ŞCOALA ARDELEANĂ. ASPECTS OF BIOLOGY TERMINOLOGY

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The interest for natural sciences is rather old in the Romanian cultural space. The Teaching of natural sciences has been done in Transylvania even since the 17th century (at the Bethlenian College in Aiud). In this period there are also recorded scholarly preoccupations as regards the Romanian thesaurus of pharmaceutical botany. Special mention should be made to Teodor Corbea who, in his Latin-Romanian dictionary, mentions approximately 430 Romanian names of plants. Romanian plants' names are to be also found in a series of vocabularies elaborated during the 16th and 18th centuries. Beginning with the latter half of the 18th century, the actions related to the development of natural sciences become more and more numerous. The progress recorded in Europe penetrates the Romanian provinces, especially Transylvania. In Transylvania it is founded the first Romanian forestry park (Arboretum, in Simeria, in the 18th century), there appear the first rules concerning the exploiting and preservation of forests (1781) and it is founded the first Romanian school of forestry, in 1817, unlike the Romanian Principalities, where such schools appear after 1850.

Due to the economic and scientific interest shown by the rulers of the Empire, it is required, by gubernial dispositions, the inventory of all plants known in each province of the Empire. Therefore, there are recorded, after 1770, the first plant nomenclatures elaborated by German and Hungarian pharmacists. The first list of this type is *Nomina vegetabilium*, elaborated by Jóseph Benkö in Latin, Hungarian and Romanian, which appeared in Bratislava, in 1783. It contains approximately 612 names of Romanian plants, known in Transylvania. Around 1800 there are in use several plants lists, among which the most famous belong to the pharmacist Peter Sigerus, teacher of botany at the Forestry School in Sibiu, which appeared in 1791 (containing 170 Romanian names of plants) and to Michael Neustädter, whose list, containing 173 names of plants, appeared in 1795[1].

These lists of plants enjoy a broad circulation, being capitalized by the Transylvanian scholars, especially by Gh. Şincai, in his two texts of natural science. Translated and adapted from German specialty books, Şincai's writings make full use of the specific terminology of the field, but also disseminates, for the first time in the history of this scientific area, a rich biology terminology. His texts, in which it can be found a rich specialized biology terminology, are *Istoria naturei sau a firei*, a translation elaborated between 1804-1808, after I. H. Hellmuth and a *Vocabular*, in four languages containing biological terms, with two editions: Latin (*Vocabularium pertinens ad tria Regna Naturae*) and Romanian (see Ursu, 1962: 31). They are the only writings in the area of natural sciences in Transylvania up to 1830.

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The most striking feature presented by these texts is represented by terminology, which represents the subject of our research.

In our study we differentiate between *borrowings* and *old, traditional terms*, because, as we are about to see, the old, traditional terminology is well represented. Within borrowings, we differentiate between *lexical borrowings* and *loan-translations*, in order to emphasize the weight each category holds on the whole of the scientific terminology. Loan-translations have been in the sight of linguists for a long time[2]. While analyzing the loan-translations found in the texts subject to our research, we adopt the latest classification proposed by Th. Hristea (Hristea, 1997: 10-29): *semantic structure loan-translations* (the new meaning is attributed to an older word in Romanian, belonging to the same semantic area) and *morphological structure loan-translations* (a more or less accurate rendering of the internal structure of lexical borrowings, relevant for the forming ways of neologisms). Besides lexical borrowings and loan-translations, we have established another lexical category, *translations* (compound words, syntagms and periphrases), illustrative linguistic mechanisms for the scientific literature of the period, placed under the sign of the Enlightenment.

