**Aristotle's Philosophy of Mind**

## Pavel Gregoric

**Introduction**

It is somewhat anachronistic to speak of Aristotle’s philosophy of mind, since he does not operate with our concept of mind and does not share our focus on questions concerning consciousness and characteristics of mental states. Instead, Aristotle operates with a concept of the soul (*psuchē*), which only partially overlaps with our concept of mind. The soul is the animating principle that accounts for all manifestations of life. It is evoked to explain processes and states that modern thinkers regard as purely physiological, such as nutrition, growth, reproduction, respiration, sleep, and waking. However, to the extent that the soul also accounts for mental states and processes, a study of soul overlaps with a study of mind and inevitably touches upon issues of consciousness and characteristics of mental states, which makes it legitimate to speak of Aristotle’s philosophy of mind. Aristotle provides an account of the soul in the relatively short treatise *De anima*, which has been one of his most widely read and commented writings. There are also whole treatises in Aristotle’s biological corpus, and many passages elsewhere, dedicated to various phenomena that Aristotle explains with reference to the soul and that are consequently informative of his views on it. Over the past fifty years philosophers have approached Aristotle as a possible source of fresh ideas concerning mental phenomena and their relation to physical states, followed by ever more conceptually sophisticated and historically sensitive scholarship.


# General Overviews

Since Jaeger 1948 (originally published in 1923), the developmental (“genetic”) approach to Aristotle has become popular, especially in appraisal of Aristotle’s psychological works. Nuyens 1948 argues that Aristotle first wrote dialogues in which he advocated a Platonic dualist view of the soul, then the biological works in which he took a mechanistic view, and lastly *De anima*, which expounded the hylomorphic view. This approach, preoccupied with the chronology of Aristotle’s works, started to wane in the 1970s, as it tended to be of limited help in discovering the structure of his thought in different works (Lefèvre 1972). Since the 1960s, Aristotle’s psychological writings tended to be seen as early formulations of major positions in the mind-body debates (see Irwin 1991). On account of his view that the intellect (*nous*) is separable from the body and possibly immortal, Aristotle was branded a dualist, much like Plato before and Descartes after him. There are passages, especially in the collection *Parva naturalia*, speaking of the localization of the soul in the central organ (the heart, according to Aristotle) and explaining mental states and their characteristics with reference to changes in the sense organs, that suggest Aristotle was a materialist of some sort. From the mid- 1970s, Aristotle’s works came to be considered a precursor of functionalism. *De anima* is a study of psychic capacities and their relationships independently of their relation to the body, and functionalists found that approach congenial. However, it has been forcefully argued that Aristotle cannot be regarded as a functionalist, because of his conception of matter that rules out multiple realizability of mental states. Key contributions to this debate are collected in Nussbaum and Rorty 1995. The 1990s have seen attempts to make Aristotle a supervenience theorist or an emergentist (see Caston 2009), despite Aristotle’s commitment to the priority of the soul over the body and insistence that the soul is an efficient cause. Perhaps it is best to regard Aristotle’s position as unique, interesting for the way it steers a middle course between Cartesian dualism and reductive materialism, but problematic for its wider metaphysical commitments. Apart from these general debates, and partly generated by them, there have been more specific discussions of interest to philosophers of mind, such as discussions concerning Aristotle’s views on the nature of perception and abstract thought, on sensory integration and representational capacities, on desire, and on psychophysical causation. A survey of such topics can be found in Johansen 2012. At the same time, scholars have explored with increasing intensity Aristotle’s debts to his predecessors, especially to Plato, and the ways Aristotle’s philosophy of mind had influenced later authors and whole traditions.


## Caston, Victor. 2009. Aristotle’s psychology. In *A companion to ancient philosophy*. Edited by Mary Louise Gill and Pierre Pellegrin, 316–346. Oxford: Wiley-Blackwell.

More advanced and authoritative introduction to Aristotle’s theory, written primarily for those interested in the contemporary philosophy of mind, recommendable at the graduate level. The paper is accompanied by an exhaustive bibliography.

**Everson, Stephen. 1995. Psychology. In *The Cambridge companion to Aristotle*. Edited by Jonathan Barnes, 168–194. Cambridge, UK: Cambridge Univ. Press.**

Basic overview of Aristotle’s theory, with an eye more to Aristotle’s concepts and methodology than to contemporary preoccupations. There are other chapters in this volume of tangential interest for students of Aristotle’s philosophy of mind, with a compendious and helpfully annotated bibliography.

**Irwin, Terence H. 1991. Aristotle’s philosophy of mind. In *Psychology*. Vol. 2 of *Companions to ancient thought*. Edited by Stephen Everson, 56–83. Cambridge, UK: Cambridge Univ. Press.**

Basic introduction to Aristotle’s theory, written specifically from the perspective of the contemporary philosophy of mind, mapping Aristotle’s views to the main positions in contemporary debates and exploring his possible contributions.

**Jaeger, Werner. 1948. *Aristotle: The fundamentals of the history of his development*. Translated by R. Robinson. 2d ed. Oxford: Clarendon.**

English translation of *Aristoteles: Grundlegung einer Geschichte seiner Entwicklung*, first published in 1923 (Berlin: Weidmann). Hugely influential book that traces three stages of Aristotle’s development: the Platonic phase of the Academy, the anti-Platonic phase of travels in Asia Minor, and the predominantly empirical phase upon Aristotle’s return to Athens.

