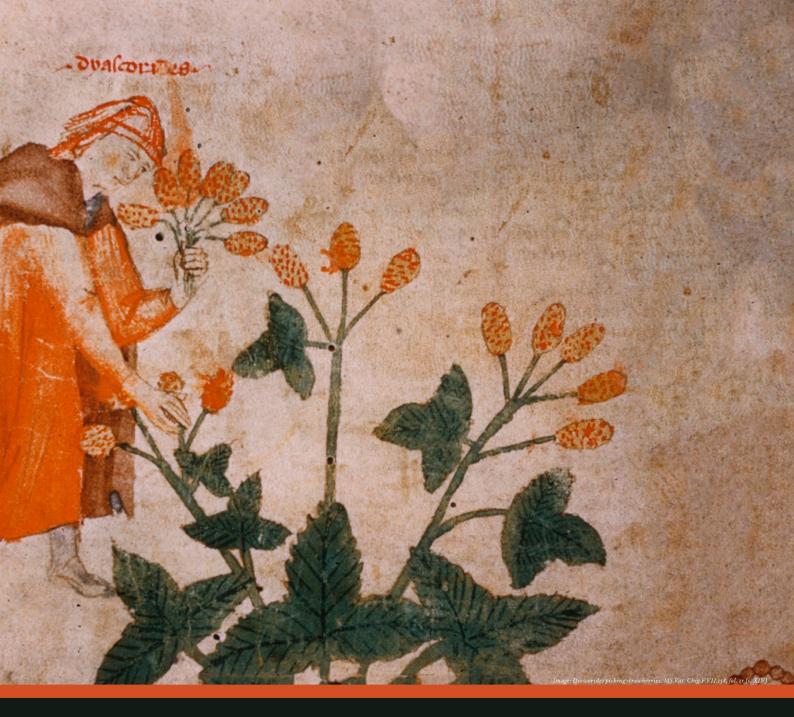
# Traditions of Materia Medica 300 BCE - 1300 CE

Programme Folder











# Traditions of Materia Medica

300 BCE - I300 CE

16 — 18 JUNE 2021 Institute für Klassische Philologie Humboldt-Universität zu Berlin

### Concept

The aim of this mini-conference is to test the hypothesis that Galen's writings on pharmacology — *Simple Drugs, Compound Drugs According to Kind, Compound Drugs According to Places of the Body* — constitute a key moment in the history of theoretical pharmacology, one which brought about an acceleration and intensification of pharmacological research and reflection and raised the subject to a new level.

To do this, we bring together an international team of experts to look at theoretical pharmacology before and after Galen (2<sup>nd</sup> century CE): before Galen, during the Hellenistic and early imperial period, after the time of Herophilus (3<sup>rd</sup> century BCE), when new directions and configurations of pharmacological concepts, practice and writing emerged as a result of the growing acceptance of the use of drugs in medicine; in Galen's work, both in the pharmacological treatises themselves an his other works; and beyond, when the intensification of the study of pharmacology brought about by Galen's writings were transferred to the great medical encyclopaedists, Oribasius (4<sup>th</sup> century CE), Aetius of Amida (5<sup>th</sup> / 6<sup>th</sup> century CE) and Paul of Aegina (6<sup>th</sup> / 7<sup>th</sup> century CE), and to later doctors and thinkers in Byzantine Greek (10<sup>th</sup> century CE) and Arabic traditions (12<sup>th</sup> century CE). The conference, therefore, presents a case study in 'momentum' as a central concept in the transfer of knowledge in ancient Greek medicine. In doing so, it will encompass recent work in Greek, Egyptian, Roman and Arabic pharmacology.

For conference registration or an online version of this programme, please visit our website.