Lexical borrowings

alburn (SIN, 4 < lat. *alburnum,* it. *alburno*), *algă* (SV, s.v., SIN, 8 < lat. *alga,* fr. *algue*), *alligatore* (SIN, 71 < lat. *alligator,* germ. *Alligator,* fr. *alligator*), *amfivii* (SIN, 103 < lat. *amphibium*, germ. *Amphibie,* cf. ngr. *άφίβιος*), *angville* (SIN, 73 < lat. *aquila*), *animal* (VA, 10, *animánt* FDB, 64, 112 < lat. *animal, animans,* fr. *animal*), *antenne* (SIN, 50 < lat. *antenna,* fr. *antenne*), *anteră* (SIN, 6 < lat. *anthera,* it. *antera,* germ. *Anthere,* fr. *anthére*), *apteră* (SIN, 79 < lat. *aptera,* fr. *aptére*), *ascaride* (SIN, 83, *ascariță,* SV, s.v. < lat. *ascarida,* fr. *ascaride*), *bestie* (LB, s.v. < lat., it. *bestia*), *botanic* „botanist" (SIN, 16 < lat. *botanicum,* it. *botanico,* germ. *Botaniker*), *branhie* (SIN, 73 < lat. *branchiae,* fr. *branchies*), *bruții* „brutele" (SIN, 51: „*bruții*, adecă dobitoacele cele mai mari" < lat. *brutum,* fr. *brute*), *bulb* (SIN, 5 < lat. *bulbus,* fr. *bulbe*), *canarie* „canar" (LB, s.v. < fr. *canari*), *clasă* (SIN, 2, *clasuri*, SIN, 2, TVM, 1 < lat. *classis*, germ. *Klasse*, it. *classe*), *coleoptere* (SIN, 79 < lat. *coleoptera,* fr. *coléoptères*, cf. ngr. *χολεόπτερος*), *corollă* (SIN, 6 < lat. *corolla,* fr. *corolle*), *crustă* (LB, s.v. < lat. *crusta*, germ. *Kruste*), *cruțifer* „crucifer": „cu petalele şi sepalele în formă de cruce" (SHR, I, 432 < fr. *crucifere*), *damă* „căprioară" (SV, s.v. < it. *dama,* fr. *dame*), *diptere* (SIN, 79 < lat. *dipteros*, fr. *diptère*), *dromedariu* „dromader" (LB, s.v. < it. *dromedario,* fr. *dromadaire*), *embrion* (VA, 244 < lat. *embryo,* it. *embrione,* fr. *embryon*), *fibră* (VA, 20, 57 < lat. *fibra,* fr. *fibre*), *fitofage* (VA, 41 < fr. *phytophyge*), *fruct* (LB, s.v. < lat. *fructus*), *ghen* (ICC, 8 < lat. *genus,* germ. *Genus*), *glume* „bractee situată la baza fiecărui spiculeț al unei plante graminee" (SIN, 20 < fr. *glume*), *hemiptere* (SIN, 79 < lat. *hemiptera,* fr. *hémiptère,* cf. ngr. *ήμιπτερου*), *hippopotamul* (SIN, 60 < fr. *hippopotam,* cf. şi ngr. *ίπποποταμός*), *hymenoptere* (SIN, 79 < lat. *hymenoptera,* germ. *Hymenopteren,* fr. *hyménoptère*), *interregn* (SHR, III, 69 < lat. *interegnum*), *înfuzorii* (SIN, 83 < lat. *infusorius,* fr. *infusoire*), *insect* (SV, s.v., VA, 197, *însecte,* SIF, 91, SIN, 47, 77, *insecturi,* VA, 197 < lat. *insectum,* germ. *Insekt,*

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fr. *insecte*), *larvă* (LB, s.v. < lat., it., *larva*, germ. *Larve*, fr. *larve*), *lepidoptere* (SIN, 79 < lat. *lepidoptera*, germ. *Lepidopteren*, fr. *lépidoptère*), *lichen* (SV, s.v. < lat. *lichen*), *mimosa* (SIN, 11 < lat., fr. *mimosa*), *moluşti* (SIN, 81 < lat. *molluscus*, germ. *Molluske*, fr. *mollusque*), *monodont* (SIN, 61 < fr. *monodonte*), *natură* (SIF, 144, PAM, 1, MVV, 3, 23, LB, s.v. < lat., it., *natura*, germ. *Natur*, fr. *nature*), *nevroptere* (SIN, 79 < lat. *neuroptera*, fr. *névroptère*), *organisație* (VA, 60 < germ. *Organisation*, fr. *organisation*), *pistil* (SIN, 6 < lat. *pistillum*, fr. *pistil*), *plantă* (NIS, 3, TCB, V, BDZ, 4, MVV, 4, MCF, 14, ICC, 3, VA, 10, LB, s.v. < lat. *planta*, fr. *plante*), *pólline* „polen" (SIN, 6 < it. *polline*), *polip (pólip*, SIN, 83 < lat. *polypus*, germ. *Polyp*, fr. *polype*), *primați* „primate" (SHR, I, 356 < fr. *primate*), *remn* „regn" (HPP, 14 < lat. *regnum*), *sarcofage* (VA, 41 < lat. *sarcophagus*, fr. *sarcophage*, cf. ngr. *σαρκόφαγος*), *simie* „maimuță" (LB, s.v. < lat. *simia*), *speție* „specie" (LB, s.v., VA, 159 < lat. *species*, it. *specie*, germ. *Spezies*), *tigridu* „tigru" (LB, s.v. < lat. *tigris, -idis*), *țeamn* „lebădă" (LB, s.v. < lat. *cycnus*), *veghetație* (VA, 235 < lat. *vegetatio, -ionis*, germ. *Vegetation*, fr. *vegetation*), *zibelline* „samur" (SIN, 54 < fr. *zibeline*, it. *zibellino*), *zoofiți* (pl., SIN, 83 < lat. *zoophyta*, it. *zoofito*, germ. *Zoophyt*, fr. *zoophite*, cf. ngr. *ζωόφυτου*) etc.

