The Plan and Idea of Aristotle's *Posterior Analytics* (with a view to the science of living things)

(Seminar on Aristotle's theory of scientific explanation in the *Posterior Analytics*)

Prof. Lucas Angioni (Campinas)

When: Wednesdays, 10h-13h (but see below note about the exception in the first week)—starting on May 24th, 2023.

Where: Hörsaal, Doblerstraße 33

May 24th: Meeting 1:

(Please note that we will exceptionally meet at 2-4pm this week)

- 1. Preliminary assumptions: some of my views about how Aristotle uses some expressions; some of the key notions I will employ; what is going on in the general level in the $AP\theta$.
- 2. Aristotle's definition of "epistasthai haplôs" (I.2, 71b9-12):

Part I: The definiendum:

- —what, exactly, Aristotle has taken as definiendum;
- —why Aristotle has presented the definiendum in the way he has presented it.
- 3. Aristotle's definition of "epistasthai haplôs" (I.2, 71b9-12):

Part II: The definiens:

- —the causality requirement;
- —the necessity requirement.
- —how they relate to each other.

Passages to be closely examined: 71b9-12.

Secondary literature (see Bibliographical Apendix): Angioni 2016; Angioni [unpublished draft 1]; Angioni 2020;.

May 31th: No meeting, Spring Break.

June 7th: Meeting 2:

4. Expanding the causal requirement: examination of I.13, II.16-17.

Passages to be closely examined: I.13, 78a22-78b31; II. 16-17, 98a35-99a29. Secondary literature (see Bibliographical Apendix): Angioni 2018; Zuppolini 2018a; Angioni 2014a;

Ferejohn 2013; McKirahan 1992.

June 14th: Meeting 3:

5. Expanding the necessity requirement: the "necessary principles" (against "sumbebekota explanatory factors") in I.6.

Passages to be closely examined: I.6, especially 74b5-39, 75a28-27, perhaps also 75a13-28. Secondary literature (see Bibliographical Apendix): Angioni 2014b; Angioni 2016; Angioni 2020; Angioni 2023 (forth.).

June 21th: Meeting 4:

- 6. Aristotle's introduction of the notion of apodeixis:
- —what it is, exactly? How does *apodeixis* relate to *sullogismos*? How does *apodeixis* relate to explanations?
- 7. The six requirements for the premises of demonstrations.

Passages to be closely examined: I.2, 71b16-19; I.2, 71b19-33, but also 72a5-8, and also 72a25-32. Secondary literature (see Bibliographical Apendix): Angioni 2012; Ferejohn 2013; McKirahan 1992; Zuppolini 2021.

June 28th: Meeting 5:

9. Uses of per se and katholou [both in the predicative and in the demonstrative level] (I.4-5).

Passages to be closely examined: I.4-5.

Secondary literature (see Bibliographical Apendix): Angioni 2019b; Lennox 2001; Ferejohn 2013; Hasper 2006.

July 05: Meeting 6:

11. The appropriate principles of each explanandum as the very explanandum it is (I.9).

Passages to be closely examined: I.9, especially 75b37-76a15, and also 76a26-30. Secondary literature (see Bibliographical Apendix): Angioni 2019b; Angioni [unpublished draft 2].

July 12: Meeting 7:

12. Knowing the why as the same as knowing the essence or the "what it is" (II.1-2, II.8).

Passages to be closely examined: II.2, II.8.

Secondary literature (see Bibliographical Apendix): Charles 2000; Bronstein 2016; Ackrill 1981; Zuppolini 2018b; Angioni 2014a; Angioni 2014b.

July 19th: Meeting 8:

13. Kind of Definitions and method(s) of inquiry (II.3-10, especially II.8-10).

Passages to be closely examined: II.8, II.9, II.10.

Secondary literature (see Bibliographical Apendix): Charles 2000; Bronstein 2016; Demoss-Devereux 1998; Bolton 1976; Ackrill 1981; Goldin 1996; Castelli 2019.

July 26th: Meeting 9:

- 14. Tracking the elements of a definition (II.13).
- 15. Tracking the appropriate explananda (II.14-17).

Passages to be closely examined: II.17.

Secondary literature (see Bibliographical Apendix): Lennox 2001; Lennox 2021; Bronstein 2016; Zuppolini 2018; Angioni 2019a; Angioni 2018b.

