Workshop: Aristotle's *Parts of Animals* – Blood

Schedule

Sunday, 8. July
Topoi Building Mitte, Hannoversche Str. 6, Room 1.03

10:00 *Good Blood and Bad Blood*
Sean Coughlin and David Merry (HU Berlin)

11:30 *Female physiology, character and intelligence in Aristotle*
Sophia Connell (Birkbeck, University of London)

12:30 *Lunch*

2:30 *Aristotle on body size and infertility*
Máté Herner (MUSAPh, LMU) and Chiara Blanco (Cambridge)

4:00 Scala naturae *and the physiology of thought and perception in Aristotle's* Parts of Animals
Kosta Gligorijevic (McGill University)

5:00 Close

Monday, 9. July
HU Main Building, Unter den Linden 6, Room 3053

10:00 Colloquium Talk: *Nutritive and Sentient soul in Aristotle's Embryology*
Sophia Connell (Birkbeck, University of London)

12:00 *Lunch*

Workshop: Aristotle's *Parts of Animals* – Blood

Abstracts

"Good Blood and Bad Blood"

Sean Coughlin (HU) and David Merry (HU):

Aristotle says some kinds of animals are better than others because of their blood (*PA* 2.2, 647b29-648a13). While this claim is usually thought to rely on functionalist or adaptationist assumptions Aristotle makes elsewhere (notably, *Physics* 2.7, *IA* 2), we believe it relies on Aristotle's assumptions about goods, and that it follows the argument strategies he develops in *Topics* III for arguing about goods. What we do in this paper, then, is defend two main claims to support this reading:

> (1) that Aristotle's method for arguing about the good in natural science is similar to what we find in Topics III;
>
> (2) which follows as a corollary, that some necessity claims in natural philosophy are what we call 'the necessity of settling'.

In what follows, we will provide reasons for believing (1) by showing that many of Aristotle's arguments that something is better in the works on natural science instantiate *topoi* from Topics III. We are going to focus on three cases: blood, the position of the blood vessels, and the structure of the heart. We also have many more cases that we will include on the handout, and which we are willing to talk about during discussion. Then (2) we will give some reasons for believing the corollary is true by showing how a claim Aristotle makes in Topics III that the better is not always more choiceworthy does a good job of explaining a number of appeals to necessity in the natural works.

"Female physiology, character and intelligence in Aristotle"

Sophia Connell (Birkbeck, University of London)

The idea that, according to Aristotle, women are mentally impaired by their physiology has long held appeal to various scholars. This paper will provide an alternative reading of the evidence. In particular, I will concentrate on Aristotle's description of the differences between male and female blood. In all animals, thinner and purer blood underpins intellectual capacity; thicker and more earthy blood is linked to emotion and action. When it comes to female animals, most will have blood which is thinner and colder than that in their male counterparts (PA II.2). Aristotle explains that thinner blood (or its counterpart) facilitates quickness of perception, leading to greater knowledge and better memory. Furthermore, thinner blood produces (and maintains) a finer body (GA I.19, 727a16-18), with softer and more sensitive perceptive parts (such as thinner skin and more delicate ears and noses) which again allows for more acute perception (de An. II.9, 421a18-22, HA I.15, 494b16-17, PA II.10, III.4, 10, GA V.1). Although one passage from HA (III.19) indicates that women have 'thicker and blacker' blood than men, this is out of place with Aristotle's more comprehensive accounts (PA, GA) of the less earthy and less concocted nature of human female blood, as indicated by women's relative lack of musculature and body hair. Given this, it is likely that Aristotle understood female animals in general to have a natural advantage in terms of intelligence in many species, which passages from HA VIII support.

"Aristotle on body size and infertility"
Chiara Blanco (Cambridge University), Máté Herner (MUSAPh)

In his *Parts of Animals*, Aristotle makes the claim that the disproportionate body size of an animal leads to its infertility. This paper sets out to explore the relation between obesity and infertility in Aristotle's account of reproduction, and to position this account in its historical context. First, we bring together the relevant passages from the different biological works in order to reconstruct how the transformations and distribution of blood's nurturing capacities in the different phases of concoction affect the reproductive capacities of the animal, and we position this thread of the theory in relation to the other aspects of Aristotle's theory of reproduction. Once returned into its proper context, what at first seems like a remark aimed at overweight individuals is revealed as an instance of a general rule, viz. that disproportionate body size leads to the nourishment contained in the blood being used up for the replenishment of the body, and thus precludes the production of seminal residue. Far from being limited to individual cases, this rule is cited to explain the infertility of the entire species of mules. Furthermore, it is taken to explain not only deficiencies in reproductive capacity, but also extraordinary fertility, as in the case of small birds. Second, looking back at the Presocratics, Plato, and the Hippocratic corpus, we discuss to what extent Aristotle's account can be considered original, i.e. what theories he takes as sources of inspiration and which alternative models he argues against.

"*Scala naturae* and the physiology of thought and perception in Aristotle's *Parts of Animals*"
Kosta Gligorijevic (McGill University)

In the *Parts of Animals*, Aristotle claims that the intelligence and perceptual acuity of animals depends on the composition of their blood and flesh. In particular, he claims that the hotter and less earthy an animal's body is, the better will be its ability to perceive and think. Elsewhere, he states that earthy and dry materials are "remote from ensouled beings" while heat is "vital" (*zōtikē*). This paper attempts to explain the positive and negative valence assigned to heat and earthiness in Aristotle's physiological theory by comparing Aristotle's remarks with the physiological theories of his predecessors, focusing especially on Plato's *Timaeus*. Furthermore, I examine how the claims concerning the purity of blood and flesh physiologically ground Aristotle's broader claim that some species are more valuable and more perfect than others and that certain kinds of habitats are more conducive to the more valuable life activities.

Colloquium Talk: Monday, 9 July 2018 (HU)

"Nutritive and Sentient soul in Aristotle's Embryology"
Sophia Connell (Birkbeck, University of London)

Aristotle's innovative theory of generation, put forward in his *Generation of Animals* Book I, rejects the idea that male and female contributions mix to form the new animal. He proposes instead that the male contributes nothing material but is rather a certain 'capacity (*dunamis*) and a [source of] change (*kinêsis*)' (GA 729b6). At first he optimistically supposes this will be unproblematic given 'the carpenter is not in the wood' (729b16). However, at the beginning of Book II he troubles himself with a

series of puzzles (*aporiai*) that this creates for the connection between semen and soul. How can his theory work given the interconnectedness of soul and body and the fact that natural objects usually have an internal rather than an external source of change? Some commentators propose that the puzzles are only solved in *GA* II.5 when Aristotle says that in animals (as opposed to plants) the female supplies the nutritive soul and 'the male is that which makes the [sentient] sort of soul' (741a13-14). I will argue that this remark has been misread by some to indicate that the male contributes sentient soul alone, implying that this variety of soul is separated out from nutritive capacities. I argue that Aristotle's answer to the puzzles is complete by the end of *GA* II.4: the male contribution is the tool of the male animal's soul, working remotely to convey the required actualisation to materials poised to become the new animal. The text makes plain that the male activates both nutritive and sentient aspects of soul and that the female contribution must have the capacity to develop both parts. Aristotle's embryology, then, actually helps us to understand how inseparable these 'parts' of soul are in animals.