### **Programme Overview**

TIME	16-Jun	17-Jun	18-Jun
13:00	Introduction	Greeting Greeting	
13:10	David Leith	Laurence Totelin Alessia Guardasole	
13:35	Irene Calà	Caroline Petit Petros Bouras-Vallianatos	
14:00	break	break	break
14:10	Caterina Manco	John Wilkins	Matteo Martelli
14:35	Costanza de Martino	P. N. Singer Maciej Kokoszko	
15:00	break	break	break
15:10	Amber Jacob	Krzysztof Jagusiak and Konrad Tomasz Tadajczyk	Zofia Rzeźnicka
15:35	Anne Grons	Simone Mucci	Sean Coughlin
16:00	break	break	break
16:10	Manuela Marai	Maximillian Haars	Lucia Raggetti
16:35	Effie Photos-Jones	Barbara Zipser and Andreas Lardos	Closing Remarks



# Detailed Programme

	8		
16 June 2021		15:00	BREAK
13:00	Introduction	15:10	Krzysztof Jagusiak and Konrad Tomasz
13:10	David Leith, Exeter	13.10	Tadajczyk, Łódź
	Pharmacology in the Asclepiadean Sect		Sitz Baths (ἐγκαθίσματα) in the Galenic
13:35	Irene Calà, Ludwig-Maximilians-Universität		Corpus
, ,,	München	16.26	Simone Mucci, Warwick
	The Libri medicinales of Aetius Amidenus	15:35	ἀρχιατροί, Antidotes and Hellenistic and
	as Source for the Followers of Herophilus:		Roman Rulers
	Additional Fragments of Andreas of Carystus	16:00	
14:00	BREAK		BREAK
14:10	Caterina Manco, Paul Valéry	16:10	Maximillian Haars, Philipps-Universität
14.10	- Montpellier		Marburg
	Galien lecteur du De materia medica de		Annotated Catalogue and Index of Medicinal
			Plants and Herbal Drugs in the Galenic
	Dioscoride		Corpus.
14:35	Costanza de Martino, Humboldt-	16:35	Barbara Zipser, Royal Holloway University
	Universität zu Berlin		London, and Andreas Lardos, Zurich
	Philumenus' Sources in De venenatis		New Approaches to Ancient Botanical
	animalibus eorumque remediis		Lexicography
15:00	BREAK	<b>v0 Ium</b> o	
15:10	Amber Jacob, New York University	18 June	
	A Demotic Pharmacological Compendium	13:00	Greeting  Alossis Crandosolo Commo national de la
	from the Tebtunis Temple Library	13:10	Alessia Guardasole, Centre national de la
15:35	Anne Grons, Philipps-Universität Marburg		recherche scientifique, Paris
	Materia Medica in Coptic Medical		The Diacodyon (διὰ κωδυῶν) Remedy
	Prescriptions		Throughout the Centuries
16:00	BREAK	13:35	Petros Bouras-Vallianatos, Edinburgh
16:10	Manuela Marai, Warwick		Pharmacological Substances from Asia in Late
	Wound and Skin Infection Treatment in		Antique and Byzantine Medical Works
	Galen: Potential Antimicrobial Substances for	14:00	BREAK
	Drug Development	14:10	Matteo Martelli, Bologna
16:35	Effie Photos-Jones, Glasgow		Minerals for Medicine and Alchemy: Dyes
	What Do You Do With a Problem Like		and Dry Pharmaka
	Lithargyros	14:35	Maciej Kokoszko, Łódź
			A Few Words on a Certain Sweet Sauce, or
17 June 2021			On Dietetics and Materia Medica Included in
13:00	Greeting		De observatione ciborum by Anthimus.
13:10	Laurence Totelin, Cardiff	15:00	BREAK
	Traditions of Ancient Euporista	15:10	Zofia Rzeźnicka, Łódź
13:35	Caroline Petit, Warwick		Peeling / Scrubs in the Libri Medicinales of
14:00	BREAK		Aetius of Amida
14:10	John Wilkins, Exeter	15:35	Sean Coughlin, Humboldt-Universität zu
	Materia Medica: A Study of Galen's		Berlin
	Inheritance of Materia Medica and His		Alchemies of Scent: Experimental Approaches
	Theorising of It		to Medicinal Perfumes
14:35	P. N. Singer, Einstein Centre Chronoi Berlin	16:00	BREAK
	A Change in the Substance: Theory and its	16:10	Lucia Raggetti, Bologna
	Limits in Galen's Simples		Aristotle and a Gem Shop on Peacock Alley
		16:35	Closing Remarks