Appendix with Bibliographical References:

- -I have only included secondary literature;
- -for the edition of the Greek text, Bekker's and Ross' editions will be the main reference;
- -besides the specific references in each topic above, I recommend [for those who have time and interest] to have a survey of the monographic books devoted to important aspects of Aristotle's *episteme*, such as McKirahan [1982]; Ferejohn [2013]; Bronstein [2016]; Falcon [2005] and Gasser-Wingate [2021]
- —for some of my papers published in Portuguese, note that there are informal English translations made by myself, available in my profile in Academia.edu (sometimes in PhilPeople too): https://unicamp.academia.edu/LucasAngioni/Papers-Translated-into-English. If you do not have access to those profiles, I can send you the English version by email on request.

ACKRILL, John. 1981. "Aristotle's Theory of Definition: Some Questions on *Posterior Analytics* II.8-10", in Berti, E. (ed.), *Aristotle on Science — The Posterior Analytics*, Pádua: Antenore, p. 359-384.

ANGIONI, Lucas. 2012a. "Os Seis Requisitos das Premissas da Demonstração Científica em Aristóteles. Segundos Analíticos I 2", Manuscrito v. 35, n. 1, p. 7-60.

Note that there is an informal Énglish translation made by myself, available both in my Academia.edu profile:

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Aristotle s six requirements for the premises of scientific demonstrations Posterior Analytics A 2).

If you do not have access to those profiles, I can send you the English version my email on request.

ANGIONI, Lucas. 2014a. "Demonstração, Silogismo e Causalidade", in *Lógica e Ciência*, Campinas: PHI, p. 61-120.

Note that there is an informal English translation made by myself, available both in my Academia.edu profile: https://www.academia.edu/37898375/Demonstration_syllogism_and_causality.

If you do not have access to those profiles, I can send you the English version my email on request.

ANGIONI, Lucas. 2014b. "Aristotle on Necessary Principles and on Explaining X Through the Essence of X", Studia Philosophica Estonica 7:2, p. 88-112.

ANGIONI, Lucas. 2016. "Aristotle's Definition of Scientific Knowledge (APo 71b9-12)", Logical Analysis and History of Philosophy 19, p. 140-166.

ANGIONI, Lucas. 2018. "Causality and Coextensiveness in Aristotle's Posterior Analytics 1.13", Oxford Studies in Ancient Philosophy 54, p. 159-185.

ANGIONI, Lucas (2019a): "What Really Characterizes Explananda: *Prior Analytics I.30*". In: *Eirene: Studia Graeca et Latina* 55, pp. 147–177.

ANGIONI, Lucas (2019b): "Aristotle's Contrast between *episteme* and *doxa* in its context (*Posterior Analytics* I.33)". In: *Manuscrito* 42. No. 4, pp. 157–210.

ANGIONI, L. (2020). "Aristóteles e a necessidade do conhecimento científico", Discurso 50 (2), p. 193-238.

Note that there is an informal English translation made by myself, available both in my Academia.edu profile: https://www.academia.edu/42648669/Aristotle_and_the_necessity_of_scientific_knowledge

If you do not have access to those profiles, I can send you the English version my email on request.

ANGIONI, Lucas. (Forth. 2023). "Demonstration and Necessity: A short note on Metaphysics 1015b6-9". Forthcoming in *Archai* 2023.

ANGIONI. Lucas. (draft 1). "Aristotle and the Object of *Posterior Analytics*'s discussion". Unpublished. Available on request.

ANGIONI, Lucas. (draft 2). "The principles of each thing, demonstration and sungeneia in *Posterior Analytics* I.9 (provisional title)". Unpublished. Available on request.

BARNES, Jonathan. 1969. "Aristotle's theory of demonstration", Phronesis 14, p. 123-152.

BARNES, Jonathan. 1981. "Proof and the Syllogism". In: Berti, E. (ed.). Aristotle on Science. Padova: Antenore, p.17-59.

BARNES, Jonathan. 1993. Posterior Analytics, Oxford: Oxford University Press.

BARNES, Jonathan. 2014. "Aristotle on knowledge and proof", in *Proof, Knowledge and Scepticism: Essays in Ancient Philosophy III*, Oxford, Clarendon Press, p. 73-94.

BERTI, Enrico. (ed.). 1981. Aristotle on Science – The Posterior Analytics. Padova: Antenore.

