

TRANSLATIO STUDIORUM
IN THE ACTIVITY OF THE INSTITUTE
FOR THE PRESERVATION OF MEDICAL TRADITIONS

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If there is a salient characteristic of medieval knowledge and science more in particular, it is *translatio*: during the Middle Ages, indeed, knowledge and science frequently moved, be it from one city to another, from one area to another, or from one polity to another. Without entering here into too much detail about this *peregrinatio scientiae*, it will suffice to mention the closure of the philosophical school of Athens in 519 by the Byzantine emperor Justinian (emp. 527-565), the translation movement of knowledge, science and also literature from Greek, Persian and Indian into Arabic in the Abbassid Empire from the late 8th century on, the massive transfer of Arabic medicine to the West heralded by Constantine the African (d. after 1087 [?]) or, to mention just a few, the assimilation of Greek, viz. Aristotelian, philosophy by Wilhelm of Moerbeke (1215/35 - before 1286) on the basis of Greek manuscripts copied by Ioannikios and, later on, the arrival of Greek scholars, scientists, book collectors and collections, and also copyists after the Fall of Constantinople on May 29, 1453.

Twenty-first century scholarship also is living a significant *translatio studiorum*, but different in nature: not so much a geographical displacement—with all its components and consequences in polity, social structure and context, linguistics or cultural background—, but rather a transformation in the medium used to convey knowledge and science, which deeply transforms the approach to these disciplines. Such transformation goes well beyond a substitution of a medium with another as might have been the case when the support for book production shifted from papyrus to parchment and, later on, from parchment to paper. The digital medium, to name it, brings with it a totally new relation with the vehicle of knowledge and offers possibilities for the study of knowledge and science that were not only unavailable, but even unthinkable and unsuspected before its

development. Capture of information, storage and exploitation, together with display are totally renewed.

This *translatio studiorum* of a new type—from one medium to another in which the new medium transforms the object of study and opens new fields of investigation—is the object of this presentation with a particular focus on Greek medical manuscripts and the work carried out in the Institute for the Preservation of Medical Traditions (henceforth the Institute). Taking advantage of the possibilities of this new medium, the Institute is laying down the basis for a renovated study of medieval manuscripts and Greek medical texts, which are both the codices and texts that transmitted the medicine of Classical Antiquity to subsequent periods until the Renaissance and the development of printing, and those in which physicians in the Byzantine Empire and beyond recorded the data of their personal experience of medicine.

The Institute for the Preservation of Medical Traditions is a research and education organization devoted to the study of the history of medicine and its tradition with a special focus on the Mediterranean area, the several populations who inhabited it, and their exchanges and interactions. Such general definition of its mission includes tasks like inventorying and cataloguing medical manuscripts and texts; digitizing and preserving the manuscripts; similarly, digitizing their texts and publishing them, and studying their contents in the most appropriate way, including by crossing the boundaries of traditional academic disciplines and bringing together medicine (among others, anatomy, physiology and pathology), therapeutics and pharmacy, and natural sciences (particularly botany, mineralogy and zoology for the *materia medica*). I will focus here on collecting primary information, organizing it in a meaningful way and making it available.

Collection of primary information consists in locating the manuscripts that have preserved the Greek medical treatises produced from Antiquity to the Renaissance. Although a list of manuscripts by authors and treatises has been compiled by a group of philologists coordinated by the German philologist Hermann Diels in the early 20th century (Diels, 1905, 1906, and 1908, constituting what is traditionally called “the Diels”), no index of manuscripts was available. As early as 1985, Alain Touwaide generated such an index. In a pre-computer time, he did so by means of 12.5 x 7.5 cm paper cards. Significantly enough, the late Dutch historian of medicine and Touwaide’s colleague Joseph Sonderkamp did the same at the same time. The two connected but were not able to pursue a collaboration because of the premature death of Sonderkamp.