## Abstracts

### Petros Bouras-Vallianatos, Edinburgh

Pharmacological Substances from Asia in Late Antique and Byzantine Medical Works

This talk aims to contextualise references to pharmacological ingredients from Asia in late antique and Byzantine medical works. I divide the references to these ingredients into two main groups, including those most commonly found and in circulation by the second century AD, such as pepper, costus, and ginger, and those that are usually attested for the first time in late antique works, such as cloves, galangal, musk, and ambergris. I shall argue that systematic references to ingredients from the second group only start in the early tenth century when the gradual diffusion of Arabic pharmacological lore into Europe becomes apparent. In this endeavour, apart from medical sources, I also use evidence from non-medical genres, especially merchants' accounts and archaeological evidence in an attempt to further contextualise these references beyond the documentary sources. By doing so I hope to contribute to the debate over the value of theoretical versus practical materia medica.

### Irene Calà, Ludwig-Maximilians-Universität München

The Libri medicinales of Aetius Amidenus as Source for the Followers of Herophilus: Additional Fragments of Andreas of Carystus

The work of Aetius of Amida is an important source for many medical works that are lost today. His work, the *Libri medicinales*, contains many fragments from the writings of Herophilus' followers. In this talk, I will discuss one of these figures, Andreas of Carystus. On the basis of a careful examination of the unpublished books of Aetius, namely Books x and xIV, I propose here to identify two fragments of Andreas of Carystus in Aetius' *Libri medicinales*. I will present for the first time the Greek text of both fragments: one on a plaster called "*pardalis*" to heal dropsy and a remedy for inflammation of the anal tract.

### Sean Coughlin, Humboldt-Universität zu Berlin

Alchemies of Scent: Experimental Approaches to Medicinal Perfumes

I am introducing a new 5-year study starting this year at the Czech Academy of Sciences, whose aim is to explore how the art of perfumery and its methods influenced natural philosophy, medicine, and material and literary culture in Hellenistic Egypt and Greece (4<sup>th</sup> through 1<sup>st</sup> centuries BCE). The methods of ancient perfumery are obscured by the cryptic formulation of the recipes and the ephemeral archaeological evidence left behind. We believe that we can increase our understanding of those procedures if we learn how to perform them, that is, to replicate the phenomena (the materials, apparatus and practices) that led their authors to write the recipes they did. The project will develop two tools, a historical lexicon and a manual of experimental perfumery, which will be the focus of this talk.

### Costanza de Martino, Humboldt-Universität zu Berlin

Philumenus' Sources in De venenatis animalibus eorumque remediis

The purpose of this contribution is to offer a synopsis of the sources quoted by Philumenus in his treatise *De ven. an.* and to suggest which may have been the criteria adopted during the compilation of the work. The selection of authors explicitly mentioned mostly includes physicians who were well known in the field of pharmacology before Galen: Erasistratus of Ceos, Straton, Apollonius Mys, Archigenes of Apamea, Soranus of Ephesus. In addition to this 'established' pharmacological literature stands the work of the so-called theriakoi, whose most authoritative source is Nicander of Colophon. Although it remains difficult to define to what extent these materials have been selected, an examination of some chapters will reveal on the one hand that the author every time reported the source which was most complete and /or



available to him; on the other hand, it will be shown, that these two literary strands have been used in a complementary way.