BOLTON, Robert. 1976. "Essentialism and Semantic Theory in Aristotle: *Posterior analytics*, II, 7-10", *Philosophical Review* 85, n. 4, p. 514-44.

BRONSTEIN, D. 2016. Aristotle on Knowledge and Learning Oxford: Oxford University Press.

BURNYEAT, M. F. 1981. Aristotle on Understanding Knowledge. In: Berti, E.(ed.). Aristotle on Science—The Posterior Analytics. Padova: Antenore, p. 97-140.

BURNYEAT, M. F. 2011. 'Episteme', In B. Morison & K. Ierodiakonou, Episteme etc.: Essays in Honour of Jonathan Barnes, Oxford: OUP, p. 3-29.

CASTELLI, Laura. 2019. "Disentangling Defining and Demonstrating: Notes on An. Post. II.3-7", Manuscrito 42 (4), p. 243-281.

CHARLES, David. 2000. Aristotle on Meaning and Essence. Oxford: Oxford UP.

CRAGER, Adam. 2015. Meta-Logic in Aristotle's Epistemology, PhD Dissertation, Princeton University.

DEMOSS, D. & DEVEREUX, Daniel. 1988. "Essence, existence and nominal definition in Aristotle's *Post. analytics* II 8-10", *Phronesis* 33, p. 133-54.

FALCON, A. 2005. Aristotle and the science of nature: unity without uniformity. Cambridge University Press.

FEREJOHN, Michael. 2013. Formal Causes, Oxford: Oxford University Press.

GASSER-WINGATE, Marc. 2021. Aristotle's Empiricism, Oxford University Press (USA).

GOLDIN, Owen. 1996. Explaining an Eclipse: Aristotle's Posterior Analytics 2.1-10. Ann Arbor: University of Michigan Press.

HASPER, P. S. 2006. Sources of delusion in Analytica Posteriora I 5. Phronesis 51, 252-284.

LENNOX, James G. 2001. Aristotle's Philosophy of Biology, Cambridge UP.

LENNOX, James G. 2021. Aristotle on Norms of Inquiry. Cambridge UP.

LESHER, James H. 2001. Aristotle on ἐπιστήμη as understanding. Ancient Philosophy 21, p. 45-55.

MALINK, Marko. 2017. "Aristotle on Principles as Elements", Oxford Studies in Ancient Philosophy 53, p. 163-213.

MENDELL, Henry. 1998. Making Sense of Aristotelian Demonstration. Oxford Studies in Ancient Philosophy 16, p. 161–225.

McKIRAHAN, Richard. 1992. Principles and Proofs. Aristotle's Theory of Demonstrative Science, Princeton: University Press.

MIGNUCCI, Mario. 2007. Aristotele - Analitici Secondi. Roma-Bari: Laterza.

MUELLER, Ian. 1982. Aristotle and the Quadrature of the Circle. In: Kretzmann, N. (ed.). *Infinity and Continuity in Ancient and Medieval Thought*. Cornell: Cornell UP, 146-164.

PHILOPONUS. 1909. In: Wallies, M. (ed.). Aristotelis analytica posteriora commentaria (commentaria in aristotelem graeca vol. XIII). Berlin: Walter de Gruyter.

PHILOPONUS. 2008. On Aristotle Posterior Analytics 1.1-8. Translated by Richard McKirahan. London: Bloomsbury.

ROSS, W. D. 1949. Aristotle's Prior and Posterior Analytics. Oxford: Oxford UP.

SMITH, Robin. 2009. Aristotle's theory of demonstration. In: Anagnostopoulos, G. (ed.). A Companion to Aristotle (Blackwell Companions to Philosophy). Oxford: Wiley-Blackwell, p. 51-65.

STEINKRUGER, Philipp. 2018. "Aristotle on Kind-Crossing", Oxford Studies in Ancient Philosophy 54, p. 107-158.

ZUPPOLINI, Breno. 2018a. "Aristotle on Per Se Accidents", Ancient Philosophy 38: 1, p. 113-135.

ZUPPOLINI, Breno. 2018b. "Explanation and essence in Posterior Analytics II 16-17", Archai 24, p. 229-264.

ZUPPOLINI, Breno. 2021. "Immediacy in Aristotle's epistemology", Phronesis 66 (2), p. 111-138.