On the basis of Touwaide’s paper card index, the Institute has created a computerized database that reproduces exactly the information provided in the Diels’ catalogue. Such database is now available on the Internet (<<http://medicaltradi->

tions.org/collection/databases/greek>). Since information in the database exactly reproduces Diels' material, city and library names are in the form used in German, as are also authors' names (for example, Hippokrates and Galenos), except when German uses the Latin form of names. Titles of works, instead, are in Latin, in the standard form used in classical studies. For double-checking purposes, the database includes a reference to Diels' catalogue (volume and page). Similarly, it includes any note provided in the Diels for the sake of accuracy and completeness.

The database can be consulted by author's name, title of work, city or library. Whatever the search, data are displayed in alphabetical and/or numerical order. As an example, I cite the case of Alexander of Tralles (Table 1). The works (including "Excerpta varia") are listed in alphabetical order, as are also the cities and libraries holding their manuscripts. The two manuscripts of the *Epistula de lumbricis* held by the Biblioteca Ambrosiana in Milano are listed according to the

Author	Work	City	Library	MS Designation	Collection	Shelfmark	Year/Century	Folios	Diels Pages	Notes	View
Alexander Trallianus	De oculis. Libri III	Escorial	Escorial	Scorial.		Φ. I. 2 (?)	XVI.	f. 191	II, p. 012.	vgl. Puschm. I p. 90	View Record
Alexander Trallianus	De oculis. Libri III	Venedig	Bibl. Nazionale Marciana	Marcian.	App. cl.	V 9	XV.	f. 265 - 274	II, p. 012.	L. I et II	View Record
Alexander Trallianus	Epistula de lumbricis	Escorial	Escorial	Scorial.		v. Puschm. I p. 90.			II, p. 012.	Verbleib unbekannt	View Record
Alexander Trallianus	Epistula de lumbricis	Florenz	Bibl. Mediceo Laurentiana	Laurent.	App.	2	XV.	f. 323	II, p. 012.		View Record
Alexander Trallianus	Epistula de lumbricis	Mailand	Bibl. Ambrosiana	Ambros.		R 111 Sup.	XVI.	f. 264.	N., p. 045.		View Record
Alexander Trallianus	Epistula de lumbricis	Mailand	Bibl. Ambrosiana	Ambros.		S 3 Sup.	XVI.	f. 170.	II, p. 012.		View Record
Alexander Trallianus	Epistula de lumbricis	Oxford	Bibl. Bodleiana			Puschm. I p. 90			II, p. 012.		View Record
Alexander Trallianus	Epistula de lumbricis	Rom	Bibl. Vaticana	Vatic.		Puschm. I p. 89			II, p. 012.		View Record
Alexander Trallianus	Excerpta varia	Berlin	Königl. Bibl.	Berol.	fol.	39 (275)			II, p. 013.	Varianten in einer Ausg. des Alex. Trall. von Gampylus in der Bibl. Der Minerva zu Rom	View Record
Alexander Trallianus	Excerpta varia	Bologna	Bibl. Universitaria	Bonon.		3632	XV.	f. 207	II, p. 013.	Iera antidotos	View Record
Alexander Trallianus	Excerpta varia	Escorial	Escorial	Scorial.		III. R. 3	XI.	f. 141 v	II, p. 013.	Medicamina sine auctoris nomine; vgl. Dioscuridis de mat. med. Libri V ed. M. Wellmann, vol. II p. XII. Teilweise Abschrift in Wellmanns Besitz	View Record
Alexander Trallianus	Excerpta varia	Escorial	Escorial	Scorial.		Q. I. 8	XIV.	f. 1. 15. 20. 22. 48 v	II, p. 013.	u. öfter.	View Record
Alexander Trallianus	Excerpta varia	Florenz	Bibl. Mediceo Laurentiana	Laurent.	App.	2	XV.	f. 328 v. 332. 338. 345 v. 346	II, p. 013.		View Record
Alexander Trallianus	Excerpta varia	Paris	Bibl. Nationale	Parisin.		2178	XIV.	f. 11 v	II, p. 013.	De februm differentis	View Record
Alexander Trallianus	Excerpta varia	Paris	Bibl. Nationale	Parisin.		2178	XIV.	f. 42	II, p. 013.	De morbis hominum et remediis	View Record
Alexander Trallianus	Therapeutica. Libri XII	Berlin	Königl. Bibl.		Phillipps.	1535 (ol. Weerm. 229)	XV ex.		II, p. 011.		View Record
Alexander Trallianus	Therapeutica. Libri XII	Cambridge	Calus Coll.	Cantabrig.		77	XV-XVI.	f. 1	II, p. 011.	Coll. im Leydens. Peritz 4o 2/9 fasc. 2	View Record
Alexander Trallianus	Therapeutica. Libri XII	Escorial	Escorial	Scorial.		Φ. I. 2*	XVI.	f. 196 und 308	II, p. 011.	Apographon des Marcian. 295	View Record
Alexander Trallianus	Therapeutica. Libri XII	Florenz	Bibl. Mediceo Laurentiana	Laurent.	plut.	74, 10	XIV.	p. 86.	II, p. 011.		View Record
Alexander Trallianus	Therapeutica. Libri XII	Florenz	Bibl. Riccardiana	Riccard.		10 (K I 12)	a. 1583.	f. 67.	II, p. 011.		View Record