**Johansen, Thomas K. 2012. *The powers of Aristotle’s soul*. Oxford: Clarendon.**

Up-to-date scholarly study of major facets of Aristotle’s psychology. Can be used as an advanced introduction to particular topics in Aristotle’s philosophy of mind. Johansen engages with, or at least refers to, the best recent scholarship on each particular topic that he takes up.

**Lear, Jonathan. 1988. *Aristotle: The desire to understand*. Cambridge, UK: Cambridge Univ. Press.**

A stimulating introduction to the central themes of Aristotle’s philosophy, especially suited to philosophy undergraduates. The chapter “Man’s nature” (pp. 96–151) covers the topics directly relevant to Aristotle’s philosophy of mind.

**Lefèvre, Charles. 1972. *Sur l’évolution d’Aristote en psychologie*. Louvain, Belgium: Institut supérior de Philosophie.**

A thorough examination and refutation of Nuyens 1948. Argues that hylomorphism of the supposed third phase of Aristotle’s thought is compatible with the “instrumentalism” of the second phase, undermining the basis for the developmental picture proposed by Nuyens.

**Nussbaum, Martha C., and Amélie Oksenberg Rorty, eds. 1995. *Essays on Aristotle’s De anima*. Oxford: Clarendon.**

The short “Introduction B” (pp. 7–13), written by Amélie Oksenberg Rorty, provides helpful remarks on the main lines of approach to *De anima*. Most of the papers collected in this volume are landmarks for the study of Aristotle’s philosophy of mind. Originally published in 1992 (Oxford: Clarendon); this expanded paperback edition contains an additional essay by M. Burnyeat.

**Nuyens, François. 1948. *L’évolution de la psychologie d’Aristote*. Louvain, Belgium: Institut supérior de Philosophie.**

French translation of the Dutch monograph *Ontwikkelingsmomenten in de Zielkunde van Aristoteles. Een historisch-philosophische Studie* from 1939 (Dekker&van de Vegt: Nijmegen and Utrecht) in which the author applies Jaeger’s approach specifically to Aristotle’s psychology. For some time this work was a landmark in the study of Aristotle, accepted by several leading authorities on Aristotle, including W. D. Ross.


## Ross, W. D. 1949. *Aristotle*. 5th ed. London: Methuen.

In many ways outdated, but for its comprehensiveness and adherence to primary texts still a useful overview of Aristotle’s philosophy, written by one of the leading authorities on Aristotle from the first half of the 20th century. Chapters “Philosophy of nature” (pp. 62–111), “Biology” (pp. 112–128), and “Psychology” (pp. 129–153) can serve as a point of entry.

# Texts, Translations, and Commentaries

The central text is *De anima*, or *On the soul* (Ross 1956), in three books. In Book 1, Aristotle raises methodological questions for a systematic study of the soul, and critically reviews earlier theories of the soul. Book 2 first offers a general definition of the soul and then explains why a more detailed account is needed and what it should look like (chapters 1–3). After a brief discussion of the nutritive-reproductive capacity of the soul (chapter 4), Aristotle moves on to a discussion of the perceptual capacity of the soul. First (chapter 5) he makes general remarks on perception, explaining the sense in which it can be regarded as motion or alteration, then (chapter 6) he provides a division of the three types of objects of perception, followed by accounts of the five senses (chapters 7– 11), and rounded off with a definition of perception and its implications (chapter 12). Book 3 opens with two chapters on issues concerning the unity of the senses, followed by a discussion of imagination (*phantasia*). The intellect and its objects are discussed in chapters 4–6, while chapters 7 and 8 collect a series of disjointed but valuable remarks on perception and thought. In chapters 9–11 Aristotle specifies the part of the soul responsible for setting animals into motion and briefly explains how locomotion comes about. The last two chapters, 12 and 13, contain teleological considerations of the established parts and capacities of the soul. Apart from *De anima*, which is dedicated to the soul as the form of living being, a fuller understanding of Aristotle’s conception of the soul and its relation to the body requires familiarity with the *Parva naturalia* (Siwek 1963) and with *On the motion of animals* (Nussbaum 1978). *Parva naturalia* is a collection of short treatises on particular topics: the senses and their objects, memory and recollection, sleep and waking, dreaming and prognostication through dreams, youth and old age, life and death, and respiration. Further insights can be gained from Aristotle’s other biological works—*On the parts of animals* (especially Book 1), *On the generation of animals*, and *Historia animalium—*as well as from various passages from *Physics, Nicomachean ethics*, and *Rhetoric*, all of which can be found in English translation in Barnes 1985. Aristotle’s *De anima* was very popular among ancient Greek commentators (see Sorabji 2005), and later among Arabic and Scholastic commentators, generating a vast body of literature of which representative examples are in Taylor 2009 and in Pasnau 1999. Modern commentaries mostly come together with editions and/or translations of *De anima*, e.g., Rodier (published in 1900; see Ross 1956), Hicks 1907, and Hamlyn 1993, with a notable exception of Polansky 2007.

**Barnes, Jonathan, ed. 1985. *The complete works of Aristotle*. *The revised Oxford translation*. 2 vols. Princeton, NJ: Princeton Univ. Press.**

Accessible English translation of the whole Aristotelian corpus, including texts nowadays regarded as inauthentic. Barnes revised the translations published between 1908 and 1930 under the editorship of W. D. Ross, with three exceptions in which more recent translations replaced the old ones. Smith’s translation of *De anima*, even as revised by Barnes, is not always dependable.