Semantic structure loan-traslations

căciulie „bulb" (LB, s.v., după lat. *bulbus*, fr. *bulbe*); *căsulie* „celulă" (la fagure) (SEC, 178, TCA, 26), *coarne* „antene" (SIN, 50, MES, 23, după lat. *antenna*), *colț* „embrion" (SIN, 6, VA, 237, după lat. *embryo*, germ. *Embryo*, it. *embrione*, fr. *embryon*); *cunună* „corolă" (HPP, 29, după lat. *corolla*, fr. *corolle*); *fir* „fibră" (HPP, 23, după lat. *fibra*, fr. *fibre*); *fire* „natură" (SIN, f. t., LB, s. v., după lat. *natura*, germ. *Natur*); *împărăție* „regn" (VA, 10, după lat. *regnum, imperium, dominium*, germ. *Reich* „imperiu, împărăție", it. *regno, imperio, dominio*), *neam* „gen" (SIN, 53, după lat. *genus*, germ. *Genus* şi *Gattung* „neam, specie", it. *genere*, fr. *genre*) etc.

Morphological structure loan-traslations

apătos „acvatic" (SIF, 88, *băltos*, SIN, 67, după lat. *aquaticus*, it. *acquatico*, fr. *aquatique*), *firos* „fibros" (TAO, 73, după lat. *fibratus*, fr. *fibreux*), (frunze) *inimate* „cordiforme" (SIN, 4, după lat. *cordatus*, it. *cordato*, fr. *cordée* şi *cordiforme*), *înnoirea felurilor* „perpetuarea speciei" (MES, 38, după lat. *perpetuare*, fr. *pérpetuer*), *sugător* „mamifer" (SIN, 50, VA, 1, după germ. *Säugetier* „mamifer", cf. lat. *mammalia*), *vegetabil* „vegetal" (MVV, 87, după lat. *vegetabilis*, germ. *Vegetabilien*, fr. *végétal* şi *végétable*) etc.

Translations

aţuţe cu măciulii în vârf (SIN, 6), *bărbătuş de floare* (HPP, 30) „stamină" (după lat. *stamen*, it. *stame*, fr. *étamine*, cf. ngr. *στάμωυ*); *fămeie de floare* „pistil" (HPP, 30, după lat. *pistillum, pistillus*, fr. *pistil*), *floare însurată* „hermafrodită" (HPP, 30, după lat. *hermaphroditus*, germ. *Hermaphrodit*, fr. *hermaphrodite*, cf. ngr. *ἑρμαφρόδιτος*), *(ierburi) spre facere de ulei* „oleaginos"(SIN, 17, după lat. *oleaginosus*, fr. *oléagineux*), *mierea florilor* „nectar" (MES, 23, după lat., fr. *nectar*, germ. *Nektar*), *peperig viu* „polip" (SV, s.v.), *primitoarea pulberei* „stigmat" (HPP, 28, după lat. *stigmat*, fr. *stigmate*), *pulberea cea roditoare* „polen"

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(HPP, 29, *fărina florilor*, MES, 28, după lat. *pollen*, it. *polline*, germ. *Pollen*, fr. *pollen*), *scoala pomarie* „pepinieră" (MCF, 14, după lat. *schola pomaria*, germ. *Baumschule*)

Old, traditional terminology

chit „balenă" (SIN, 50, LB, s.v.), *coajă, coajbă* „scoarță" (LB, s.v.), *dobitoc* „animal" (SV, s.v.), *fiară* „animal" (LB, s.v.), (*floare*) *vergură* (SHR, II, 139), *floarea soarelui* (LB, s.v.), *goangă* „insectă" (LB, s.v.), *goangă de balegă* (LB, s.v.), *iarba şearpelui* (LB, s.v.), *iarba fearelor* (LB, s.v.), *iarbă de lăngoare* (LB, s.v.), *iarbă puturoasă* (LB, s.v.), *ierburi* „vegetale" (VA, 40), *izma broaştei* (LB, s.v.), *laptele cânelui* (LB, s.v.), *lemn cânesc* (LB, s.v.), *limba boului* (LB, s.v.), *limba cerbului* (LB, s.v.), *pipăitori* „antene" (SIN, 121, 134, după lat. *antenna*, fr. *antenne*), *roadă* „fruct" (LB, s.v.), *sad* „plantă" (NIS, 3), *sângele zmeului* (LB, s.v.), *scoarță* (LB, s.v.), *tărâtoare* „amfibii" (SIN, 103), *viețuitori* „animal" (SV, s.v.) etc.

