llull created a powerful intellectual construct from the same mnemonic device that Matfre used for decorative and vaguely didactic purposes.

I would like now to set aside these encyclopaedic elements for the moment and turn to the literary and dialectic dimension of Trees 15 and 16 of the *Arbor scientiae*. The daring innovation of Tree 15 has already been remarked upon by Robert Pring-Mill, but Tree 16 has only recently begun to be analysed in a similar light, by confronting it with scholastic topics.³⁹ Following Pring-Mill's definition of the *Arbor exemplificalis* as a »transmutation of science into literature«, one could say that the purification of literature from any residual sin has achieved here its peak. Indeed there are no traces of the lustful undertones inherent in poetry nor of the gratuitousness of the »exemples de romans«. ⁴⁰ It is a pity that Llull was »very busy with other affairs«, as he affirms in the prologue to the *Arbor exemplificalis*, and had no time to carry out a more accurate transmutation of all science into a new literature, or to engage into further literary polemics with his own tradition.⁴¹

I would like to return to the calculated and surmountable obscurity with didactic purposes which is found in some elliptic maxims of the *Arbor scientiae*. The general heuristic value of this obscurity is formulated in a well-known passage of *Fèlix*: »for the more obscure the example, the greater is the understanding of the intellect which understands it«. ⁴² Martí de Riquer has suggested that there might be a clue for Llull's mirroring of didactic obscurity in the works of the Catalan troubadour Cerverí de Girona. The analysis of the works of this court poet, who was a contemporary of Llull's (doc. 1258-85), from the

³⁹ ROBERT PRING-MILL, *Estudis sobre Ramon Llull (1956-1978)*, Curial - Publicacions de l'Abadia de Montserrat: Barcelona 1991, pp. 307-318. Cf. the first of Bonner's *Observacions* in his article in this volume, and also KLAUS JACOBI's contribution.

⁴⁰ Llull's search for a morally aseptic formula must be seen in connection with his exclusion of the contents of the *Speculum historiale*, as discussed earlier. See Bonner and Badia's book, cited in n. 20, p. 96.

⁴¹ OE I, p. 799. »quoniam in aliis ualde sumus occupati« (ROL XV, p. 709). For this same procedure, applied to the judgment of Paris, see the example about »quantitat celestial« (leaves of the *Arbor exemplificalis*, 9), which begins: »Narratur, quod circulus, quadrangulus et triangulus sibi inuicem obuauerunt in quantitate, quae erat eorum mater, que tenebar unum pomum auri. Et quae siuit a suis filiis, si ipsi sciebant, cui illud pomum dare debebat. Et respondit circulus, quod ipse ipsum habere debebat, quia ipse erat primogenitus [...]« (Ib., p. 792; OE I, p. 829). See my discussion in the article cited in n. 11.

⁴² SW II, p. 722; OS II, p. 72.

point of view of his intellectual background has already proved fruitful.⁴³ His very elaborate *La Faula del rossinyol* is a good comparative case for the purpose of this article: it is a narrative poem, with a specifically literary aim, that was written by a layman in 1273 in the court of King James I. The outline of the poem is as follows:

(1) The initial framework introduces the narrator, Cerverí, arriving at a *locus amoenus*, and makes reference to some ills (mals), unknown to the reader, which should be cured.

(2) Subsequently Cerverí witnesses four scenes: (2.1) A sparrow-hawk humiliates a nightingale and devours its chicks. (2.2) A peasant punishes the sparrow-hawk; (2.3) The peasant captures the nightingale who, nevertheless, manages to be freed on condition of revealing to him a secret; (2.4) An ugly old woman called Minstrely (Joglaria) attacks Cerverí. She accuses him of betrayal, alleging that she protected him and made him into an important figure, and now Cerverí is only interested in superior knowledge.

(3) The squire of Law (Dreyt) and Peace-of-the-King-and-the-Prince (Patzdel-Rey-e-de-l'Enfan) frees Cerverí from Minstrely. This event connects back with the initial section (1).