**Hamlyn, D. W., ed. 1993. *De anima Books II and III*. Oxford: Clarendon.**

Expanded edition of the most accurate English translation (originally published in 1968) of Books 2 and 3 of *De anima*, unfortunately without an integral translation of Book 1. The introduction and notes are largely outdated. This updated edition contains a helpful overview of approaches to *De anima* after 1968, by C. Shields.

**Hicks, R. D., ed. 1907. *Aristotle: De anima*. Cambridge, UK: Cambridge Univ. Press.**

Text and translation are of limited value, but the book is still useful to scholars for the copious notes in which one can find paragraph-by-paragraph summaries, linguistic elucidations, cross-references, and references to other ancient philosophers, Greek commentators and pre-1900 interpreters.

**Nussbaum, Martha C., ed. 1978. *Aristotle: De motu animalium*. Princeton, NJ: Princeton Univ. Press.**

The volume contains a critical edition and translation of Aristotle’s short treatise *On the motion of animals*, which discusses causal efficacy of the soul. There is also a helpful commentary and five interpretative essays (pp. 57–269), all of which except the second are directly relevant for issues in Aristotle’s philosophy of mind.

**Pasnau, Robert C., ed. 1999. *Thomas Aquinas: A commentary on Aristotle’s* De anima. New Haven, CT, and London: Yale Univ. Press.**

Translation of a landmark scholastic commentary on Aristotle’s *De anima*, organized in *lectiones* that set longer passages in their proper context, explain their logical structure, and proceed with analysis of individual points. The edition is accompanied with Pasnau’s helpful introduction and notes.

**Polansky, Ronald. 2007. *Aristotle’s De anima*. Cambridge, UK: Cambridge Univ. Press.**

Most recent and fine philosophical commentary, with an introduction to each chapter and passage-by-passage commentary.

**Ross, W. D., ed. 1956. *Aristotelis De anima*. Oxford: Clarendon.**

This widely available critical edition of the Greek text is for most purposes. It is more reliable than Ross’s 1961 *editio maior*, which brings an expanded critical apparatus and a commentary. Better editions, though difficult to obtain, are A. Förster’s (*Aristotelis De anima libri tres*. Budapest: Academia Litterarum, 1912) and G. Rodier’s (*Aristote: Traité de l’âme*. 2 vols. Paris: Ernest Leroux, 1900). The latter has a facing French translation in Volume 1 and a massive commentary in Volume 2, useful for references to other texts of Aristotle and other ancient authors.

**Siwek, Paweł, ed. 1963. *Aristotelis Parva naturalia*. Rome: Desclée.**

The best critical edition of the integral collection of short biological treatises that complement Aristotle’s theory in *De anima*. The edition with copious apparatus is accompanied by the editor’s Latin translation and notes, which are helpful mainly for cross- references to other works of Aristotle.

**Sorabji, Richard, ed. 2005. *The philosophy of the Commentators 200–600AD: A sourcebook*. Vol. 1, *Psychology*. Ithaca, NY: Cornell Univ. Press.**

Sorabji is the general editor of the Ancient Commentators on Aristotle series published by Duckworth (now Bristol Classical), with over a hundred volumes of translations published since 1985. This book is a selection of passages organized into topics of relevance for philosophy of mind, cross-referenced by editorial comment, and accompanied with explanations and bibliographies. An entry point for those interested in the ancient reception of Aristotle’s philosophy of mind.

**Taylor, Richard C., ed. 2009. *Averroes (Ibn Rushd) of Cordoba: Long commentary on the De anima of Aristotle*. New Haven, CT: Yale Univ. Press.**

Averroes wrote three kinds of commentaries on the *De anima* (short, middle, and long), this being the most comprehensive one and expressing Averroes’s mature views on the intellect, which generated a large debate in Scholastic philosophy. Taylor’s long introduction focuses on an account of Averroes’s theory of the intellect, its development and influence.

# Hylomorphism

Aristotle analyzes material objects into matter and form: matter is the stuff that can be organized in a certain way, whereas form is the pattern of organization that accounts for the shape and characteristic functions of the object. For example, the form of an axe is the cutting power of the axe, which comes in a range of recognizable axe shapes and which can be realized only in a range of hard stuffs for the blade, such as iron. What makes something an axe, then, is primarily its form; when the form of an axe is gone, the object is no longer an axe. Aristotle applies this hylomorphic (matter-form) analysis to living beings and assumes that they too are composites of form and matter, such that the soul is their form and the body their matter. As a form, the soul is not a corporeal or extended entity, but the principle of organization of the corresponding matter, a viewpoint that explains the structure and processes in the body of the living being. Essentially, the soul is a set of capacities that the living body is structured to support and preserve (more in Frede 1995 and Caston 2009). Apart from being the formal and final cause, however, the soul also figures as an efficient cause of the living being. One of the capacities of the soul—the intellect (*nous*)—is atypical insofar as it stands in no hylomorphic relation to the body, which opens the possibility of continued independent existence, and hence affiliation of Aristotle with dualism (Robinson 1983). The intellect aside, hylomorphism seems to steer a middle course between dualism and reductive materialism, embracing the strengths and avoiding the pitfalls of each. The soul is not separable from the body, yet it is not reducible to the body; indeed, Aristotle insists on the soul’s priority over the body. This view opens a range of possible positions, and there have been attempts to associate hylomorphism with most of them (see the overview in Shields 1993). Since the late 1970s, hylomorphism has been approached along functionalist lines, notably by Putnam 1975 and Nussbaum 1978 (cited under Texts, Translations, and Commentaries; see Essay 1 in Nussbaum 1978, pp. 59–106) and also by Shields 1991. The way Aristotle discusses each of the capacities of the soul in a certain order and without much reference to their material realization in *De anima* resonates with functionalists. However, Aristotle does not consider mental states in terms of their causal relations to sensory inputs, other mental states, and behavioral outputs. More importantly, hylomorphism seems to exclude multiple realizability in the case of living beings, as argued by Burnyeat 1995, to which Nussbaum and Putnam 1995 mounts a defense. Some interpreters, such as the author of Caston 1997, propose to view hylomorphism as a supervenience theory of the emergentist sort that allows for the soul’s causal efficacy. Charles 2009 argues that hylomorphism is a unique position that takes mental states to be inextricably psychophysical.