### Anne Grons, Philipps-Universität Marburg

Materia Medica in Coptic Medical Prescriptions

Much information on medicine and the practical use of materia medica written in Coptic is mainly based on the corpus of Coptic pharmacological prescriptions (dating from 4<sup>th</sup>/5<sup>th</sup> – 11<sup>th</sup> century CE). These recipes offer a multitude of medicinal substances of botanical, mineral and animal origin which were mixed and applied to various complaints. During my talk I am going to present first an introduction to the attested Coptic material and the integrated lists of ingredients. I, then, would like to use the chance to present and discuss one of my current research questions asking if there is an underlying system within these lists of ingredients and if we can formulate rules or at least track down recurring patterns within them.

### Alessia Guardasole, Centre national de la recherche scientifique, Paris

The Diacodyon (διὰ κωδυῶν) Remedy Throughout the Centuries

I will try to outline the history of the rich variants of the remedy called diacodyon ( $\delta\iota\dot{\alpha}$   $\kappa\omega\delta\upsilon\tilde{\omega}\nu$ ), "made of poppy heads", which was a famous opium-based medicine widely used in Antiquity. Galen gives us at least six versions, in prose and verses, in his treatise on Compound Medicines according to place: is the important Galenic testimony at the basis of the versions of this remedy in Byzantine medical literature? My investigation analyses the fortune of the recipe codified by Galen, relying in particular on the rewritings of Byzantine encyclopaedic physicians and on the testimony of numerous manuscripts for as yet unpublished variants of the recipe.

### Maximilian Haars, Philipps-Universität Marburg

Annotated Catalogue and Index of Medicinal Plants and Herbal Drugs in the Galenic Corpus.

The aim of my project is to develop an encyclopedia for all medicinal plants and herbal drugs (including complete and annotated references) in the Galenic Corpus. The individual lemmata (altogether approx. 1.500) of the lexicon will include the following sections: 1. Identification of the phytonyma on the basis of relevant lexicographical, archaeobotanical and botanical reference works and special literature; 2. Synonyms; 3. Pharmacognostic information (e.g. details of the parts of the plants used, for taste testing, etc.); 4. Medical indications; 5. Substitutional instructions ("quid-pro-quo"). All passages in the Corpus Galenicum are given (in total about 30.000, with evidence of the source, if they concern Galen's excerpts from older pharmacologists).

### Amber Jacob, New York University

A Demotic Pharmacological Compendium from the Tebtunis Temple Library

This paper will investigate ancient Egyptian pharmacology in the Graeco-Roman period as represented in an unpublished corpus of 1st-2nd c. CE demotic medical papyri from Tebtunis, currently being edited by the author. These texts, comprised almost entirely of pharmacological recipes, are exceptional in being one of the few surviving sources for Egyptian medicine from this period. Notably, a number of Greek medical papyri, including receptaria and herbals, can be securely assigned to the same temple library as the demotic texts, providing a unique opportunity for a case study into the intercultural exchange of Greek and Egyptian medical knowledge. However, the edition of the demotic material is a necessary prerequisite to any comparative analyses, and this work is still in its early stages. This paper will present preliminary insights into the materia medica of the demotic receptaria, discuss methodological approaches to the material, and outline the future aims of the project.



### Krzysztof Jagusiak and Konrad Tomasz Tadajczyk, Łódź

Sitz Baths (ἐγκαθίσματα) in the Galenic Corpus

Sitz bath is a form of therapy in which a patient sits in water (containing various ingredients) up to the hips. In modern times they are still recommended – both in the warm and cool form – in many health problems, such as hemorrhoids, various genital problems, or infections and inflammations of the lower part of the human body. This form of therapy, known as ἐγκάθισμα, is described in some ancient Greek medical treatises written by authors such as Dioscorides, Soranus, Oribasius, Aetius of Amida and Paul of Aegina. However, in our work we will focus on three passages from *De compositione medicamentorum per genera* written by Galen, and *De affectuum renibus insidentium dignotione et curatione* attributed to anonymous pseudo-Galenic author.