(4) In the final narrative framework the ills which the *locus amoenus* can cure are revealed as political: the dissensions between the King (James I) and his son (Peter), that is, between (rey) and (Peyre). They can be resolved by Law, that is by (dreyt), since most of the letters of this last word are found in their names. An elaboration on this word-play sums up the concealed meaning of the text.

Following Miriam Cabré's analysis (see reference in n. 43), I would like to highlight the succession of a series of disconnected episodes, which are bound together by the notion of an ill which must be cured. This notion is eventually expanded in the moral solution to the specific political problem by means of an etymologic word-play. The decoding of the hidden meaning in the final allegory of *La Faula del rossinyol* suggested by Cabré reveals Cerverí as a skilled creator of »obscure examples«. It is also worth mentioning in the poem the presence of the authorial »I« and his concerns regarding professional definition. Cerverí opposes, for instance, the notion of Minstrely, which procures wealth, to literary activity as a morally valuable exercise. Regarding his use of sources and his compositive strategies, Cerverí transforms the *topos* of the *locus amoenus* to suit his literary needs, to the point of inserting personal attrib-

⁴³ See Riquer's book cited in n. 33, I, pp. 348-50. As well as *Cerverí de Girona and his Literary Traditions* Boydell & Brewer: Woodbridge 1999, MIRIAM CABRÉ has published »L'entenció del nom: recursos etimològics a l'obra de Cerverí de Girona«, *Boletín de la Real Academia de Buenas Letras de Barcelona* 44 (1993-94) 79-100 and »La Faula del rossinyol de Cerverí de Girona«, FABRIZIO BEGGIATO ed., *La narrativa in Provenza e Catalogna nel XIII e XIV secolo*, Edizioni ETS: Pisa 1995, pp. 67-81. For Cerverí's text, see MARTÍ DE RIQUER, ed., *Obras del trovador Cerverí de Girona*, Instituto de Estudios Mediterráneos: Barcelona 1947 and JOAN COROMINES, ed., *Cerverí de Girona, Narrativa. Poesia. Versos proverbials*, 4 vols., Curial: Barcelona 1985-91.

utes into the *topos* (he mentions Santa Seglina, near Girona, which had been donated to him by the king). The political allegory is his own creation, as they are the narrative episodes 2.2 and 2.4. However, he used existing materials to elaborate the episodes 2.1 and 2.3. Episode 2.3, for instance, is found in the legend of *Barlaam et Josaphat*, which was also a source of literary inspiration for Ramon Llull.⁴⁴

The *Arbor scientiae* presents a rhetorical proficiency and an ethical attitude comparable to those of Cerverí. These coincidences are only partially concealed by Llull's radical break with the troubadour tradition venerated by Matfre Ermengaud. This is clearly seen by examining Story 15 in the roots of the *Arbor exemplificalis*, which has already been the object of published studies.⁴⁵ The austere prose of Llull's story bears no resemblance to the six-syllable couplets in *La Faula del rossinyol*. However, the succession of narrative episodes with a converging hidden meaning reveals a similar intellectual procedure. Story 15 in the roots of the *Arbor exemplificalis* has four parts:

(1) Majority is the daughter of fire and earth in pepper, and minority is the daughter of air and water in pepper. Pepper marries majority and minority; and a son is born who kills his father. Consequently the tailor curses the scissors and the needle. »What does this mean?« the monk asks Ramon. In this episode, the »natura« characters (the elements and pepper) and the two relative principles (majority and minority) enact a moralisation based on the subject-matter of the roots of the *Arbor elementalis*, which can be read in a »human« sense in the next episode.⁴⁶ The underlined sentence, which censures the instruments of tailoring (a mechanical art), anticipates Llull's subsequent intention. In this story family relationships and the biography of the characters do not follow realistic patterns, they only evoke relationships of dependence (marriage, parenthood).