## Burnyeat, Myles. 1995. Is an Aristotelian philosophy of mind still credible? (A draft). In *Essays on Aristotle’s De anima*. Edited by Martha C. Nussbaum and Amélie Oksenberg Rorty, 15–26. Oxford: Clarendon.

Originally composed in 1983 and circulated among scholars, this paper forcefully challenges functionalist reading of hylomorphism. Burnyeat claims that hylomorphism should be “junked” because it rests on a conception of matter that is incompatible with our physics.

**Caston, Victor. 1997. Epiphenomenalisms ancient and modern. *Philosophical Review* 106:309–363.**

Develops an emergentist interpretation of hylomorphism, observing Aristotle’s insistence on the soul’s efficient causality. Addresses criticisms raised by Burnyeat 1995 against supervenience.

**Caston, Victor. 2009. Aristotle’s psychology. In *A companion to ancient philosophy*. Edited by M. L. Gill and P. Pellegrin, 316–346. Oxford: Wiley-Blackwell.**

State-of-the-art introduction to Aristotle’s hylomorphism, with a survey of the positions in the contemporary philosophy of mind with which it has been affiliated. The article has an extensive bibliography.

**Charles, David. 2009. Aristotle’s psychological theory. *Proceedings of the Boston area colloquium in ancient philosophy***

## 24:1–29.

Charles argues that Aristotle’s hylomorphism precludes decomposition of mental states into two separate types of activity, one purely psychological and the other purely physical. Charles finds evidence of this view in *De anima* Book I, chapter 1, in Aristotle’s discussion of fear and anger, and extends it to cases of perception and desire. In his commentary (pp. 30–49), Caston rejects Charles’s “strong hylomorphism” and advocates a “moderate” one.


## Frede, Michael. 1995. On Aristotle’s conception of the soul. In *Essays on Aristotle’s De anima*. Edited by Martha C. Nussbaum and Amélie Oksenberg Rorty, 93–107. Oxford: Clarendon.

Enlightening exposition of Aristotle’s conception of the soul, without preoccupation with contemporary debates. Explains Aristotle’s metaphysical and explanatory commitments that lead him to his hylomorphic account, and shows how these commitments differ from our post-Cartesian ones.


## Nussbaum, Martha C., and Hilary Putnam. 1995. Changing Aristotle’s mind. In *Essays on Aristotle’s De anima*. Edited by Martha C. Nussbaum and Amélie Oksenberg Rorty, 27–56. Oxford: Clarendon.

Putnam suggested in 1975 that Aristotle was an early functionalist, which many scholars in the following years found attractive. This paper is an extended defense of the functionalist reading of Aristotle against the challenges raised by Burnyeat 1995.

**Putnam, Hilary. 1975. Philosophy and our mental life. In *Mind, language and reality: Philosophical papers*. Vol. 2, 291–303. Cambridge, UK: Cambridge Univ. Press.**

A formulation of functionalism by the originator of this position in the philosophy of mind, with a reference to Aristotle, who is credited as a precursor of functionalism.

**Robinson, Howard M. 1983. Aristotelian dualism. *Oxford Studies in Ancient Philosophy* 1:123–144.**

Robinson argues that Aristotle is a dualist, and therefore not a functionalist. The author focuses on Aristotle’s account of the intellect in *De anima* Book 3, chapter 5 and insists that this is not a mere appendix to Aristotle’s theory. Robinson points out that dualism is corroborated by remark in *De anima* Book 2, chapter 1 that the soul may bear the same relation to the body as a captain to his ship.

**Shields, Christopher. 1991. The first functionalist. In *Historical foundations of cognitive science*. Edited by J.-C. Smith, 19–**

## 33. Dordrecht, The Netherlands: Kluwer.

Shields argues that Aristotle seeks a theory that steers away from the Platonic dualism and captures the supervenience of the mental on the physical without identifying mental state types with physical state types. Moreover, it is not only analogous historical vantage points that Aristotle and contemporary functionalists share, but also some deep theoretical commitments.


## Shields, Christopher. 1993. Some recent approaches to Aristotle’s *De anima*. In *Aristotle: De anima*. Expanded ed. Translated and with introduction and notes by D. W. Hamlyn, 157–187. Oxford: Clarendon.

Succinct and informative overview of salient work between the 1970s and the early 1990s on Aristotle’s philosophy of mind, mostly related to Aristotle’s hylomorphic account of the relationship between the soul and the body.

