

## GALEN'S NATURAL PHILOSOPHY

Conference organized by the Research Training Group, *Philosophy, Science and the Sciences*, in co-operation with the Alexander von Humboldt Research Programme *Medicine of the Mind, Philosophy of the Body: Discourses of Health and Well-Being in the Ancient World* (Humboldt-Universität zu Berlin).

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### ABSTRACTS

#### Prof. Jim Hankinson: 'Galen's Physics: Principles, Elements, Powers'

Michael Frede used to say that Galen didn't really have a physics. In a sense (the broad sense of the ancient tripartition of philosophy into logic, physics and ethics), that's true – Galen is pointedly undisposed towards the questions in speculative cosmology and metaphysics that traditionally fall under that rubric. On the other hand, as a young man he wrote *Elements according to Hippocrates*, in which he offered an unorthodox reading of the physics of *Nature of Man*, one which, more importantly for our purposes, he endorses himself. In this paper I seek to reconstruct and analyze the structure of Galen's account of the primary categories of my subtitle, as a necessary theoretical prerequisite (as he sees it) to any properly-founded physiology; and, by extension, aetiology, pathology, nosology and therapeutics.

#### Dr Sean Coughlin: 'Stoic and Peripatetic Elements in Galen and the Nature of Bodies'

In *On the Therapeutic Method* 7.3 (X 462 K), Galen claims that he shares the same belief about the nature of a bodies as the best of his predecessors. His friends-list includes Diocles, Athenaeus, Chrysippus, Aristotle and Hippocrates. What they all share, he says, is the belief that the nature of a body derives from a mixture of four "elements," and Galen will often try to show that this claim is true—that they do in fact all share this belief—even if it means glossing over certain details. This talk is about such harmonizing passages on elementary physics. The aim is to clarify how Galen understood his predecessors' views on the elements and what they can tell us about his own take on the role of the elements in explanation. As some scholars have recently noted, Galen often brings in elementary Peripatetic and Stoic physics when refuting rival physiologies (e.g., atomists, monists, Pneumatists in *Hipp. Elem.*). Examining these polemics can tell us a good deal about what Galen thinks a theory of the elements should look like. In this talk, however, I will focus (as much as possible) on those positive explanations of generation, alteration and mixture which show explicit harmonizing tendencies. For, while Galen claims he shares the same opinion as Aristotle and the Stoics concerning the nature of bodies, it is puzzling that his accounts seem to ignore a central Peripatetic and Stoic concern, namely the (teleological) efficient cause of their being mixed; and it is also puzzling that he is willing to refer the nature of a body exclusively to its constituent parts, something Aristotle is reluctant to do. I take up each of these puzzles in turn: the

first part of the talk will look at the role of the elements in passages dealing with the generation of bodies, and the second will look at the elements in his explanations of their existence.

Dr P. N. Singer: 'Questions of "Substance" in Galen'

and

Prof. Armelle Debru: 'What is *ousia* in Galen?'

This pair of papers aims to explore aspects of Galen's use of the term *ousia* in a variety of contexts, philosophical and physiological, within his work. The term is invoked in definitional enquiries, 'what is the *ousia* of x?', and this usage is embedded in the context of discussions of epistemological procedure. At the same time, in physical and physiological contexts, *ousia* is used to refer to material 'substances' such as blood, *pneuma*, and more specific (homoimerous) bodily structures. To speak of something's *ousia* may be to refer to its volume or quantity, in contradistinction to its quality or form. The papers explore the multi-valence of *ousia* in Galen and attempt to interpret important aspects of its usage, especially in physiological contexts.

Dr Matyáš Havrda: 'The discovery of *chreia*: The aim and method of Galen's treatise *On the Usefulness of the Parts*'

Galen's treatise *On the Usefulness of the Parts* (UP) is an essay on anatomy which, as Galen tells us, was not written only for doctors, but also for philosophers (AA II 3/II,291 K.). When speaking of 'philosophers', Galen has in mind philosophers of nature (*phusikoi andres*), who study anatomy either for the sake of knowledge itself, or for the sake of demonstrating the proposition that nature does nothing in vain. This is a different kind of readership than doctors, who are mainly interested in these issues in view of the specific goal of medicine, i.e., for the sake of diagnosis, prognosis and therapy (cf. AA II 2/II,286f. K.). Thus, there is every reason to take UP as a treatise in natural philosophy. The aim of my paper is to explore the subject matter, the aim, and especially the method of UP. I will discuss the question of what Galen means by *chreia*, what is the 'discovery of *chreia*', and what is the method by which this goal is achieved (cf. UP I 8/I,12,20-23 H.). I will base myself partly on Galen's own reflections on these issues and partly on analysis of the arguments he makes when approaching specific problems of physiology.