⁴⁴ An overview of Cerverí's intellectual profile must recall his incursion into paremiology (the *Versos proverbials*, which he signed with his non-jongleuresque name, Guillem de Cervera), like Jafuda Bonsenyor. He also produced more than a hundred poetical works, both lyrical and narrative. They include a wide range of genres available within the troubadour tradition as well as innovative experiments, and a constant variation of literary motifs. This feature is attested to by the titles of his poems in MS 146, Biblioteca de Catalunya, such as »Vers de les herbes«, »Vers de l'enganya-pastors«, »Vers de l'Hòstia«, etc. See the bibliographic references in the previous note. For the *Barlaam*, see LOLA BADIA, *Teoria i pràctica de la literatura en Ramon Llull*, Quaderns Crema: Barcelona 1992, pp. 115-19.

⁴⁵ It begins »Ignis et terra unam filiam in pipere fecerunt, quae Maioritas vocabatur, et aer et aqua aliam filiam in eodem pipere fecerunt, quae Minoritas vocabatur [...].« *OE* I, p. 803. These interpretations can be found in Bonner and Badia's book (cited in n. 20), 117-119 and LLUÍS CABRÉ - MARCEL ORTÍN - JOSEP PUJOL, »Conèixer e haver moralitats bones. L'ús de la literatura a l'Arbre exemplifical de Ramon Llull«. In: *EL* 28 (1988) 139-67.

⁴⁶ Majority and minority are here related to a vegetable species, that is to say pepper, which has four degrees of heat, three of dryness, two of moisture and one of cold. Fire (hot) and earth (dry) overrule air (moist) and water (cold) in the composition of pepper. Note the didactic function of this review of the grades of the four elements, which is necessary to understand part (1).

(2) Wealth is the daughter of the needle and the tailor. Honour is the daughter of the scissors and the tailor. The tailor marries wealth and honour; and a son is born who refuses to pay for his father's funeral. The tailor curses the scissors and the needle, repenting from having become rich. This »human« version translates the conflict between majority and minority in pepper, found in (1), into specifically moral terms. However, this episode still maintains a mystery, for repenting from having successfully practiced the mechanical art of tailoring is hardly an acceptable conclusion. What is, in that case, the true central conflict? In order to find out, one may continue reading Story 15, or jump from the roots of the *Arbor exemplificalis* to Question 231 in the *Arbor quaestionalis*:

»Question: How must men bring up their children? Solution: Go to Paragraph 15 in the roots of the *Arbor exemplificalis*.«⁴⁷

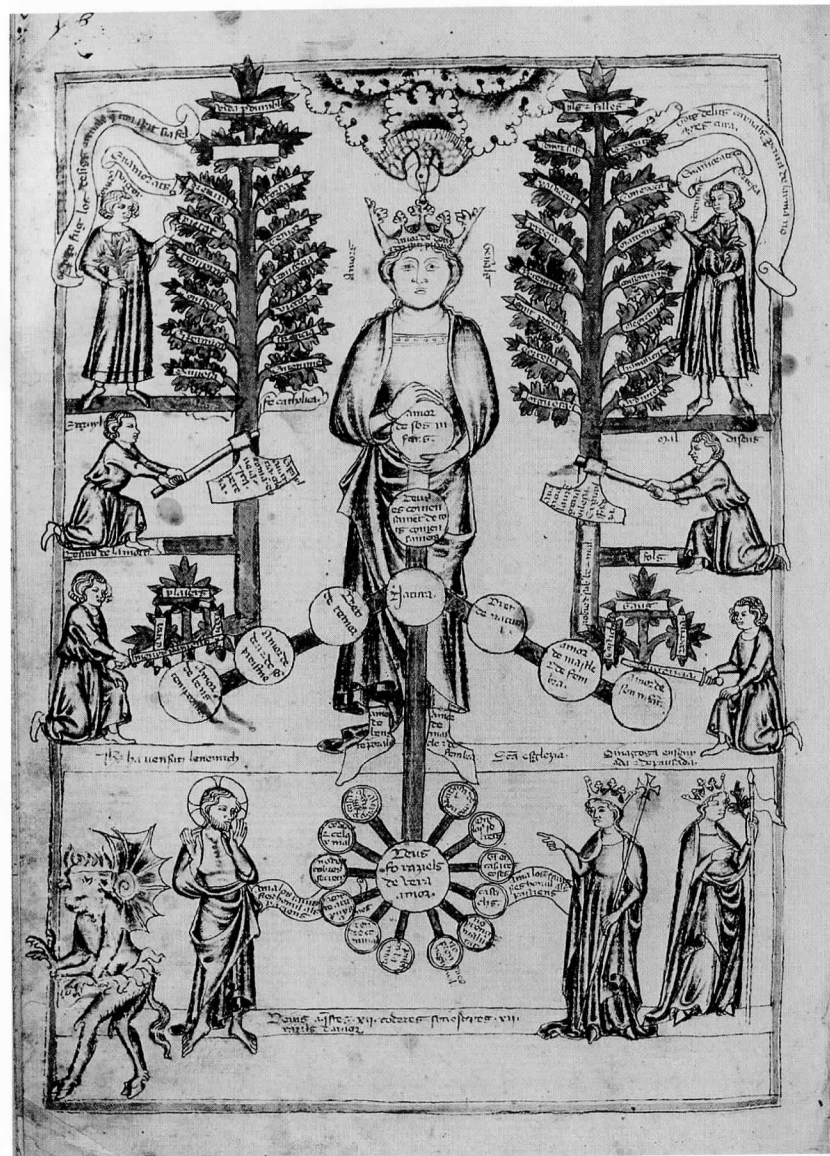
(3) In the third episode the scissors and the needle become characters and show how (1) and (2) are related. The tailor chose minority of wealth and honour for himself, and gave his son majority of wealth and honour. This is why father and son are contrary to one another in death. As Question 15 in the *Arbor quaestionalis* shows, the main point of our example is that children must be ruled by parents and not vice versa, and this is the way they should be brought up.