# Further Debate About Hylomorphism

A fundamental problem with hylomorphism was identified by Ackrill 1972–1973 and similarly by Williams 1986 and Burnyeat 1995. Hylomorphic analysis of inanimate objects supposes that matter is only contingently related to form. This supposition means that one form can be multiply realized in different kinds of matter, e.g., the shape of Athena in marble or bronze, and also that matter can be picked out independently of the form it currently has; e.g., the same lump of bronze can be made into a statue of Athena today and of Hermes tomorrow. It is not so with living beings. An equine soul, according to Aristotle, can be realized only in a characteristically equine body. Likewise, it is impossible to pick out an equine body independently of the equine soul that is realized in it, since an equine body without an equine soul would be an equine body “in name only,” whereas in fact it would be something very different, namely, a corpse. The consequence of this position seems to be that complex organic bodies are *essentially* ensouled, which rules out multiple realizability of mental states that underpins functionalism. This situation allows Burnyeat to draw a more general conclusion that Aristotle’s hylomorphism crucially operates with a conception of matter that is incompatible with ours, making it an altogether untenable philosophical position. There have been attempts to save Aristotle’s hylomorphism from this charge by distinguishing the talk of the matter of living beings at two different levels, the higher or functional level at which the matter is indeed essentially ensouled, and the lower or compositional level at which the matter is only contingently related to the soul (Whiting 1995 and Shields 2010). It is controversial, however, whether Aristotle upholds this distinction, how the two levels are related, and what repercussions this distinction has on hylomorphism. Another acute problem is that in *De anima* the soul is the form of the whole body of a living being, whereas in some other works the soul is said to be in the central organ (the heart, according to Aristotle). Indeed, in *On movement of animals* Aristotle claims that soul is *not* in other parts of the body. Some interpreters have addressed this problem by denying the authenticity of the latter treatise, others by assigning them to different periods of Aristotle’s development. Corcilius and Gregoric 2013 proposes to solve the problem by arguing that hylomorphism speaks of the soul as the formal and final cause, whereas cardiocentrism speaks of the soul as the efficient cause. If hylomorphism and cardiocentrism form a coherent theory, as Corcilius and Gregoric maintain, the problem of the soul’s causal efficacy (see How the Soul Moves the Body), which Granger 1990 and Cohen 1995 see as the main challenge to hylomorphism, is removed.

**Ackrill, John. 1972–1973. Aristotle’s definitions of ‘*psuchē*.’ In *Proceedings of the Aristotelian Society* 73:119–133.**

Ackrill formulated a fundamental problem with Aristotle’s hylomorphic analysis of living beings several years before a functionalist reading of Aristotle was proposed. The problem is that form and matter of living beings are related in a non-contingent way. This is a challenge not only for Aristotle’s hylomorphism as such, as Ackrill argues, but also for any functionalist interpretation of Aristotle’s psychology.


## Burnyeat, Myles. 1995. Is an Aristotelian philosophy of mind still credible? (A draft). In *Essays on Aristotle’s De anima*. Edited by Martha C. Nussbaum and Amélie Oksenberg Rorty, 15–26. Oxford: Clarendon.

Originally composed in 1983, this paper was circulated among scholars, stirring the controversies concerning functionalist reading of Aristotle. Burnyeat argues that Aristotle operates with a “deeply alien” conception of matter as essentially ensouled, a theory that makes hylomorphism untenable.


## Cohen, S. Marc. 1995. Hylomorphism and functionalism. In *Essays on Aristotle’s De anima*. Edited by Martha C. Nussbaum and Amélie Oksenberg Rorty, 57–73. Oxford: Clarendon.

A defense of Aristotle and his functionalist interpreters against Burnyeat’s criticisms. However, Cohen regards the soul’s efficient causality as the main challenge for both hylomorphism and its functionalist reading.


## Corcilius, Klaus, and Pavel Gregoric. 2013. Aristotle’s model of animal motion. *Phronesis* 58:52–97.

Bringing into focus passages neglected in discussions of Aristotle’s philosophy of mind, the paper offers an interpretation of the soul’s efficient causality, in a coherent theory that allows a reconciliation of hylomorphism and cardiocentrism.


## Granger, Herbert. 1990. Aristotle and the functionalist debate. *Apeiron* 23:27–49.

A discussion of functionalist and anti-functionalist interpretations of hylomorphism. Granger argues that they both fail to take fully into account the fact that the soul, according to Aristotle, is a “power-thing,” an immaterial entity with true causal efficacy.

**Shields, Christopher. 2010. Aristotle’s psychology. In *Stanford encyclopedia of philosophy*.**

Following a helpful introduction to Aristotle’s hylomorphism, there is a link to a supplementary discussion of the problem of hylomorphism identified by Ackrill 1972–1973, with a short formulation of the sort of solution proposed by Whiting 1995.


## Whiting, Jennifer. 1995. Living bodies. In *Essays on Aristotle’s De anima*. Edited by Martha C. Nussbaum and Amélie Oksenberg Rorty, 75–91. Oxford: Clarendon.

Saves the cogency of Aristotle’s conception of matter by distinguishing between functional matter, which is essentially ensouled, and compositional matter, which is only contingently ensouled. Whiting defends this distinction and explains the source of Aristotle’s commitment to the existence of essentially ensouled matter.

**Williams, Bernard. 1986. Hylomorphism. *Oxford Studies in Ancient Philosophy* 4:189–199.**

In response to the fundamental problem of hylomorphism, Williams proposes to distinguish the “body,” which is the essentially ensouled matter of living beings, from the “Body,” which is only contingently ensouled. This, Williams argues, turns hylomorphism into an unremarkable form of non-reductive materialism at best and a conceptual mess at worst.