Table 1. Greek Medical Manuscripts, Alexander Trallianus.
Online database of the Institute for the Preservation of Medical Traditions
<<http://medicaltraditions.org/collection/databases/greek>>.

logical sequence of their respective shelfmarks (which, in this specific case, is alphabetical, but could be numerical in other libraries).

On the basis of his paper card index of the Diels, Touwaide systematically browsed the catalogue of the libraries all over the world from which collections of manuscripts were mentioned in the Diels, from large and well-known institutions to smaller and not-so-visible ones. This work of verification revealed that some of the catalogues used by Diels' collaborators were old and did not provide the shelfmark in use at the beginning of the 20th century. Furthermore, in some collections, the shelfmark provided in the Diels are no longer in use. Finally, the two World Wars during the 20th century provoked losses and changes in manuscript collections, as did also the changing fate of collections. Although collaboration with local curators was of fundamental importance, personal examination of manuscripts and collections was indispensable. Touwaide embarked in decades of travels to personally examine many collections of Greek manuscripts, be it in major repositories as the British Library in London, the Bibliothèque nationale de France in Paris and the Biblioteca Apostolica Vaticana in Vatican City or others, important or secondary and not necessarily easy to access as St. John's Monastery in the island of Patmos, the Monê Leimônos in the island of Lesbos and many others. He could personally browse entire collections, inspect hundreds of codices, catalogued or not, and analyze their contents to possibly detect texts that escaped the attention of previous cataloguers, historians of medicine or historians of texts (Touwaide, 1991 and 1992).

While still checking Diels' information and traveling worldwide, Touwaide went beyond and consulted available printed catalogues of Greek manuscripts, all the more because, during the second half of the 20th century, codicology went through an unprecedented development that generated many new catalogues of Greek manuscripts. All such works, be they new or earlier ones, have been systematically listed from 1948 on in the several editions of the *Répertoire des bibliothèques et des catalogues de manuscrits grecs* compiled by the late Marcel Richard (1907-1976) (Richard 1948 and 1958, with the 3rd edition by Olivier, 1995. A 4th edition is in preparation).

The recent increase in speed of communication (the email) and easy access to information about libraries, collections and curators (the Websites of the libraries) allowed for more direct contacts with the libraries which resulted in accelerated verification of information and increased efficiency.

The search for Greek medical manuscripts, which sometimes became an investigation in the way of Hercule Poirot, brought to light over 2,300 different codices with medical content. This number is significant as the paper card index of Diels' catalogue made it possible to determine that the Diels contains ca. 1,750

different items. Touwaide's work of verification revealed that over 250 of these items are erroneous, be it because they are duplicates, or mistakes, or Latin manuscripts, for example. Considering an actual number of ca. 1,500 Greek items, the total of 2,300 reached by Touwaide represents an increase of 50% (Touwaide, 2008 and 2009).

Building on Touwaide's personal work and the database developed by the Institute, scholars in the Institute work on digitizing relevant manuscripts and uploading images on the Internet. This phase proceeds in different ways, depending on the policy of the libraries. There are almost as many cases as libraries: some have digitized their manuscripts and provide their images for free or against payment; some have digitized their manuscripts and have uploaded the images on the Internet; some others do not embark in such program; and some others are interested in having their manuscripts digitized, but do not have yet digital images and let the Institute's scholars digitize their codices.

