9. 'Poetry and Biology: the Anatomy of Tragedy'

(Andrea Capra)

The *Poetics* may look like "*un bloc erratique*", as Victor Goldshmidt once called it.[1] In part, this depends on its strange isolation within the corpus, in that the *Poetics*, as we shall see, is not served by the abundant cross-references that help situate other works. To make things worse, in antiquity the *Poetics* was never the subject of a commentary, while Aristotle's other works devoted to poetry were soon lost. By contrast, in modern times the relentless proliferation of non-philosophical readings has famously turned the *Poetics* into a handbook for playwrights or, more recently, into a historical/critical essay of sorts, thus severing it from Aristotle's philosophical project. This complicated background has prompted a widespread "humanistic" approach to the *Poetics*, with a focus on *Rhetoric* and, more recently, on *Politics* and on the *Ethics*.[2] While emphasizing the relevance of these works to certain aspects of the *Poetics*, this chapter circumscribes their explanatory power. Unlike tragedy's lesser constituents discussed in *Poetics* 6, Aristotle's innovative notion of *mythos*, i.e. what is truly specific of poetry, proves to be hardly at home in the more "humanistic" areas of Aristotle's thought. In search of an alternative path, I unravel the pre-Aristotelian premises that tacitly underlie what Malcolm Heath calls Aristotle's "natural history of poetry".[3] Moreover, I survey certain templates of reasoning shared by Aristotelian poetics and biology, whose scientific twist, I argue, entails an unnoticed reference to Plato's notion of poetic *mythos*, which in the course of *Poetics* comes to be superseded. In sum, this paper advances a novel two-level model, whereby the "lower" parts of the poetic art confirm the expected "humanistic" affiliation, whereas its pinnacle, namely the new notion of *mythos*, turns out to be the product of Aristotle's biological thinking. [4]

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[1] Goldsmith 1982, 400.
[2] Cf. Ford 2015, 5.
[3] Heath 2013, 56-103 (see below).
[4] Needless to say, the suggestion that Aristotle's approach to poetry is somewhat "biological" is occasionally found in scholarship, but on cursory and one-sided grounds, which has prompted harsh criticism (e.g. by Halliwell 1986, 97-98). The present paper aims to complement and expand the more nuanced position advanced by Ford 2002, 266 ("the organicism that Aristotle

1. The isolation of the *Poetics*

Aristotle is usually fond of pointing to other works of his, thus creating a rich network of cross-references that help situate a given work within his "encyclopedia".[5] However, this is not the case with the *Poetics*: surprisingly, no general preface orientates the reader,[6] and references to Aristotle's other works are few and frustratingly elusive. Let me briefly review them:[7]

1) *Po*. 6.1449b21-28 "I shall discuss epic mimesis and comedy later (*hysteron eroumen*). But let us deal with tragedy by taking up the definition of its essential nature which arises out of the things that have so far been said (*ek tōn eirēmenōn*). Tragedy, then, is a representation of an action which is serious, complete, and of a certain magnitude - in language which is garnished in various forms in its different parts - in the mode of dramatic enactment, not narrative - and through the arousal of pity and fear effecting (*perainousa*) the *catharsis* of such emotions".

2) *Po*. 15.1454b15-18 "In addition to observing these points the poet must guard against contraventions of the perceptions which necessarily attach to poetic art, since there are many ways of making mistakes in relation to these. But I have discussed these matters adequately in my published writings (*en tois ekdedomenois logois*)".

3) *Po*. 19.1456a33-b2: "Having discussed the other elements, it remains for me to discuss style and thought. The details of thought can be left to my discourses on rhetoric (*en tois peri rhētorikēs keisthō*), since they belong more integrally to that subject. Thought pertains to all those effects which must be produced by the spoken language; its functions are demonstration, refutation, the arousal of emotions such as pity, fear, anger, and such like, and arguing for the importance or unimportance of things".

4) *Po*. 20.1456b31-4: "These sounds are distinguishable by the shape of the mouth, the points of contact, the presence or absence of the aspirate, length and shortness, and pitch-accent (acute, grave, or intermediate): detailed consideration of all these points belongs to works on meter" (*en tois metrikois prosēkei theōrein*).

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took from Plato and adapted to his formal and teleological view of poetry gave poetic criticism something of the objectivity of anatomy").
[5] For a useful list, see Bonitz 1870, *s.v. Aristoteles*, 95-105.
[6] Cf. e.g. Else 1957, 2.
[7] Translations from Aristotle's *Poetics* are from Halliwell 1987.

Point one is a familiar and notorious riddle: by and large, the *querelle* about the existence of a second book of the *Poetics* stems from these words. Whatever we make of modern attempts at reconstructing it, no extant work of Aristotle corresponds to this reference, which in any case would be an internal one, pointing to another section of the *Poetics* itself. Point two is also tricky, but most scholars construe Aristotle's words as a reference to his lost dialogue *About the Poets.* In the entire corpus, this is the only instance of the expression "published works" (*ekdedomenoi logoi*).[8] However, the expression is found in a letter that Aristotle allegedly wrote to Alexander, containing the famous reference to his akroamatic writings and the distinction between published and unpublished works (*Sixth epistle*). Point three is the clearest: this is an unequivocal reference to the *Rhetoric*, and I shall discuss it later. Point fourth, however, is very dubious. Aristotle's words are vague and suspicious:[9] they may refer to metrical matters or, as Stephen Halliwell translates them, to works on meter.[10] But even if that were the case, it would be by no means certain Aristotle's reference should point to *his own* works. At any rate, we know nothing about metrical writings by Aristotle.

All in all, we are left with a single reference to another known work, and this is the *Rhetoric*. Let me note that the preference given to this work is, so to say, reciprocated, in that the *Rhetoric* features no fewer than five references to the *Poetics*.[11] First, Aristotle claims he has addressed the issue of laughter in the *Poetics* (*Rh.* I 11.1372a1-3); second, he has also discussed style (*lexis*) there, albeit partially (*Rh.* III 1.1404a37-9); third, he refers to nouns as a part of style he has discussed in the *Poetics* (*Rh.* III 2.1404b5-8); fourth he mentions metaphors as a subject more pertinent to the *Poetics* (*Rh.* III 2.1405a3-6); fifth and last, he touches again on laughter and its divisions, which he claims he has discussed in the *Poetics*. The two references to laughter, of course, throw further fuel on the *querelle* about the second book of the *Poetics*. The other references tell us that style is something shared by poetry and rhetoric. This may not

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[8] Cf. Tarán and Gutas 2012, 21-5, for the interpretation of this expression.