# How to Divide the Soul

Plato divided the soul into three parts—the rational, the spirited, and the appetitive—as three different sources of motivation in a human being. In the *Timaeus*, the rational part is located in the head, the spirited in the chest, and the appetitive in the abdomen. Aristotle argues against both the spatial division of the soul and the division into the parts proposed by Plato. Aristotle argues against the spatial division, on the a priori grounds that the soul is what unifies the body, so that there would be nothing to unify the spatially separated parts of the soul. There is also a recurrent empirical argument discussed by Lefebvre 2002: when insects are divided, each segment lives on for some time and reacts to touch by wiggling. This phenomenon suggests that each segment has all parts of the soul that the whole animal used to have before it was cut up, meaning that parts of the soul are not isolated in different parts of the body. The division into the three parts suggested by Plato is rejected because it is a division according to the sources of motivation only, whereas Aristotle seeks a division into more fundamental parts, one that will be taxonomically informative of the souls of all types of living beings. He settles for the division into (1) the nutritive-reproductive part of the soul, which is present in all living beings and the only one present in plants, (2) the perceptual part of the soul, which is present in all animals together with the nutritive-reproductive part, and (3) the thinking part of the soul, which is present in humans together with the preceding two parts. It is not entirely clear whether each of these parts is a single capacity, or a set of closely knit capacities of the soul. Moreover, some scholars, as in Barnes 1971–1972 and Sorabji 1979, think that all capacities of the soul are *eo ipso* parts of the soul, as conceptually distinct aspects of the soul, whereas others—e.g., the authors of Whiting 2002, Corcilius and Gregoric 2010, and Johansen 2012—argue that only some capacities of the soul qualify for the status of a soul’s part, each proposing a different criterion of parthood. Sometimes Aristotle speaks as if there were desiderative and locomotive parts of the soul, but that is not the case, as he identifies these capacities with each other and with the perceptual part of the soul. Another division of the soul rejected by Aristotle in *De anima* is that into the rational and the irrational part, though he happily works with it in his ethics, as shown by Vander Waerdt 1987 and Fortenbaugh 2002.

**Barnes, Jonathan. 1971–1972. Aristotle’s concept of mind. *Proceedings of the Aristotelian Society* 72:63–89.**

In this influential paper, Barnes claims that the Greek word for part (*morion*) is used interchangeably with the word for capacity of the soul (*dunamis*). This view is shared by many scholars.

**Corcilius, Klaus, and Pavel Gregoric. 2010. Separability vs. difference: Parts and capacities of the soul in Aristotle. *Oxford Studies in Ancient Philosophy* 39:81–119.**

The article gives an overview of various positions concerning the notion of a part of the soul, and proposes to take separability in account as the criterion of parthood: a capacity is a part of the soul if its adequate account makes no reference to any other capacity of the soul.

**Fortenbaugh, William W. 2002. *Aristotle on emotion*. 2d ed. London: Duckworth.**

Explains the Platonic background of the bipartite division of the soul with which Aristotle works in his ethical works, how it differs from the “biological” division of the soul proposed in *De anima*, and why the two divisions are compatible.

**Johansen, Thomas K. 2012. *The powers of Aristotle’s soul*. Oxford: Clarendon.**

Chapter 3, “Parts and unity in the definition of the soul” (pp. 47–72), sets out a definitional criterion of parthood: a capacity that enters definition of a certain kind of soul is a part of the soul. Each part thus serves not only as an element of a certain kind of soul, but also as a differential feature of a certain kind of soul.

**Lefebvre, David. 2002. L’argument du sectionnement des vivants dans les *Parva naturalia*: Le cas des insects. *Revue de Philosophie Ancienne* 20:5–34.**

Useful discussion of a group of passages on divided insects, which seems to be one of Aristotle’s favorite empirical observations adduced as evidence against spatial separation of parts of the soul.

**Sorabji, Richard. 1979. Body and soul in Aristotle. In *Articles on Aristotle. Vol. 4, Psychology and aesthetics*. Edited by J. Barnes, M. Schofield and R. Sorabji, 42–64. London: Duckworth.**

An authoritative chapter on Aristotle’s psychology in which Sorabji claims that Aristotle speaks simply of capacities as *parts* of the soul, thus denying any essential role to this distinction. This chapter was originally an article published in 1974 in *Philosophy* 49:63– 89.

**Vander Waerdt, Paul A. 1987. Aristotle’s criticism of soul-division. *American Journal of Philology* 108:627–643.**

Analyzes *De anima* Book 3, chapter 9, criticizing the Platonic tripartition (appetitive, spirited, rational), which Aristotle adopts for his division of desire, and the bipartition (rational, nonrational), which he accepts in his ethical works. Argues that the point of Aristotle’s criticism is to stress their inadequacy for a scientific account of the soul only, not to dismiss them entirely.

**Whiting, Jennifer E. 2002. Locomotive soul: The parts of soul in Aristotle’s scientific works. *Oxford Studies in Ancient Philosophy* 22:141–200.**

This seminal paper proposes separability in magnitude as the criterion of parthood: a group of capacities embodied in a distinct physiological system makes one part of the soul. This whole part is then named after the fundamental capacity in the group, the one defined without reference to any other (separability in account).