Botany and zoology terminology presents an important weight of **old, traditional** terminology, due to its millenary existence in the Romanian culture: *căciulie, coarne, cunună, ierburi, roadă* etc. Most of the terms included in this lexical category denote popular names of various plants: *iarba fearelor, izma broaştei, laptele cânelui, limba cerbului* etc.

The neologic vocabulary contains **general biological terms**: *clasă, embrion, natură, organisație, remn, reproducție, specie*, and specialized terms in the area of **botany**: *alburn, algă, anteră, bulb, corolă, cruțifere, fibră, fruct, lichen, mimosa, pistil, plantă, polen, veghetație* etc.; and **zoology**: *amfivii, animal, ascaridă, branhie, coleoptere, diptere, dromader, hemiptere, fitofage, înfuzor, însect/insectă, larvă, lepidoptere, moluscă, monodont, nevroptere, polip, primați, sarcofage, zoofiți* etc. The texts subject to our research do not record neological terms to name the sub-disciplines of the natural sciences. We met, however, the term *botanic* for „botanist". As regards their etymology, we met **Latin-Romance** borrowings: *alburn, algă, animal, apteră, ascaride, branhie, corollă, diptere, dromaderiu, fibră, nevroptere, sarcofage* etc. **French** borrowings: *fitofage, monodont, primați* etc. and borrowings with **multiple etymologies**: *amfivii, himenoptere, insecte, larvă, lepidoptere, moluşti, natură, polip, speție, veghetație, zoofit* etc.

Most **loan-translations** contain denominations regarding the structure of plants: *căciulie* „bulb", *cunună* „corolă", *fir* „fibră", (frunze) *inimate* „cordiforme" etc. They are of Latin-Romance provenience: *băltos* „acvatic", *firos* „fibros", or a multiple one: *colț* „embrion", *împărăție* „regn", *neam* „gen", *vegetabil* „vegetal".

Translations have an important role in the attempt of creating a specialty terminology. Because of the lack of neologic specialty terms, the use of translations demonstrate the Transylvanian scholars' effort of imposing the scientific concepts regardless of the heterogeneity of the lexical material used. The most frequent are in the area of botany: *ațuțe cu măciulii în vârf, bărbătuş de floare* „stamină", *fămeie de floare* „pistil", *floare însurată* „hermafrodită", *(ierburi) spre facere de*

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ulei „oleaginos", *mierea florilor* „nectar", *primitoarea pulberei* „stigmat", *pulberea cea roditoare* „polen" etc.

The botany and zoological terminology presents a rich synonymy. The neological terms are doubled by old, traditional terms, by loan-translations or translations. The most frequent are the synonymic series with **two members**: *alge – fânari, amfibii – târâtoare, bulb – căciulie, bulb – ceapă, corolă – cunună, embrion – colț, fibră – fir, galete – coconi, gen – neam, himenoptere – roitoare, însecte – goange, natură – fire, remn – împărăție, speție – spiță, stăminoase – stătătoare*. The series with **three or four members** are less frequent: *antene – coarne – pipăitori, fruct – rod – roadă, veghetabile – legumi – ierburi*; *crustă – coajă – coajbă – scoarță, plante – sade – erburi – buruieni*. A rich synonymy develops the concept of „animal": *animal – animant – bestie – viețuitori – dobitoc – fiară*. The texts also reveal the presence of synonymic series with the structure: **neological term – old, traditional term – translation** (**or metaphor**): *guma* (*gumi*) *– cleu – mierea mâței, pistil – mez – fămeie de floare* and **neological term – translation** (**or metaphor**): *bruții – dobitoacele cele mai mari, fitofage – mâncătoare de ierburi, glume – căsulii de pleavă, hippopotam – cal de apă, polip – peperig viu, polline – fărina florilor – pulberea cea roditoare, sarcofage – mâncătoare de carne*. The series made up of two lexical borrowings are rare: *alligatore – caiman*. The series made up of **translations**: *ațuțe cu măciulii în vârf – bărbătuş de floare* „stamină", **old words and translations**: *măduva – inima plantelor*, **old, traditional terms**: *scafa – păharul* „caliciu" or **loan-translations**: *apătos – băltos* „acvatic" do not hold a special weight.