[9] Cf. e.g. Bywater 1909, 268: "The preposition [scil. *en*, followed by *tois metrikois*] has to be bracketed, as there is no hint of a book on metre, actual or contemplated, by Aristotle himself".
[10] Halliwell 1987, 54.

[11] Cf. Tarán and Gutas 2012, 20, where a sixth reference is added (*Rh.* III 2.1404b26-8. The phrase *en tois peri poiēseōs* is likely to refer to the *Poetics*).

seem very helpful, but together with Aristotle's citation of the *Rhetoric* in the *Poetics*, they may help pinpoint the specificity of poetry against speech as such: I will return to that later.

Apart from the five references in the *Rhetoric*, Aristotle cites the *Poetics* only another time, in an important passage towards the end of the *Politics* (*Pol.* VIII 7.1341b32-45). Once again, the reference is baffling. Aristotle promises a clear discussion of *catharsis* in the *Poetics*, which is precisely what nobody has ever managed to find there.[12]

2. The *Politics*

Perhaps unsurprisingly, my survey results in a rather poor conclusion. Unless something can be made of Aristotle's baffling promise in the *Politics*, all we learn is that thought (*dianoia*) and style (*lexis*) are common to poetry and speech: hardly a great achievement. The *Poetics* is in fact, at least *prima facie*, an isolated work. At best, the *Poetics* shares with the *Rhetoric* a reciprocal, if rather poor, consonance,[13] but today hardly anyone would subscribe to Süß's idea that Aristotle's *Poetics* is "eine Ergänzung der *Rhetoric*".[14] What about the *Politics*, though? Does the *Poetics* "reciprocate"? The *Poetics* never mentions the *Politics*, so the answer should be in the negative. However, one interesting way to tackle the isolation of the *Poetics* lies precisely in an attempt to show that the *Poetics*, after all, *does* refer to the *Politics*.

Let us get back to the *catharsis* passage, point one above. A few years ago, Pierluigi Donini has argued that this passage refers back to the *Politics*, which would provide the required "reciprocal" link to that work.[15] In the light of a number of good parallels, Donini interprets the participle *perainousa* as meaning "to complete" rather than "to effect" and argues that in fact tragedy "completes" the musical *catharsis* as described in the *Politics*. Thus, he construes "the things that have been said" as a

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[12] Nevertheless, a careful examination of this passage, albeit indirectly, can throw light on *catharsis* in the *Poetics* (cf. Heath 2014) and reveal at the same time a complex (dis)continuity with Plato's notions of *catharsis* and *ekplexis* (cf. Ramfos 1992, 180-5).

[13] Ničev 1988 argues that at least nine key notions (*eleos*, *phobos*, *epieikēs*, *homoios*, *bouleutikos*, *proairesis*, *diakaiosynē*, *hamartia*, and *doxa*) provide a link between *Poetics* and *Rhetoric*.

[14] Süß 1910, 91, which I found quoted in Kraus 2005, 73. Kraus provides a clear discussion of the early tendency to associate *Rhetoric* and *Poetics* in the Aristotelian tradition.

[15] Donini 2008, CVII-CXIII, based on Donini 1998.

reference to the discussion of *catharsis* found in the *Politics.* Donini argues that this work discusses the educational benefits of *catharsis* at an early age, so that tragedy can be construed as the crowning touch, the mature counterpart of that educational process. The emphasis is on the intellectual force of tragedy, and on the understanding that it requires from both audiences and readers. All of a sudden, this conclusion would break up the isolation of the *Poetics*, and poetry would return to be a social and political phenomenon, only at a more advanced and elitist level.

Donini's solution is very tempting, as it would solve many thorny problems related to *catharsis*. Nevertheless, I think the temptation should be resisted. I will not get into general problems such as the role of *catharsis* in the *Politics*, where the notion is first introduced as a therapy to cure abnormal emotions and is distinguished from *mathēsis* (*Pol.* VIII 6.1341a21-4). I will limit myself to a remark about the expression found in the *Poetics*, namely "the things that have been said" (*ek tōn eirēmenōn*). At a formal level, a TLG survey of the almost 100 instances of this quasi-formulaic expression in Aristotle's works would show that it refers to something found in the proximities of the text, within the same work, as is immediately clear in the two other instances found in the *Poetics* (*Po.* 9.1451a36 and 26.1461b24-5).[16] This seriously undermines Donini's otherwise attractive interpretation. For my present purposes, it is safer to look elsewhere for links to other works of the corpus.

3. The six parts of tragedy

Despite the lack of explicit links to other works or to Aristotle's philosophical project, ch. 6, with its division of tragedy into its constitutive parts, offers a kind of "second sailing", in the form of a few semi-explicit indications as to the place of the *Poetics* within Aristotle's encyclopedia. Let us review tragedy's six parts (*Po.* 6.1450a9-11)[17]:

So then, tragedy as a whole must have six elements which make it what it is: they are plot-structure (*mythos*), character (*ēthē*), style (*lexis*), thought (*dianoia*), spectacle (*opsis*), song (*melopoiia*).

To begin from the last and least important elements, one may claim that spectacle and song, at least potentially, can be read against Aristotle's psychology: for example, one

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[16] Rostagni 1945, *ad locc.*, rightly stresses the point.
[17] On the order ("processive" as well as axiological) of tragedy's six parts cf. Silk 1994.

would expect some reference to *phantasia*, be it from the point of view of the poet who "brings plots before his eyes" (*Po.* 17.1455a23-4) or from the standpoint of the readers, who presumably "process" poetry through visual as well as intellectual patterns. And yet Aristotle never mentions *phantasia* in the *Poetics*. What is more, when it comes to these two parts of tragedy Aristotle seems to make them, albeit in different degrees, external to poetics.[18] Song and spectacle, then, provide no clear indication as to the place of the *Poetics*.

Style and thought pop up in reverse order a few lines later, which makes them a whole of sorts. Both are crucially interwoven with rhetoric: as we have seen, in the *Poetics* Aristotle tells us that the "details of thought" are discussed in the *Rhetoric*, whereas in the *Rhetoric* he says that many aspects of style, such as metaphors and names, are discussed in the *Poetics*. Style and thought have to do with both poetry and prose, and this is why they feature in Aristotle's two relevant works. The connection with the *Rhetoric*, then, ranges from explicit to quasi-explicit.