Whatever the source, when the Institute has digital images, it uploads them on its Website. Images can be accessed according to two different, yet complementary parameters: by page or by text (for a sample, see <<http://medicaltraditions.org/padova>> for the manuscript 194 in the Biblioteca del Seminario Vesco-vile in Padova [Padua], Italy) (Fig. 1). By page, users visualize first thumbnail images of the whole manuscript (Fig. 2) and can click on any of them to obtain a larger, full-screen image. From such starting point they can flip through the whole manuscript as if they were browsing it. By text, users visualize the list of the major textual units of the text in the manuscript they are interested in and can click on any such unit (Fig. 3). They obtain an image of the page in the manuscript that contains such textual unit, together with a transcription (in machine-readable format) of the text on this page (Fig. 4). When, instead, the Institute does not receive or acquire digital images of manuscripts, but can access such images through the Internet (from the Website of the libraries that own the manuscripts), it creates a link to these images in order to give a direct access to them. In this case, while browsing manuscripts page by page may not be possible, reading their texts by segments is still possible, however.

In order to make digital consultation of manuscripts (be it by page or by text) as informative as possible, images in the Website of the Institute are introduced by a thorough codicological and paleographical description of the manuscripts resulting from a personal autopsy. Such description is complemented with a detailed list of the texts contained in the codices (which includes references to the exact folios and available editions) and a bibliographical list.

Digitization of texts is not limited to the manuscripts reproduced in the Institute's Website, but includes a large collection of medical treatises. It is the

Institute's objective, indeed, to develop a comprehensive digital library of Greek medicine, be it classical, Byzantine, Renaissance or posterior. To this end, the Institute has created appropriate Websites, each of which is devoted to a specific period or a major component in the history of Greek medicine as collection of writings attributed to Hippocrates, that is, the *Corpus Hippocraticum* (<<http://DigitalHippocrates.org>>), Greek medicine during the Classical period (<<http://GreekMed.org>>) and Greek medicine during the Byzantine period (332 to 1453) (<<http://ByzantineMedicine.org>>). In the future a Website will be created for the Greek medical texts of the post-byzantine period (<<http://iatrosophia.org>>).

This collection of texts from manuscripts is completed by another collection of material, that is, the printed versions of Greek medical texts. Many such editions have been digitized in libraries and/or institutions all over the world, principally the Bibliothèque Interuniversitaire Santé in Paris and the *Corpus Medicorum Graecorum* at the Academy of Sciences in Berlin. Whereas the Websites of these organizations offer the whole volumes digitized *en bloc* and users need to flip through them to find a specific text, the Institute segments the volumes by texts and offers a link to each and every of their texts, so that consulting such volumes is made much more direct and easier. These links to digital versions of printed editions can be found in the three Websites of the Institute above.

Complementarily, scholars at the Institute have created and continue to develop a Website devoted to the illustrated herbals printed between 1487 to 1651. The purpose and function of this site is the same as for manuscripts. It is a digital library of all printed production on this matter, that can be accessed by author, title, date/period and by plant (<<http://www.sil.si.edu/digitalcollections/herbals>>; Touwaide, 2007).

The Institute's long-term objective is to link the Websites on printed herbals and on Greek manuscripts in order to make it possible to follow all the itinerary of knowledge from Antiquity to the dawn of modern science, through its several phases, areas, and cultures within the Mediterranean and even beyond, up to China. A recent study made at the Institute on the basis of such massive quantity of material has shown indeed that the two worlds were connected as early as the Hippocratic period (Touwaide and Appetiti, 2013).

Translatio studiorum has now a different meaning, no longer limited to the geographical move of a body of knowledge, but to its transfer from the visual space of the page to the invisible depth of the digital world with all its potentialities which will reveal aspects of ancient and medieval knowledge that had remained unsuspected so far.


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Manuscripts > Patavinus Seminarii 194

Padova, Biblioteca del Seminario, 194

Patavinus Seminarii 194: 14th cent. (2nd quarter), paper, 382 x 282 mm., I + 200 + I ff., Constantinople, hand similar to that of Neophytos Prodromenos.