The high number of synonyms are to be explained not by terminological imprecision, but by the coexistence and superposing of the models. They also demonstrate the effort of the Transylvanian scholars of creating an adequate scientific terminology, with all the insignia of modern science.

The lexical borrowings, more numerous than the internal lexical categories, reflect with priority the Latin-Romance source. An important role is played by the German channel, which emphasizes and consolidates the Latin-Romance substance of their texts. It can be observed that the vast majority of these specialized terms disseminated by the works of the Transylvanian scholars became component part of the biology terminology, being conserved by the subsequent evolution of the Romanian literary language. The botanical and zoological terminology disseminated by the texts of the Transylvanian scholars presents a high level of modernity, representing a turning point for the subsequent development of this scientific area.

NOTES

[1] Valuable information regarding this aspect at I. Coteanu, *Prima listă a numelor româneşti de plante,* Bucharest, 1942.

[2] For the general bibliography of the problem, see Th. Hristea, *Tipuri de calc lingvistic,* in *Probleme de etimologie. Studii. Articole. Note,* Bucharest, 1968, p. 145, note 1.

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SOURCES

HPP = Fr. Haintl, *Învățătură pentru prăsirea pomilor*, Buda, 1812, traducere din germană efectuată de P. Maior

ICC = *Învățătură despre cultura sau lucrarea cânepei*, Buda, 1828

LB = *Lesicon românesc-latinesc-unguresc-nemțesc, care de mai mulți autori, în cursul a treizeci şi mai multor ani s-au lucrat*, Buda, 1825

MCF = L. Mitterpacher, *Învățătură despre cultura sau creşterea frăgarilor şi a viermilor de mătasă, pentru întrebuințarea şcoalelor naționale*, Buda, 1823, traducere din limba germană efectuată de P. Maior

MES = I. Piuariu-Molnár, *Economia stupilor*, Viena, 1785

MVV = L. Mitterpacher, *Învățătură despre agonisirea viței de vie şi despre măiestria de a face vin, vinars şi oțet*, Buda, 1813, traducere din germană efectuată de P. Maior

PAM = Vasilie Popp, *Apele minerale de la Arpătac, Bodoc şi Covasna şi despre întrebuințarea aceloraşi în deschilinite patimi*, Sibiu, 1821

SEC = Gh. Şincai, *Povățuire către economia de câmp*, Buda, 1806

SHR = Gh. Şincai, *Hronica românilor şi a mai multor neamuri*, Buda, 1808-1809

SIF = Gh. Şincai, *Învățătură firească spre surparea superştiției norodului*, 1804-1808, ms. rom. 39, Biblioteca Academiei Române, Filiala Cluj, fondul Oradea, traducere din germană, ediție critică şi studiu introductiv de D. Ghişe şi P. Teodor, prefață de D. Prodan, Bucureşti, 1964

SIN = Gh. Şincai, *Istoria naturei sau a firei*, manuscris autograf din jurul anului 1804-1808, ms. rom. 40, Biblioteca Academiei Române, Filiala Cluj, fondul Oradea, traducere din germană

SV = Gh. Şincai, *Vocabulari ce ține de istoria naturei*, 1804-1808, ms. Rom.125, Biblioteca Academiei Române, Filiala Cluj, fondul Oradea

TAO = Al. Teodori, *Scurtă arătare despre om şi despre întocmirile lui*, publicat în almanahul lui Z. Carcalechi (*Carte de mână pentru nația românească*), Buda, 1825

TCA = I. Tomici, *Cultura albinelor sau învățătura despre ținerea stupilor în magaținuri*, Buda, 1823

TVM = S. Vulcan, *Tractat despre vindecarea morburilor poporului de la țeară*, 1820-1830, ms. rom. 283, Biblioteca Academiei Române, Filiala Cluj, fondul Oradea

VA = P. Vasici-Ungurean, *Anthropologhia sau scurtă cunoştință despre om*, Buda, 1830

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Ursu, N. A., *Formarea terminologiei ştiinţifice româneşti*, Bucureşti, 1962. (Ursu 1962)

ABSTRACT

The texts of science popularization elaborated by the Transylvanian scholars present a high amount of specific terms in various fields of science. The aim of this study is to investigate the field of biology (botany and zoology). In order to present the biological terminology, we have established and analyzed four lexical categories: lexical borrowings, loan-translations, translations (compound words, syntagms, periphrases) and old, traditional terms. It also presents a high weight of synonymic series, made up of two or more synonyms.

Key words: biology terminology, lexical borrowings, loan-translations

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