To this rather obvious fact, one may add that the couple formed by thought and style in the middle of Aristotle's list points to an implicit anti-Platonic tenet.[19] As we hear in the *Gorgias*, poetry is in fact garnished speech. If one were to strip tragedy of its spectacular and musical garnishing, "naked" poetry would prove to be nothing more than speech (*Grg*. 502c). But Aristotle's "style", at least in part, is integral to poetry regardless of its garnishing, the most obvious example being metaphors, which are specific and intrinsic to poetry.

Character, "the element which reveals the nature of a moral choice", has an obvious counterpart in Aristotle's ethical works as well as in the *Politics*, given that the relationship of the latter with the *Ethics*, although notoriously complicated, is very strong. Let us not forget, moreover, the importance of the ethical and political dimension of

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[18] This is suggested by the tone of the passage, which sounds dismissive and rules out performance as a crucial constituent of poetics: "Of the remaining elements, lyric poetry is the most important of garnishings, while spectacle is emotionally powerful but is the least integral of all to the poet's art: for the potential of tragedy does not depend upon public performance and actors; and, besides, the art of the mask-maker carries more weight than the poet's as regards the elaboration of visual effects" (*Po.* 6.1450b15-20).

[19] Despite the palpable anti-Platonic import of many arguments developed in the *Poetics*, Aristotle "seems to be avoiding a direct confrontation with his opponent" (Nehamas 1992, 291).

thought. As one critic puts it, "in the *Nicomachean Ethics* the distinction between *ethos* and *dianoia* is central to Aristotle's theory and plays a structural role in its elaboration".[20] Thought is also political in character, given that - so runs Aristotle's definition - "thought is the capacity to produce pertinent and appropriate arguments, which is the task in prose speeches of the arts of politics and rhetoric" (*Po.* 6.1450b5-7). This amounts to a semi-explicit reference to the *Politics* and the *Rhetoric*.

4. Ethics, Rhetoric and Politics: poetry and the *endoxa*.

Before addressing *mythos*, the first and far most important part of tragedy, let us pause for a moment. As we have seen, the second, third and fourth most important parts of tragedy provide (semi-)explicit links to *Rhetoric*, *Politics* and the *Ethics*. A similar conclusion emerges from another crucial constituent of tragedy: as Dana Munteanu has argued, tragedy's *oikeia hēdonē* is best explained through pleasure as discussed in *Nicomachean Ethics* 10 and through memory and mourning as discussed in the *Rhetoric*.[21] By and large, all of this points to what can be construed as the area of the "humanities" within Aristotle's encyclopedia. This humanistic "affiliation" of poetry is of course natural for us moderns and to some extent it holds for Aristotle too,[22] especially at a time when "a view of Aristotle as a hard-core empiricist has given way to a picture of a humanist who is attuned to the nuances of his cultural milieu".[23] To *what* extent, though?

At first sight, such an "affiliation" may be confirmed by examining the role of poetry in Aristotle's rhetorical, political and ethical works. Quotations from poetry and from poetic plots are ubiquitous and of paramount importance: poetry can be seen as the product of wise men but, more importantly, is consistent with common sense. In other words, poems, "almost invariably stripped of their performative context",[24] are seen as a vivid digest of *endoxa*, and as such they play a crucial dialectical role in any practical

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[20] Blundel 1992, 156. This article provides a lucid discussion of the relationship between the *Poetics* and Aristotle's ethical and political work as regards *ethos* and *dianoia*. Kraus 2005 explores the intersections between *Rhetoric* and *Poetics* as regards *ethos*.

[21] Munteanu 2011, ch. 4.

[22] Belfiore 1992 explores the issue in depth. Young 1983 notes a number of striking parallels between the *Poetics* and Pindar's reflections on poetry.

[23] Haskins 2004, 1.

[24] Haskins 2004, 8.

argument.[25] As a consequence, most of the issues discussed in the ethical, rhetorical and political works can be hardly conceived of outside the frame of poetry.

Poetry, then, works as a kind of vivid repository of common sense, refined through the centuries. Far from being a shortcoming, this feature makes poetry a shortcut to *endoxa*: an invaluable dialectical tool, then. This being the case, one may begin to doubt that such an approach to poetry can be always construed as humanistic in our sense, and yet no conclusion is possible before we analyze the top item in Aristotle's list, namely *mythos*. Before we touch on the new meaning that this word is given in the *Poetics*, it may be useful to remark how Aristotle uses the word to attack other figures of the Greek tradition: in the *De generatione animalium* he claims that "even the fishermen repeat the same simple tale, so much noised abroad, as does Herodotus the mythologist (*mythologos*), as if fish were conceived by the mother's swallowing the milt" (*GA* III. 5.756b5-8).

Here, as in many other cases, Aristotle uses myth as a polemical weapon, much like the historians themselves when they attack the poets.[26] Remarkably, this usage of the word *mythos* and of its cognates is by far the commonest in Aristotle's works other than the *Poetics*, and even the famous passage of the *Metaphysics* (*Metaph.* I 2.982b11-21) where Aristotle suggests that "lovers of myths" are in a way philosophers can be seen in this light: qua mysterious and marvelous, myth fuels curiosity and urges people to ask questions and solve problems. In other words, myth is good to the extent that philosophers can supersede it and explain it away, as is the case in the passage from the *De generatione animalium*.

To summarize: tragedy is the most important form of poetry, and *mythos* is the most important part of tragedy. And yet *mythos* does not mean "myth", as elsewhere in Aristotle, but is something like plot or intelligible structure: as Michael Silk puts it "in Aristotle's special meaning" *mythos* is "a formal entity".[27] The novelty is signaled by the

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[25] Cf. Guastini 2010, 16-22.

[26] Cf. Saïd 2007.

[27] Silk 2001, 175.

phrase "I define myth" (*legō gar mython, Po.* 6.1450a4).[28] The new meaning, which is surely related with the anti-Platonic idea that poetry imitates actions rather than characters, seems to be by and large unparalleled and has been construed as proto-narratological.[29] What is truly specific of poetry, then, cannot be found in the "humanistic" areas of Aristotle's thought, nor is his frequent resort to poetry in political, ethical and rhetorical works "humanistic" in our sense. All in all, we are facing a strange paradox. Where does the unprecedented meaning of *mythos* in the *Poetics* come from?