### Maciej Kokoszko, Łódź

A Few Words on a Certain Sweet Sauce, or On Dietetics and Materia Medica Included in De observatione ciborum by Anthimus.

The article analyses the fragment rea...in dulci piper habentem, parum cariofilum et gingiber, costo et spicanardi vel folio [Rose/Grant]/...in dulci piper habente, parum cariofili et gingiber, costum et spicam nardi vel folium [Liechtenhan] included in chapter 13 of De observatione ciborum by a Byzantine doctor Anthimus. The author attempts to reconstruct (on the basis of topical culinary, agronomic and encyclopaedic literature) the technology employed in preparing the said sauce, and claims (having analysed culinary and medical sources) that the term folium in the recipe denotes tejpat (Cinnamomum tamala [Buch.-Ham.] T. Nees & Eberm). The research leads to the conclusion that Anthimus' literary advice is based on his indepth medical knowledge, which not only included a theory borrowed from a number of authorities but also resulted from his personal therapeutic experience.

### David Leith, Exeter

Pharmacology in the Asclepiadean Sect

Asclepiades of Bithynia had a complex approach to pharmacology. He seems in general to have preferred careful management of regimen as a safer and more reliable method of treating disease where possible. Yet despite a reputation among some later sources for rejecting the use of drugs, it is evident that he relied on them heavily when he believed it was necessary. The most extensive verbatim fragment we have of his work sets out extensive pharmacological treatments for alopecia, for example. Moreover, his followers, especially in the first century AD, were among the foremost authorities on drugs: Sextius Niger and others were acknowledged by Dioscorides and Galen as authors of influential pharmacological treatises. This paper will explore the impact and significance of Asclepiadean pharmacology in general, and in particular the methodological approaches it took in engaging with drugs and their therapeutic uses, especially in relation to Asclepiades' innovative theory of matter.

### Caterina Manco, Paul Valéry – Montpellier

Galien lecteur du De materia medica de Dioscoride

Dioscoride est l'auteur le plus cité dans les livres botaniques des *Simples*, les livres VI à VII, auxquels j'ai consacré ma thèse. Le nom de Dioscoride y revient 25 fois (10 dans le livre VI, 11 dans le livre VII et 4 dans le livre VIII). Or, le fait de disposer du texte du De materia medica nous permet d'étudier la posture adoptée par Galien vis-à-vis de son grand prédécesseur et aussi la manière dont il utilise et présente les informations de ce qu'il considère le plus complet manuel de pharmacologie de son époque. Pour rendre l'aperçu que je me propose d'offrir le plus exhaustif possible, j'examinerai tous les passages des *Simples* où l'on retrouve le nom du médecin d'Anazarbe, y compris ceux des autres livres du traité pharmacologique.



### Manuela Marai, Warwick

Wound and Skin Infection Treatment in Galen: Potential Antimicrobial Substances for Drug Development Recent developments in drug discovery led to the (re)evaluation of ancient materia medica as a potential source of pharmaceutical knowledge. Despite his authority through the centuries, no consideration has been given to the writings of Galen. Within Galen's extensive production significant attention is dedicated to the treatment of wounds and those associated conditions which share similarities with skin and soft tissue infections — making Galen's texts a potential treasure in antimicrobial drug discovery. Following an analysis of Galen's clinical assessments of such conditions, this paper provides a preliminary investigation of notable natural substances (in particular bee products, resins and other plant secretions) found in compound drugs prescribed by Galen. Moreover, this inquiry attempts to shed some light on the Galenic rationale for the employment of such substances as well as their combination, in correlation with the confirmed synergistic effects of single and multiple plant extracts compared to a single bioactive compound.