(4) The monk asks Ramon the name of the son in the example, which is Privation-of-the-goal-of-honour-and-wealth (*Privatio finis honoris et diuitiarum*). The introduction in the discourse of the relative principle »goal« connects episodes (4) and (1), since, in the latter, two relative principles were mentioned (majority and minority). Finally, a symbolic name summarises the concealed meaning of the whole story. This solves the apparent puzzle of a complex tale, articulated in four sections.

Previous interpretations of Story 15 in the roots of the *Arbor exemplificalis* (see n. 45) did not hit the core of Llull's structure, because they disregarded the corresponding question in the *Arbor quaestionalis*. This is an inescapable lesson: it is not possible to read a single page in the *Arbor scientiae* without taking into account the corresponding questions in the *Arbor quaestionalis*. The case analysed in this article also offers solid proof of the internal cohesion of the *Arbor scientiae*. A moral topic, such as the education of children, is dealt with in such a way that it gathers up materials as diverse as the relative principles majority and minority (cf. the roots in the *Arbor elementalis*), the relationships between the four elements (cf. the branches in the *Arbor elementalis*), the degrees of pepper (cf. the fruits in the *Arbor vegetalis*), and the instruments of the mechanical art of tailoring (cf. the leaves in the *Arbor humanalis*).

⁴⁷ *OE* I, p. 852. »Quaestio: Quomodo homines suos pueros nutrire debent? Solutio: Vade ad decimumquintum paragraphum radicum *Arboris exemplificalis*.« (*ROL* XXVI, p. 870).

Cerverí de Girona's *La Faula del rossinyol* casts a light onto the structure of Llull's complex story and the relationship between its four sections. Cerverí's text consists of a chain of animal fables and allegorical narratives with a moral dimension, which converge in a political statement in favour of the reconciliation between the king and his son. The cryptic layer that surrounds the meaning of the text presents a surmountable obscurity, which sharpens the wit of the audience, conveys a moral teaching and rewards the accomplished reader. I suggest that Ramon Llull adopted this didactic literary recipe, which was available in his immediate context, and transformed it to suit his own requirements. It is also extremely likely that he and Matfre Ermengaud had a common awareness of the figurative stimuli of »memory images«



The Tree of Love from the Catalan version of Matfre Ermengaud's *Breviari d'Amor*, Ms. Biblioteca Nacional de Madrid, Res. 253, fol. 3^v. Edition quoted in note 11 (Valencia 1981)