5. Poetics and Biology.

Sometimes, paradoxes call for paradoxical explanations. Within Aristotle's encyclopedia, the one area where poetry and the poets seem to play no significant role is biology. This is true as regards the early *Historia animalium*, and is even truer if we turn to Aristotle's mature biological works.[30] Could it be the case, then, that poetic *mythos*, along with other surprising features of the *Poetics*, can be understood in the light of Aristotle's biology? Malcolm Heath's *Ancient Philosophical Poetics* features an entire chapter entitled "The natural history of poetry: Aristotle".[31] Heath's discussion provides a very convenient framework for my own argument.

As Heath remarks, Aristotle "thinks biologically" in a number of ways, and the same can be proven true in the case of the *Poetics*. In particular, Heath shows that Aristotle's hierarchical conception of kinds, although it is part of a non-evolutionary conception of nature, closely parallels the development of poetry described in the *Poetics*,

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[28] On the meaning of *mythos* in the *Poetics*, and its modern interpretations cf. Frazier 2013, with ample bibliography.

[29] Cf. Zimmermann 2009. Belfiore 2000 rightly points out the distance between Aristotle's cultural assumptions and those found in modern narratology, with its emphasis on fiction and on the characters' psychology. Fusillo 1986 cautiously compares Aristotelian *mythos* and narratological *récit*, and rightly stresses how the meaning of the word oscillates in the *Poetics* from the least to the most specific, as in Aristotle's explicit "definition". The technical meaning, though predominant, should be envisaged as just one extreme of a spectrum, the other being represented by the traditional meaning(s). I thank Dana Munteanu for attracting my attention to the nuances of Aristotle's use of *mythos* in the *Poetics*.

[30] This is not to say that there are no poetic quotations in Aristotle's biological works. On the contrary, Homeric lines abound in the *HA*. However, "none is tightly integrated to the context in which it appears … Most of the Homer-references could well be excerpts from somewhere else – information plucked from another source, in which they are a much better fit" (Mayhew 2015, 131).

[31] Heath 2013, 56-103. Cf. also Rees 1981, with added bibliography.

which has eventually given birth to its most perfect and "natural" product, namely tragedy. Accordingly, Heath can plausibly say, for example, that iambus is defective relative to more perfect and recent forms of poetry just as - say - inferior species are defective relative to superior species in Aristotle's biology.

I fully agree with this view. Let me only add that, in this specific case, Aristotle's tendency to "think biologically" found fertile ground in a still more general tendency of Greek thought. I am thinking of phenomena such as the structural function of certain myths and narratives: diachronic narration could work as a device to highlight a synchronic taxonomy, as is clear, for example, in the myth of Prometheus and the animal species in Plato's *Protagoras*.[32] Also, it is interesting to note that space and time are often two interchangeable dimensions: myth, that is the events of the age of the demigods, is the stuff tragedies are usually made of. When that is not the case, as it happens with Aeschylus' *Persians* or Phrynicus' *Capture of Miletus*, myth is replaced by a fabulous setting: both tragedies are set in far off Persia, governed by a semi-divine king, as Xerxes and Darius are described by Aeschylus. The idea is nicely captured, many centuries later, by Plutarch, who begins the *Life of Theseus* by saying that myth is out of map boundaries for the historian just like faraway and fabulous lands are out of map boundaries in geographical terms, with a telling conflation of space and time.

Finally, Greek religion - and here I am referring to the whole set of stories of the Gods prior to the kingdom of Zeus - suggests that the opposition between evolutionary and non-evolutionary models, however natural it may seem to us, is not exhaustive. *Tertium datur*: the gods were born and had to struggle to become what they are, but once they have reached their perfect and final stage, they are "frozen" forever, and no further change, either political or biological, will ever occur.[33]

These typically Greek patterns of thought help explain why Aristotle ended up construing two very different phenomena such as poetry and biology through one and the same theoretical frame, whereby synchrony and diachrony, space and time easily merge. On the one hand, this occasionally leads Aristotle to speak of nature as if it were the result of a process: nature "proceeds" (*metabainei*) from species to species (*e.g. HA* VIII

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[32] Cf. e.g. Brisson 1975.
[33] Cf. e.g. Graziosi and Haubold 2005, ch. 3.

1.588b4 and *PA* IV 5.681a12). On the other hand, conversely, poetry does evolve through time, and yet Aristotle's "narrative" ultimately amounts to a static taxonomy, which is the product of what Aristotle seems to construe as an impersonal and - let me stress it - *natural* necessity, where the individual poets play a totally marginal role.[34] Evolutionary time and taxonomical space are interchangeable and can be both described as a movement or progression. All in all, the fact that poetry - unlike Aristotelian biology - has emerged through time seems to be irrelevant for Aristotle.

6. Biological templates of reasoning: the redemption of the ugly

In this and in the next paragraph I will further pursue the analogy between Aristotelian biology and poetics, before addressing, in my final paragraph, the crucial issue of *mythos*. How can we define the format and features of such analogies? Let me borrow a viable method from Stephen Halliwell's *Between Ecstasy and Truth*.[35] Halliwell stresses the continuity between such areas as poetics, ethics, politics and psychology in Aristotle's discussion of poetry. To this effect, among other things, he makes the following point:

Now it is clearly the case that, for Aristotle, ethical judgment must always take account of the identity of the agent, the circumstances, the aim of the action, etc. We find him expressly invoking such variables in his own ethical writings. When specifying, for instance, in book 3 of the *Nicomachean Ethics*, the factors which can make an action 'involuntary' … he lists all the possible objects of a person's ignorance: 'who he is, what he is doing, what or whom he is acting on, what instrument he is using, and to what end' (*EN* III 1.1111a3-5). Although in this passage Aristotle is speaking of an agent's own knowledge or ignorance, the close match between the set of terms used here and those adduced in *Poetics* 25 shows that in the latter he is thinking with, so to speak, a template of reasoning which he has carried over from his ethical philosophy in general (p. 217-8, emphasis mine).

This suggests a conveniently flexible level where to look for analogies, namely "templates of reasoning", complete with lexical matches. I will focus on a couple of biological "templates" that Aristotle arguably applied to the *Poetics*.