### Matteo Martelli, Bologna

Minerals for Medicine and Alchemy: Dyes and Dry Pharmaka

Graeco-Egyptian alchemical works all emphasise dyeing processes that were performed in order to change the colour of various materials, in particular metals, stones (usually quartz), and wool. At the same time, they often refer to medicine and medical texts, providing detailed information on drugs, including how they were prepared, used, and tested. Both disciplines, indeed, made use of a similar set of simple and compound pharmaka, and both adopted similar methods for approaching and inspecting the natural word. The paper will explore these interactions by comparing and commenting on a selection of passages taken from early alchemical authors, Galen, Archigenes and early Byzantine physicians. Dry medicines and alchemical xeria – the Greek name of those alchemical preparations called elixirs in the later Arabic and Latin traditions – will constitute the main focus of the sources under investigation.

### Simone Mucci, Warwick

άρχιατροί, Antidotes and Hellenistic and Roman Rulers

In my paper I will present an overview of the history of the imperial head-physicians (or ἀρχιατροί, archiatròi) and their relation to antidotes and Hellenistic and Roman rulers. In particular I will be focused on Galen's *De antidotis* (*On Antidotes*), which is one of our main sources on the topic, but several other works and inscriptions will be discussed and compared. I aim to show the evolution of the role of head-physicians, their connections with the preparation of antidotes, and their customary activity of writing recipes and pharmacological works.

### Caroline Petit, Warwick

### Effie Photos-Jones, Glasgow

What Do You Do With a Problem Like ... Lithargyros

Making (chemical) sense of the technical manuals of the Greco-Roman authors, particularly in reference to synthetic minerals preparations used in ancient pharmacological recipes, has often been rather problematic. This is on account of issues of perception, i.e. the gaping hole between our and their understanding of the materiality of these minerals/minerals combinations; also because of the overlapping conflicts of approach and interest by the parties involved, regarding the procurement, manufacture, preparation and reporting thereof, at the time of their use. In this short paper I will attempt to look into the methods of preparation of some (manufactured) lead-based minerals, like *lithargyros*, *psimythion*, *molybdos peplymenos* and *kekavmenos*, all reported in Dioscorides (*De materia medica*, Book v). I will suggest that important information regarding the nature of raw materials and solvents (*oxos*/vinegar), the conditions



(temperature and pH), possible organic constituents (bacteria/fungi) and kinetics (how quickly a reaction is likely to go) involved, have been largely lost in translation. Even when one is attempting to reproduce these materials, experimentally, today, one may run into problems. I suggest that in order for us to understand the materiality of the Greco-Roman medicinal minerals we need to understand how their unchanging qualities (physical/chemical properties) were sensed, assessed and interpreted; this so- called empirical approach nevertheless is embedded in sensory-based 'chemical analysis' which anticipates and explains how a material will 'behave' rather than what it is.

### Lucia Raggetti, Bologna

Aristotle and a Gem Shop on Peacock Alley

The manuscript Paris BnF Arabe 2779 is a 7<sup>th</sup> H/13<sup>th</sup> CE century autograph handbook, 'The treasure of the merchants about the knowledge of stones' (Kanz al-tiǧār fī ma 'rifat al-aḥǧār). Its author, Kaylak Qabǧāqī, lived in Mamluk Cairo and had a professional interest in gems and natural stones. For the composition of his work, he tapped into both the erudite ancient tradition of pharmacological properties (Hermes, Galen, Dioscorides, Ps. Aristotle) and the technical and artisanal knowledge of his time. This text clearly shows how literary elements and technical information were the warp and weft of the knowledge of natural substances.

### Zofia Rzeźnicka, Łódź

Peeling / Scrubs in the Libri Medicinales of Aetius of Amida

Aetius of Amida included in his Libri medicinales a cornucopia of formulas for various types of beauty products. Among them one can find a collection of recipes for body-cleansing agents, including an extensive chapter entitled  $\Sigma\mu\eta\gamma\mu\alpha\tau\alpha$  προσώπου καὶ στιλβώματα. Within this passage the physician mentions a group of cosmetics which nowadays would be classified as peelings/scrubs. In my presentation I intend to analyse selected prescriptions for the above cosmetics focusing on therapeutic properties of their ingredients as specified by Dioscorides, Galen and Oribasius. The said data will allow me to discuss the impact of particular components on the human body and justify their use in the examined formulas. On the basis of the explored material, I aim to prove that all substances used in the presented prescriptions were selected according to an internally coherent medical theory.