# The Perception Debate

In *De anima* Book 2, chapter 12, Aristotle defines perception as taking on the sensible form without matter. It is not entirely clear what is the proper subject of this taking on—the sense organ or the sense—and whether it is the object’s or the subject’s matter that is excluded. One way to interpret Aristotle, put forward by Sorabji 1974 and further elaborated by Everson 1997, is to assume that the sense organ literally takes on the sensible form of an external object without the object’s matter, and that this stands to the perceiver’s awareness as matter to form. When one looks at a tomato, the water in one’s eye goes red and one sees red. According to this interpretation, an act of perception is indeed constituted by, but not reducible to, a material process. Burnyeat 1995 criticizes the “literalist” interpretation by focusing on Aristotle’s general remarks about perception in *De anima* Book 2, chapter 5, the chapter meticulously analyzed by Burnyeat 2002. Perception does not involve ordinary change (*kinēsis*), as when one quality gets replaced by another at the end of a process; rather, it involves “extraordinary” change, which consists in the sense being brought from potentiality into actuality by a sensible object. This is not a process that takes time, but an activity that occurs at an instant and that is complete as long as it lasts. Burnyeat argues that the eye’s taking on a color amounts to nothing else but one’s becoming aware of the color, a transition that Aquinas dubbed “spiritual” change. According to the “spiritualist” interpretation, then, no material process has to take place for perception to occur. The sense organ is a piece of suitable matter hosting a form (the sense), as Johansen 1998 explains, and as soon as an object is in range and a set of standing conditions is satisfied, the sense organ will become like it in form and perception will take place. One group of alternative interpretations, championed by Bradshaw 1997 and Caston 2007, relies on Aristotle’s characterization of the sense as a ratio (*logos*) of the sense organ. Given that the special sensibles too are elsewhere characterized as ratios between the opposites that define a given qualitative range—e.g., red is a certain ratio of mixture of white and black—taking on form without matter may be spelled out as the ratio of the sensible form being instantiated in the organ. When a segment of one’s eye is organized by the very ratio that makes tomato red, one sees red. This is a material change, but not such that one’s eye literally goes red. A subtle alternative interpretation is offered by Lorenz 2007.


## Bradshaw, David. 1997. Aristotle on perception: The dual-logos theory. *Apeiron* 30:143–161.

Argues that the sense organ is characterized by two pairs of contraries, each characterized by its own ratio. The ratio of one pair is fixed and constitutes the sense. The ratio of the other pair is variable in accordance with the ratios of the sensibles transmitted through the medium to the organ.


## Burnyeat, Myles. 1995. Is an Aristotelian philosophy of mind still credible? (A draft). In *Essays on Aristotle’s De anima*. Edited by Martha C. Nussbaum and Amélie Oksenberg Rorty, 15–26. Oxford: Clarendon.

The seminal paper proposing a “spiritualist” interpretation of Aristotle’s theory of perception. Argues that becoming perceptually aware of red, according to Aristotle, requires no material change in the eye whatsoever. Being essentially informed by vision, the eye needs only the right circumstances to be awakened to red.

**Burnyeat, Myles. 2002. *De anima* II 5. *Phronesis* 47:28–90.**

A close reading of the long chapter of *De anima* in which Aristotle introduces the subject of perception. This is the central text for the “spiritualist” interpretation, and Burnyeat makes much of it. Lorenz 2007 offers a more nuanced reading, which enables him to develop an alternative interpretation.

**Caston, Victor. 2007. The spirit and the letter: Aristotle on perception. In *Metaphysics, soul and ethics in ancient thought: Themes from the work of Richard Sorabji*. Edited by R. Salles, 245–320. Oxford: Clarendon.**

In-depth overview of the debate between literalist and spiritualist interpretations. Critical to both, Caston offers an alternative interpretation inspired by Aristotle’s characterization of the sense as a mean and a ratio. The article contains a comprehensive bibliography of all major contributions to the debate.

**Everson, Stephen. *Aristotle on perception*. Oxford: Clarendon, 1997.**

Elaborate discussion of various elements of Aristotle’s theory of perception. Possibly the most robust defense of “literalism” available. Contrary to the “spiritualist” challenge, Everson’s argument is that Aristotle offers a powerful model for the study of mental states.

**Johansen, Thomas K. 1998. *Aristotle on the sense-organs*. Cambridge, UK: Cambridge Univ. Press.**

Thorough examination of Aristotle’s views on material composition and functioning of each sense organ. Passages that suggest material changes involved in perception are interpreted otherwise or the changes are explained as inessential to perception, thus vindicating the “spiritualist” reading of Aristotle.

**Lorenz, Hendrik. 2007. The assimilation of sense to sense-object in Aristotle. *Oxford Studies in Ancient Philosophy*, 179– 220.**

Offers a “dual-aspect” interpretation of Aristotle’s theory of perception, which incorporates strong points of both “literalism” and “spiritualism.” Develops a nuanced reading of the types of change explicated in *De anima* Book 2, chapter 5 to show that having one’s sense assimilated to a sensible does not preclude having one’s sense organ changed straightforwardly.

**Sorabji, Richard. 1974. Body and soul in Aristotle. In *Articles on Aristotle: 4. Psychology and aesthetics*. Edited by J. Barnes, M. Schofield and R. Sorabji, 42–64. London: Duckworth, 1979.**

An influential and wide-ranging article that contains the classic formulation of “literalism” in interpreting Aristotle’s view on perception. The article was originally printed in 1974 in *Philosophy* 49:63–89.