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[34] For a radically different view, see Kyriakou 1993.
[35] Halliwell 2011.

The first template I want to discuss may be called "the redemption of the ugly", and is best exemplified in a deservedly famous passage from the *Parts of animals* (*PA* I 5.645a4-15):

Having already treated of the celestial world, as far as our conjectures could reach, we proceed to treat of animals, without omitting, to the best of our ability, any member of the kingdom, however ignoble (*atimoteron*). For if some have no graces to charm the sense, yet even these, by disclosing to intellectual perception the artistic spirit that designed them, give immense pleasure to all who can trace links of causation, and are inclined to philosophy. Indeed, it would be strange if mimic representations of them were attractive (*tas men eikonas autōn theōrountes chairomen*), because they disclose the mimetic skill of the painter or sculptor, and the original realities themselves were not more interesting, to all at any rate who have eyes to discern the reasons that determined their formation (transl. W. Ogle).

I agree with Andrew Ford and Pierluigi Donini that this passage is relevant to the *Poetics*, although neither poetry nor tragedy are mentioned.[36] The whole train of thought calls to mind - irresistibly I would say - chapter 4 of the *Poetics*, where Aristotle discusses the pleasure inherent to imitation:

For we take pleasure in contemplating the most precise images of things (*tas eikonas ... chairomen theōrountes*) whose sight in itself causes us pain - such as the appearance of the basest (*atimotatōn*) animals, or of corpses. Here too the explanation lies in the fact that great pleasure is derived from exercising the understanding, not just for philosophers but in the same way for all men, though their capacity for it may be limited" (*Po.* 4.1448b10-15)

I would only add that a close examination of Aristotle's lexical choices, as should be clear from the Greek words in brackets, reinforces the idea.

Unlike "base animals" per se, the contemplation of which is the privilege of the philosophers, the *images* of base animals can give pleasure to both common people and philosophers. The reaction of the former possibly implies the kind of detachment

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[36] Cf. Ford 2002, 266-8; Ford 2015, 15-16; Donini 2008, CIV.

provided by *phantasia*:[37] as we hear in the *De Anima*, "when we merely imagine (*kata tēn phantasian*) we remain as unaffected as persons who are looking at a painting of some dreadful or encouraging scene" (*de An*. III 3.427b23-4).[38] Only philosophers, however, are capable of theoretical contemplation. The philosopher's analysis of tragic plots is not performed through *phantasia*, which is shared by all men and many animals. Rather, it calls to mind the "intellectual perception" (*aisthēsis kata tēn theōrian*) referred to in the passage from the *Parts of animals*, which is why, I submit, Aristotelian criticism may be said to grant its practitioners "a supervenient pleasure … one that goes beyond our enthrallment by the work or our admiration for the artist's technique".[39] In doing so, the contemplating philosophers may be called "biologists of art", or "biologists of poetry", given that Aristotle resorts to painting as a minimal model for the consumption of poetry.[40]

7. Biological templates of reasoning: synopsy vs haphazardness

The second template may be called "synopsy versus haphazardness", and is in fact closely related to the first one. This time, let me start from the *Poetics*, chapters 7 and 24:

Any beautiful object, whether an animal (*zōon*) or any other structure of parts, must possess not only ordered arrangement but also a non-haphazard (*mē to tychon*) scale (for beauty is grounded in both size and order). An animal (*zōon*) could not be beautiful if it is either too small - for perception of it is practically instantaneous and so cannot be experienced - or too great, for contemplation of it cannot be a single experience, and it is not possible to derive a sense of unity and wholeness from our perception of it (imagine an animal - *zōon* - a thousand miles long). Just, therefore, as regards beautiful bodies or animals (*zōōn*) there must be some size, but one which allows it to be perceived all together, so *mythoi* should be of a length which can be easily held in the memory (*Po.* 7.1450b34-1451a6).

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[37] Cf. Palumbo 2008, 502-3, suggesting that *phantasia* is implicit in this passage.

[38] It should be noted, however, that *phantasia* does not necessarily result in a form of detachment, as is clear in the case of animals (cf. Nussbaum 1978, 212ff.). The exponential growth of works devoted to Aristotle's *phantasia* seems to be positively related, among other things, to its baffling complexity and apparent inconsistency. Recent monographs include Astolfi 2011, with a useful *status quaestionis*, and Feola 2012, a lucid and meticulous discussion of *phantasia* in *De Anima*.

[39] Ford 2015, 16.

[40] Cf. Zanker 2000.

As for the narrative art of mimesis in spoken verse, it is evident that its *mythoi* should have a dramatic coherence, just as in tragedy, and that they should concern an action which is unitary and complete (with beginning, middle and end), so that, as with a living animal (*zōon*), the single and entire structure may yield the pleasure which belongs to it. The corollary of this is that poetic organization (*syntheseis*) should not resemble histories, in which one need not find the exposition of a unitary action but of all the events which, at a given time, happened to one or more persons, in such a way that the reciprocal connection of the events is haphazard (*hos etychen*) … and this is one respect in which Homer's inspired superiority is evident, because of his refusal to attempt to make a plot about the entire war … such a *mythos* would be too bulky, and could not be perceived as a unity; or, if moderate in size, would be too intricately detailed (*Po.* 23.1459a17-34).

These passages provide an interesting confirmation: works of poetry can be construed as animals, whose structure - provided it is perceivable as a unity - is bound to give pleasure to rational observers. This repeated comparison with animals calls to mind the famous passage of Plato's *Phaedrus* in which speeches are equated to animals that only a good butcher can cut up properly so as to respect their internal structure (*Phdr*. 265a). In fact, structure is crucial to Aristotle as well, and to this effect poems should not be too "bulky", Homer being a kind of surprising and happy exception.[41]

If we now move to the observation of "real" animals, it may be interesting to note that Aristotle, time and again, insists that in order for their structure to be fully visible a given animal should not be too small - embryos under a certain age have an undistinguishable structure (*HA* VII 3.583b9-11) - or too fat. For example, in the third book of the *Historia animalium* he says the following:

For the veins have the shape of the entire body, like a sketch of a mannequin (*en tois graphomenois konabois*); in such a way that the whole frame seems to be filled up with little veins in attenuated subjects-for the space occupied by flesh in fat individuals is filled with little veins in thin ones-whereas the sinews are distributed about the joints and the flexures of the bones. Now, if the sinews were derived in unbroken sequence from a

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[41] And Aristotle being not especially consistent when he addresses the issue of *mēkos* and *megethos* in the *Poetics*: see Belfiore 2001.

common point of departure, this continuity would be discernible in attenuated specimens (*HA* III 5.515a34-b6, transl. D'Arcy Wentworth Thompson).