Dr Julius Rocca: 'Galen's Demiurge, with Particular Focus on *De Usu Partium*'

Galen's adoption of the Platonic *Demiurge* (ὁ δημιουργός) as the literal constructing agency for the parts of the body is reasonably known, being writ large in *De usu partium*, where it is at times also used seemingly interchangeably with *Nature* (ἡ φύσις) in its Aristotelian sense. This is one distinctive adaptation Galen makes with the demiurgic concept. Another is that, unlike Plato, Galen makes the Demiurge directly responsible for the creation of all non-mortal components: no part of the body is allocated to lesser gods. This variation is of

particular interest not only because it is a hallmark of Galen's science of the human body, but also leads to interesting, less well known, pathways of transmission and influence.

Ricardo Julião: 'Galen on Assimilation: What is Proper (οἰκεῖον) and Alien (ἀλλότριον) to Living Beings'

For the Stoics, an animal since it is born has the property of οἰκείωσις, to the extent that it becomes 'its own and familiar to itself' and to its own constitution (σύστασις). This recognition of what is familiar to itself implies what is harmful to its being. Although Galen did not use οἰκείωσις that much in his writings, we find in his concept of assimilation (ἐξομοίωσις) what some authors call a kind of proto-οἰκείωσις. According to Galen, assimilation (ἐξομοίωσις) is the main activity of nutrition, and for any kind of nutriment to be correctly assimilated it has to partake already of a certain community and affinity (κοινωνίαν ἤδη καὶ συγγένειαν) in its qualities with the organs which metabolize it. Therefore, in Galen's view, humans, animals, and plants 'recognize' what kinds of nutrients are proper (οἰκεῖον) and alien (ἀλλότριον) to themselves. In this talk, I would like to see, on the one hand, to what extent Galen's concept of assimilation (ἐξομοίωσις) might be the medical and physiological side of the Stoics' οἰκείωσις, and on the other hand, understand the normal and pathological aspects of assimilation and its repercussions for the condition of the organism.

Dr Orly Lewis: 'Dunamis and Agnosticism in Galen's Physiology - a Note'

This reading session will consider Galen's use of *dunamis* as a means for explaining physiological processes. Galen often refers to the *dunamis* – power, capacity or faculty – of various organs to perform a particular action or contribute to a particular process (e.g. the heart's ability to pulsate, i.e. expand and contract); at other times he refers to a *dunamis* percolating or flowing *through* the body from one part to another (e.g. from the brain to the limbs in the case of the motor *dunamis*, or from the heart to the arteries in the case of pulsation). These various *dunamis*, moreover, often constitute Galen's explanation for how particular bodily processes (e.g. pulsation, nutrition, motion) are facilitated. These explanations, however, often leave the (modern) reader frustrated in his/her attempt to understand what this *dunamis* actually *is* or what it is thought to actually *do* and *how*. In some cases, indeed, Galen seems to resort to *dunamis* when he cannot, or does not want to, offer a more exact explanation of the process.

The session will explore Galen's reasons for resorting to *dunamis*, whether he himself considered it a satisfying explanation and whether some pattern in his use of it in such contexts may be identified. The processes of pulsation and motion will stand at the centre of the paper as representative case-studies, but other processes will be considered as well, as will Galen's broader conception of *dunamis*.

Dr Caroline Petit: 'Method and Aristotelian Notions in *Simples*'

Galen's treatise *On simple drugs* (*De simpl. med. fac. ac. temp.*) is the cornerstone of his pharmacological oeuvre. Half of the treatise (books I-V) is devoted to theoretical considerations, with a goal to demonstrate that a rational use of drugs is possible. In this paper, I will examine some of the key Aristotelian notions (such as *dunamis*) used by Galen in book I. My talk will tackle the following questions: was it really possible for Galen to demonstrate the properties of every single simple drug? How Aristotelian was his method? And did he adopt the best format to make his case?

Dr Matteo Martelli and Dr Lucia Raggetti: 'Galen's Classification of Minerals in *On Simple Drugs* (Book 9) and its Reception in the Arabic Tradition'

The first part of the paper will explore Galen's classification of mineral substances (earths, stones, and *metallika*) by comparing selected passages of *On Simple Drugs*, book 9, with different explanations on metallogenesis, which are recorded in more theoretical writings by Peripatetic or Stoic philosophers (e.g. Theophrastus, Posidonius, Nicolaus of Damascus). Galen, in fact, conceptualized mineral substances within a strong philosophical framework, which seems to have supplied him with important criteria for classifying and describing the active powers (*dynameis*) of minerals. The second part will deal with the reception and the transmission of Galen's mineralogy in the Arabo-Islamic milieu, its impact on the new cultural context, and the other theories that were competing in the field of mineralogy.