### P. N. Singer, Einstein Centre Chronoi Berlin

A Change in the Substance: Theory and its Limits in Galen's Simples

In this presentation I shall summarize the main findings of my recent paper, 'A Change in the Substance: Theory and its Limits in Galen's *Simples'* (*Archives Internationales d'Histoire des Sciences* 70, 2020). I shall focus on two themes raised in that paper, which may also suggest scope for further discussion: (1) Galen's theory of pharmaceutical change through the whole substance ( $\kappa\alpha\theta$ ' δλην τὴν οὐσίαν), and in particular the extent to which this represents – especially in his later work – a model of drug action sharply distinguished from the kind which can be discovered by 'reason' or 'method'; (2) the relationship between the 'reputation' and the 'tested' nature of a drug, as referred to for example by the terminology of δόκιμος and ἀδόκιμος, and the possible conflict between the notions of testing and replicability, on the one hand, and the value of recipes handed down by the tradition, on the other.

### Laurence Totelin, Cardiff

Traditions of Ancient Euporista

The genre of the euporista, the writings devoted to remedies easily procured, has attracted far less scholarly attention than other ancient pharmacological genres. Yet, the several extent *euporista* treatises, and the information we have about lost treatises, deeply enrich our understanding of pharmacology, especially in the first few centuries of the Common Era. They give us information about what pharmacists

considered to be – or pretended to be – easily procured ingredients or ready-made preparations; they often focus on aspects of pharmacy not particularly well represented in other treatises (for instance they do put emphasis on gynaecology and cosmetics); and areas of overlap between extent treatises point to complex textual tradition. In this paper, I present some of the research I have done on euporista and areas of potential scholarly development.

### John Wilkins, Exeter

Materia Medica: A Study of Galen's Inheritance of Materia Medica and His Theorising of It Galen presents his materia medica in Simples books 6 to 11, following the analysis and theories of causation in books 1 to 5. This paper compares the two sections, taking note of the divided manuscript tradition. Galen goes to some lengths to integrate the two sections, even if they were later separated by readers and users. I concentrate, in books 1 to 5 on the setting up of the work; on Galen's demonstration and insistence on clarification on two sorts of homonym; on mixture and substance; on the individual patient; and on the use of the senses, esp. taste and smell. Passages I use for illustration are: (1) Contrast SM 1.1-5 with 7.1; (2) Anthemis and chamaemelon (former in catalogue, latter in 1-5. Why the different names? Olive oil another example used in both sections); (3) Passages in books 6-8 which show 4 levels (and 3 additional levels) of intensity within them. In contrast, 1-5 only has the 4 (or 5) levels, without addition.

### Barbara Zipser, Royal Holloway University London, and Andreas Lardos, Zurich

New Approaches to Ancient Botanical Lexicography

The identification of medicinal plants mentioned in ancient or medieval sources is a highly complex matter, both on the philological and the botanical side. We propose a new methodology that involves specialist input from both humanities and sciences. The impact of a correct or false identification can be severe, given that traditional medical sources are often used as a starting point for pharmacological screening. In our talk, we are going to demonstrate our method with two samples,  $\mu\epsilon\lambda\dot\alpha\nu\theta$ 100, commonly identified with black cumin (*Nigella sativa* L.), and which may be correct, and  $\dot\alpha\mu\dot\alpha\rho\alpha\nu\tau\sigma\nu$ , of which the identification is far from certain. As far as the ancient and medieval use is concerned, we come up with at least five candidate species from three plant families. Beside linguistic, pharmacognostic and botanical considerations, this points to the importance of the cultural-historical and geographical context in the identification of plant names in historical texts.

— Organized by —

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