This and other similar passages are crucial in that, groundbreakingly, the notion of biological system emerges: it is not the single organs or parts that count, but their complex organization, forming a continuum. [42]

From this point of view, of great interest is also Aristotle's emphasis on "poetic organization" (*synthesis*) as something that should be kept carefully distinct from the haphazard events that form the raw material of history. This calls to mind what follows in the passage from the *Parts of animals* I quoted earlier:

Absence of haphazard (*tychontōs*) and conduciveness of everything to an end are to be found in Nature's works in the highest degree, and the resultant end of her generations and combinations is a form of the beautiful. If any person thinks the examination of the rest of the animal kingdom an unworthy task, he must hold in like disesteem the study of man. For no one can look at the primordia of the human frame-blood, flesh, bones, vessels, and the like-without much repugnance. Moreover, when any one of the parts or structures, be it which it may, is under discussion, it must not be supposed that it is its material composition to which attention is being directed or which is the object of the discussion, but the relation of such part to the total form. Similarly, the true object of architecture is not bricks, mortar, or timber, but the house; and so the principal object of natural philosophy is not the material elements, but their composition, and the totality of the form (*peri tēs syntheseōs kai tēs holes ousias*), independently of which they have no existence (*PA* I 5.645a23-36 transl. W. Ogle).

In both poetry and biology, *synthesis* as opposed to haphazardness is the key to make sense of things. Even though *synthesis* is not identical with body system, it is clear that the two notions are very close, and they both depend on soul as defined a few pages earlier in the *Parts of the Animals*: "and inasmuch as it is the presence of the soul that

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[42] On Aristotle's "invention" of biological systems in the *Parts of Animals* (cf. *PA* II 2.647b18-9, II 3.650a2-8, II 9.654a32-b3, II 9.655b2-21) see Lanza and Vegetti 1971, 543. Aristotle, however, remains "fedele come sempre nella sua biologia al linguaggio comune" which is why he does not feel the need to work out "nuovi termini atti a fissure con precision l'acquisita consapevolezza teorica" (*ibidem*).

enables matter to constitute the animal nature, much more than it is the presence of matter which so enables the soul, the inquirer into nature is bound on every ground to treat of the soul rather than of the matter. For though the wood of which they are made constitutes the couch and the tripod, it only does so because it is capable of receiving such and such a form" (*PA* I 1.641a27-32).

8. *Mythos* and the soul of tragedy: towards a biological reading

With *synthesis* and soul, pointing to the implicit notion of biological system, my argument comes full circle, in that they correspond precisely to the above-mentioned attempt at definition (*legō gar mython*), which is in fact the only explicit one found in the *Poetics*:

By this term *mythos* I mean the organisation of the events (*synthesin tōn pragmatōn*)… (*Po*. 6.1450a4-5)

The idea is further developed a few lines later:

And so, the *mythos* is the first principle and, so to speak, the soul of tragedy, while characterization is the element of second importance. (An analogous point holds for painting: a random distribution of the most attractive colours would never yield as much pleasure as a black-and-white sketch) (*Po*. 6.1450a38-b4).

The biological image implicit in these words seems to leap off the page: as early as 1895 Samuel Butcher pointed out that Aristotle's biological works provide the appropriate parallels to understand the equation of *mythos* and soul correctly.[43] However, we are now in a position to construe biologically the entire passage, including the by now familiar comparison with painting and the emphasis on a clear sketch: just remember the "sketch of a mannequin" referred to in the passage from the *Historia animalium* quoted above, when Aristotle discusses veins.

Needless to say, I do not contend that biology is the only key to interpret Aristotle's quasi-definition of *mythos*, as the shared templates may depend in part on Aristotle's more general assumptions. Yet, whatever the extent of essentialism in Aristotle's biology, his biological works feature what may be cautiously labeled a

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[43] Butcher 1895, 320-321.

"scientific" approach, which is specific to them.[44] The parallels between the *Poetics* and these works, supported as they are by textual matches, suggest that Aristotle was "thinking biologically" when he devised his unprecedented notion of *mythos*.[45]

It should be noted that the "Aristotelian" meaning of *mythos* does not emerge immediately in the *Poetics*. The very beginning of the work, I think, has a strange Platonic flavor.[46] Aristotle wants to explore its force and the organization of *mythoi*, something that is crucial for the success of poetry (*Po*. 1.1447a9-10 πῶς δεῖ συνίστασθαι τοὺς μύθους εἰ μέλλει καλῶς ἕξειν ἡ ποίησις). This closely recalls the beginning of the *Phaedo*, where Socrates devises a kind of poetics in miniature, when he states that *mythos* is crucial for the very definition of poetry (*Phd*. 61b ἐννοήσας ὅτι τὸν ποιητὴν δέοι, εἴπερ μέλλοι ποιητὴς εἶναι, ποιεῖν μύθους and cf. *Phd*. 60c μῦθον ἂν συνθεῖναι). Yet Socrates is speaking of poetic images, and he exemplifies this traditional meaning of *mythos* through Aesop. By contrast, the following chapters of the *Poetics* take leave of old myth and of Aesop's speaking animals.

An ultimately anti-Platonic notion of *mythos* seems to emerge, as Aristotle firmly places *mythoi* in a "scientific", quasi-biological context.[47] In Aristotle's world, Aesop's animals are replaced by the dissected corpses that formed the empirical basis of Aristotle's zoology. This made possible the "invention" of body systems paralleled by that of structural plots (*mythoi*), which he construes as the soul (*psychē*) of tragedy. In this respect, it may be interesting to note that Plato's *Phaedrus*, from which Aristotle seems to have borrowed the analogy between plays and animals, unfavorably contrasts written works with their "living and animate" (*zōn kai empsychos*) counterpart, i.e. with oral *logos* (*Phdr*. 276a). The implication is that written works can be construed as dead images. This adds to the parallel between Aristotle's biological and literary researches: as

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[44] See e.g. Gill 2011.

[45] Rees 1981, 26-7, makes a similar point.