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IDENTIFICATION

CITY

Padua

LIBRARY

Biblioteca del Seminario

SHELFMARK

194

YEAR/CENTURY

14th C.

AUTHOR

Dioscorides

CONTENTS

De materia medica, with plant representations

Fig. 1. Digitization of manuscript Padova, Biblioteca del Seminario, 194. From the Website of the Institute for the Preservation of Medical Traditions <<http://medicaltraditions.org/padova>>.

Padova, Biblioteca del Seminario, 194



Fig. 2. Digitization of manuscript Padova, Biblioteca del Seminario, 194, by pages. From the Website of the Institute for the Preservation of Medical Traditions <<http://medicaltraditions.org/padova/images>>.

Padova, Biblioteca del Seminario, 194					
FOLIOS 1-10 OF 527					
Chapter	Chapter Title	Folio		Author	Title of Work
4.088	aeizōon to mega	001 recto		Dioscorides	De Materia Medica
4.089	aeizōon to mikron	001 verso		Dioscorides	De Materia Medica
4.090	aeizōon to leptofulon	001 verso		Dioscorides	De Materia Medica
3.004	aristolochia makra	002 recto		Dioscorides	De Materia Medica
3.004	aristolochia strogguē	002 verso		Dioscorides	De Materia Medica
3.113	artemisia monoklōnos	003 recto		Dioscorides	De Materia Medica

Fig. 3. Digitization of manuscript Padova, Biblioteca del Seminario, 194, by texts.
From the Website of the Institute for the Preservation of Medical Traditions
<<http://medicaltraditions.org/padova/text>>.

1 RECTO :: AEIZŌON TO MEGA

4.88 αἰζῶον μέγα - ὠνόμασται διὰ τὸ ἀειθαλὲς τῶν φύλλων, οἱ δὲ βουφθαλμον, οἱ δὲ ζωφθαλμον, οἱ δὲ στέργηθον, οἱ δὲ αμβροσίαν καλοῦσιν. ἀνίησι καυλοῦς πηκταίους ἢ καὶ μεῖζονας, πάχος δακτύλου μεγάλου, λιπαροῦς, εὐθαλεῖς, ἐντομὰς ἔχοντες ὥσπερ τοῦ χαρακίου τίθυμάλλου - φύλλα δὲ λιπαρά, μέγεθος δακτύλου μεγάλου, γλωττωεῖσθαι κατὰ τὸ ἀκρον - καὶ τὰ μὲν κατωτέρω τῶν φύλλων ὑπτιούμενα, τὰ δὲ κατὰ τὴν κεφαλὴν προεσταμένα ἐπ' ἄλληλα, κύκλον ὀφθαλμοειδῆ περιγράφοντα. φύεται δὲ ἐν τόποις ὀρεῖναις καὶ ἐν δοτράκοις - ἔνιοι φυτεύουσιν ἐπὶ τῶν οἰκημάτων.

δύναμιν δὲ ἔχει ψυκτικὴν, στυφύουσαν, παioύσαν πρὸς ἐρυσιπέλατα, ἐρρητας, νομὰς, ὀφθαλμίων φλεγμονάς, πυρκαυτά, ποδάγρας καταπλάσσομενα τὰ φύλλα καθ' ἑαυτὰ τε καὶ μετὰ ἀλείφντων. ὁ δὲ χυλὸς μετὰ ῥοδίνου πρὸς κεφαλαλγίαν ἐμβρέκεται καὶ φαλαγγιοδῆκτος, στραγγγγίλος τε ἐλμειεῖ ἐκτινάσσεται σὺν αἰνῇ ποδῆς - ἴσται καὶ ῥοὺν γυναικῶν ἐν προσβέτρῃ. ἐγκρίεται δὲ ὁ χυλὸς καὶ ἐπὶ τῶν ὀφθαλμίωντων ὠφέλιμος.




Fig. 4. Digitization of manuscript Padova, Biblioteca del Seminario, 194, a page and its text in machine-readable format.
From the Website of the Institute for the Preservation of Medical Traditions
<<http://medicaltraditions.org/padova/text>>.