[46] Gilead 1994 has an entire chapter on "The *Phaedo* in the light of Aristotle's *Poetics*" (109-27), though this point is never actually addressed. In the Conclusion of Capra 2014, I explore the implications of the surprising similarities between the beginnings of Aristotle's *Poetics* and Plato's *Phaedo*. For a general comparison between Aristotelian and Platonic *mythos*, cf. Frazier 2013.

[47] On the anti-Platonic import of Aristotelian *mythos* in the *Poetics*, see Belfiore 1992, 85-6 and Sissa 2006, 80.

I will suggest in a moment, the empirical basis of the latter, much like that of the former, is in a sense formed by corpses.

Was Aristotle entirely original in his biological reading of poetry? Perhaps not, if we listen for a moment to Aristophanes' Euripides in the underworld setting of the *Frogs* (*Ra.* 860-2):

I am ready … to bite into the poetry, the songs, the <u>sinews of tragedy</u> (*ta neura tēs tragōidias*)

Intriguingly, Euripides' proto-biological analysis is a sort of autopsy, as both he and Aeschylus are dead. The death of (great) tragedy possibly explains why Dyonisus, at the beginning of the play, resorts to the highly unusual practice of "reading to himself" Euripides (*Ra.* 52-4). However, Aristophanes' Euripides is performing on stage and, more importantly, he is joking, as is Dyonisus. Even more importantly, the *Frogs* envisages the (wishful) resurrection and reintegration of great tragedy into the community. By contrast, Aristotle had no such dreams and was content – so to speak – with the corpses.[48] According to the *Vita Marciana*, he was nicknamed "the Mind" and "the Reader", presumably for his wholly serious habit of reading books to himself.[49] In fact, the *Poetics* often claims or implies that tragedy can be fully appreciated by mere reading "as well" (*kai*) (*Po.* 6.1450b18, 14.1453b4-7, 26.1462a11-17), regardless of its actual performance and social context, and this has major consequences on his understanding of poetry.[50]

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[48] Dupont 2007, 74, goes so far as to argue that the man of Stageira, in accordance with the policies of the Macedonian kings, had the intention of "détruire le théâtre comme institution, car elle identifiait la cité d'Athènes".

[49] Cf. Trabattoni 2005, 139-42, for a perceptive discussion of this interesting testimony. Cf. also Vegetti 1996, 75-77 for Aristotle's tendency of "reading" the animal body as a text.

[50] Lanza 1987, 74-83, offers a particularly illuminating discussion. One may object that all three passages feature an introductory *kai*, which English translators usually render with "even". Needless to say, *kai* can mean anything from "also" to "even" (cf. LSJ. Interestingly, modern Greek has *akoma kai* to distinguish the latter from the former). In my opinion, however, Aristotle is not saying that tragedy can be appreciated "even" without performance, as if reading were a *pis-aller*. Rather, *kai* is likely to mean something like "equally well". Presumably, reading is Aristotle's usual way to access 5th-Century drama, and although he shows some sensitivity to performance issues it is important for him to stress he is in a position to appreciate it no less fully than 5th-Century spectators. This is especially clear at *Po.* 26.1462a12-13, as Aristotle claims that tragedy and its qualities are *conspicuous (phanera opoia tis estin)* through reading. A few lines

Here, too, Aristotle may be said to be thinking biologically. His anatomical turn led him to disregard the behavior and the habitat of animals, which were still prominent in the *Historia Animalium*, and to devote his later biological work to the study of organic structures in isolation from their environment.[51] Similarly, he ended up analyzing 5th-Century tragedy as a dead corpse, in isolation from her performative and ritual environment. By dissecting rather than resurrecting her, and by privileging the *forms* of tragedy over the individual plays and the personality of their authors, Aristotle studied her anatomy and possibly invented literature as opposed to living performance.[52] Contrary to the more or less tacit assumptions of modern scholars, however, the invention of literature was hardly a "humanistic" achievement.

References

Andersen Ø. and Haarberg J., eds. (2001) *Making Sense of Aristotle. Essays in Poetics*. London.

Astolfi, A. (2012) *Phantasia in Aristotele*. Milan

Belfiore, E. (1992) *Tragic Pleasures. Aristotle on Plot and Emotion*, Princeton: Princeton University Press.

Belfiore, E. (2000) "Narratological Plots and Aristotle's Mythos," *Arethusa* 33: 33-70.

Belfiore, E. (2001) "Dramatic and Epic Time: 'Magnitude' and 'Length' in Aristotle's *Poetics*," in Andersen and Haarberg 2001: 25-49.

Billault, A. (2015) "La pensée de la forme dans la *Poétique* d'Aristote," *BAGB* 1: 128-42.

Blundel, M. W. (1992) "*Ethos* and *Dianoia* Reconsidered," in Oksenberg Rorty 1992: 155-75.

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later, he says that tragedy, "can achieve vividness either (*kai*) in a reading or (*kai*) in performance" (*Po*. 26.1462a17-18). This further suggests that in the three previous instances *kai* should be construed as meaning "equally well". Needless to say, certainty cannot be achieved and other interpretations are possible: Destrée 2016, 74-83, defends a reading of *kai* (1462a11) as meaning "even" as part of an ingenious argument designed to rehabilitate music as an important feature of tragedy in the *Poetics*.

[51] This is of course part of a *longue durée* process. See in general Vegetti 1996 and Heath 2005. This is not the place to discuss the reverse chronology put forth by D. Balme, who places the *HA* after Aristotle's other chronological works (cf. Lennox 1996).

[52] See Billault 2015.

Bonitz, H. (1870), *Index Aristotelicus*, Berlin.

Brisson, L. (1975) "Le mythe de Protagoras. Essai d'analyse structurale," *QUCC* 20: 7-38.

Butcher, S.H. (1895) *Aristotle's Theory of Poetry and Fine Art. With a Critical text and a Translation of the Poetics*. London and New York.

Bywater, I. 1909 *Aristotle, On the art of Poetry. A Revised Text, with Critical Introduction, Translation, and Commentary*. Oxford.

Capra, A. (2014) *Plato's Four Muses. The Phaedrus and the Poetics of Philosophy*. Cambridge MA-Washington DC.

Destrée, P. (2016), "Aristotle on the Power of Music in Tragedy," *GRMS* 4: 231-52.

Donini, P. (1998), "La tragedia, senza la catarsi," *Phronesis* 43: 26-41.

Donini, P. (2008), *Aristotele*, *Poetica*. Turin.

Dupont, F. (2007), *Aristote ou le vampire du théâtre occidental*. Paris.

Else, G. F. (1957) *Aristotle's Poetics: the Argument*. Leiden.

Feola, G. (2012) *Phàntasma e phantasìa. Illusione ed apparenza sensibile nel De anima di Aristotele*. Naples.

Ford, A. (2002) *The Origins of Criticism. Literary Culture and Poetic Theory in Classical Greece*. Princeton and Oxford.

Ford, A. (2015). "The Purpose of Aristotle's *Poetics*," CPh 110: 1-21.

Frazier, F. (2013). "La spécificité du concept aristotélicien de '*muthos*': une relecture de la *Poétique*," in *Renaissances de la tragédie: la Poétique d'Aristote et le genre tragique, de l'antiquité à l'époque contemporaine*, eds. F. Malhomme, L. Miletti, G. M. Rispoli and M. A. Zagdoun. Naples: 103-23.

Fusillo, M. (1986) "'*Mythos*' aristotelico e '*récit*' narratologico," *Strumenti Critici* 52: 381-92.

Gilead, A. (1994) *The Platonic Odyssey. A Philosophical-Literary Inquiry into the Phaedo*. Amsterdam and Atlanta GA.

Gill C., (2011) "Essentialism in Aristotle's Biology," *Critical Quarterly* 53: 11-20.

Goldshmidt, V. (1982) *Temps physique et temps tragique chez Aristote*. Paris.

Graziosi, B. and Haubold, J. (2005) *Homer: The Resonance of Epic*. London.

Guastini, D. (2010) *Aristotele, Poetica*, Roma.

Halliwell, S. (1986) *Aristotle's Poetics*. Chapel Hill.

Halliwell, S. (1987) *The Poetics of Aristotle*. London.

Halliwell, S. (2011) *Between Ecstasy and Truth*. Oxford.

Haskins, E. V. (2004) "Endoxa, Epistemological Optimism, and Aristotle's Rhetorical Project," *Ph&Rh* 37: 1-20.

Heath, J. (2005) *The Talking Greeks: Speech, Animals and the Other in Homer, Aeschylus and Plato*, Cambridge.

Heath, M. (2013) *Ancient Philosophical Poetics*. Cambridge.

Heath, M. (2014) "Aristotle and the Value of Tragedy," *British Journal of Aesthetics* 54: 111-23.

Kraus, M. (2005) "Zusammenhänge zwischen der aristotelischen *Poetik* und *Rhetorik*," in *Aristotelische Rhetoriktradition*. Akten der 5. Tagung der Karl und Gertrud Abel-Stiftung vom 5.–6. Oktober 2001 in Tübingen, eds. J. Knape and T. Schirren. Leipzig: 72-104.

Kyriakou, P. (1993) "Aristotle's Philosophical *Poetics*," *Mnemosyne* 46: 344-55.

Lanza, D. (1987) *Aristotele, Poetica*. Milan.

Lanza, D. and Vegetti, M. (1971) *Opere biologiche di Aristotele*. Turin.

Lennox, J. (1996) "Aristotle's Biological Development: The Balme Hypothesis," in *Aristotle's Philosophical Development: Problems and Prospects*, ed. W. Wians. Lanham: 229-48.

Mayhew, R. (2015) "Aristotle's Biology and His Lost *Homeric Puzzles*," *CQ* 65: 109-33.

Munteanu, D. (2012) *Tragic Pathos: Pity and Fear in Greek Philosophy and Tragedy*. Cambridge.

Nehamas, A. (1992) "Pity and Fear in the *Rhetoric* and the *Poetics*," in Oksenberg Rorty 1992: 291-314.

Ničev, A. (1988) "De la *Rhétorique* vers la *Poétique*," *Euphrosyne* 16: 9-34.

Nussbaum, M. (1978) *Aristotle's de Motu Animalium*. Princeton

Oksenberg Rorty, A., ed. (1992) *Essays on Aristotle's Poetics*. Princeton.

Palumbo, L. (2008) *Μίμησις. Rappresentazione, teatro e mondo nei dialoghi di Platone e nella Poetica di Aristotele*. Naples.

Ramphos, S. (1992) *Μίμησις ἐναντίον μορφῆς. Ἐξήγησις εἰς τὸ Περὶ ποιητικῆς τοῦ Ἀριστοτέλους*, Athens.

Rees, B. R. (1981) "Aristotle's Approach to Poetry," *G&R* 28: 23-9.

Rostagni, A. (1945) *Aristotele, Poetica. Introduzione, testo e commento*. Turin.

Saïd, S. "Myth and Historiography," in *A Companion to Greek and Roman Historiography*, ed. J. Marincola. Malden MA 2007: 76–88.

Silk, M. (1994) "The 'Six Parts of Tragedy' in Aristotle's *Poetics*: Compositional Process and Processive Chronology," *PCPhs* 40: 108-15.

Silk, M. (2001) "Aristotle, Rapin, Brecht," in Andersen and Haarberg 2001: 173-95.

Sissa, G. (2006) "A Theatrical Poetics: Recognition and the Structural Emotions of Tragedy," *Arion* 14: 35-92.

Süß, W. (2010) *Studien zur älteren griechische Rhetorik*. Leipzig.

Tarán, L. and Gutas, D. (2012) *Aristotle, Poetics. Editio Maior of the Greek Text with Historical Introductions and Philological Commentaries*. Leiden and Boston.

Trabattoni, F. (2005) *La verità nascosta. Oralità e scrittura in Platone e nella Grecia classica*. Rome.

Vegetti, M. (1996) *Il coltello e lo stilo. Le origini della scienza occidentale*. Milan (Third Edition).

Young, D. C. (1983) "Pindar, Aristotle, and Homer: A Study in Ancient Criticism," *ClAnt* 2: 156-70.

Zanker, G. (2000) "Aristotle's *Poetics* and the Painters," *AJPh* 121: 225-35.

Zimmermann, B. (2009) "Zum Begriff Mythos in der griechischen Literatur," in *Mythische Wiederkehr: der Ödipus- und Medea-Mythos im Wandel der Zeiten*, ed. B. Zimmermann. Freiburg: 11-16.