# The Senses and Their Objects

Aristotle characterizes the senses as discriminative capacities that animals are born with, and the relevant notion of discrimination is discussed by Ebert 1983 and Corcilius 2014. Each sense is defined with reference to one class of sensibles that it perceives directly (or “in itself,” *kath’ hauto*). The special sensibles of one sense cannot be perceived by any other sense, and the perception of them is reliable as long as normal circumstances obtain. Vision is defined as the capacity to perceive colors, hear sounds, smell odors, taste flavors, and touch as the capacity to perceive three ranges of bodily qualities (hot-cold, soft-hard, dry-moist). *De anima* Book 2, chapters 7–11 contain successive treatments of each individual sense, primarily by specifying the nature of its special sensible and the conditions of their perceptibility, e.g., the medium. The senses, Aristotle observes, form an ordered series, such that all animals necessarily have touch (and taste), all mobile animals have smell, most of them have also hearing, and only the “most perfect” animals have sight, too. *De anima* Book 3, chapter 1 argues against the possibility of a further sense on a par with the five familiar ones. Each sense is realized in a suitable type of material, e.g., vision in the eye jelly, which is transparent, and there are no suitable types of material left for any additional sense, expounded in detail by Johansen 1998. Apart from the special sensibles, *De anima* Book 2, chapter 6 recognizes another type of object that is perceived directly: the common sensibles. They are accessible to several individual senses, always in conjunction with the relevant special sensibles. The common sensibles include shape, magnitude, motion and rest, unity, and number (some scholars add time to this list). There is a controversy as to how the common sensibles are perceived, for which see Owens 1982, and what the role is of the so-called common sense in their perception (see Common Sense). The special and common sensibles are distinguished from objects perceived indirectly (or “accidentally,” *kata sumbebēkos*), which include things, locations, and other items that can be perceived on account of their association with special and common sensibles, as explained by Cashdollar 1973 and Graeser 1978. It is controversial which items can be perceived accidentally, which conditions have to be satisfied for their grasp, and whether they are, properly speaking, sensibles at all, or concepts of some sort that require the presence, if not the full-scale activity, of the thinking capacity of the soul.


## Cashdollar, Stanford. 1973. Aristotle’s account of incidental perception. *Phronesis* 18:156–175.

A sustained scholarly discussion of accidental perception, that is, perception of items that form an accidental unity with some special sensible that is directly perceived. There is more to accidental perception than just perception of the accidental sensibles, though the latter are in the focus of the paper.

**Corcilius, Klaus. 2014. Activity, passivity, and perceptual discrimination in Aristotle. In *Active perception in the history of philosophy : From Plato to modern philosophy*. Edited by J. F. Silva and M. Yrjönsuuri, 31–54. Cham, Switzerland: Springer.**

Offers an interpretation of Aristotle’s account of basic perceptual discrimination as the simplest cognitive achievement of animals at the point at which they differ minimally from plants on the *scala naturae*. According to Corcilius, discrimination of special sensibles is to a large extent, though not entirely, a causal process that results with phenomenal content.

**Ebert, Theodor. 1983. Aristotle on what is done in perceiving. *Zeitschrift für Philosophische Forschung* 37:181–198.**

Aristotle often speaks of the senses as being *kritika* or as engaged in *krinein*, and Ebert argues that this description should be understood as discrimination, not judgment. Perceiving is fundamentally an activity of picking out or differentiating one sensible quality from the others of the same kind.

**Everson, Stephen. 1998. *Aristotle on perception*. Oxford: Clarendon.**

A large-scale interpretation of Aristotle’s theory of perception in the “literalist” vein, with a valuable discussion of the character and causal role of special sensibles. Explains how the senses come together to form a complex perceptual system, enabling a vast expansion of perceptual content, beyond the common sensible and accidental perception.


## Graeser, Andreas. 1978. On Aristotle’s framework of sensibilia. In *Aristotle on mind and the senses*. Edited by G. E. R. Lloyd and G. E. L. Owen, 69–97. Cambridge, UK: Cambridge Univ. Press.

Valuable discussion of Aristotle’s division of objects of perception into three types and the way he speaks about each type of object. Shows that in this context, substances are treated as attributes of qualities and qualities as genuine subjects (“reverse ontology”). Argues that all accidental perception crucially involves association of ideas.

**Johansen, Thomas K. 1998. *Aristotle on the sense-organs*. Cambridge, UK: Cambridge Univ. Press.**

Although the focus is on the character and composition of the peripheral sense organs, the book contains discussions of each type of special sensible, their production and mediation. Johansen takes the “spiritualist” line that there are no material processes underlying the activity of perception.


## Owens, Joseph. 1982. Aristotle on common sensibles and incidental perception. *Phoenix* 36:215–236.

In *De anima* Book 2, chapter 6 Aristotle classifies the common sensibles as direct (*kath’ hauto*) objects of perception, and in Book 3, chapter 1 he says that they are perceived indirectly (*kata sumbebēkos*). Owens discusses three possible avenues of resolving this apparent contradiction.

**Sorabji, Richard. 1971. Aristotle on demarcating the five senses. *The Philosophical Review* 80:101–114.**

Examines Aristotle’s practice of identifying, defining, and mutually distinguishing the individual senses with reference to their

respective objects. Commends Aristotle for supplementing his accounts with considerations of further factors, especially important for the sense of touch, which has more than one range of qualities as its object.

**Welsch, Wofgang. 1987. *Aisthesis: Grundzüge und Perspektiven der aristotelischen Sinneslehre*. Stuttgart: Klett-Cotta.**

Voluminous in-depth discussion of various aspects of Aristotle’s theory of perception, aiming at an exhaustive treatment of the subject. Daring and somewhat idiosyncratic, combines thorough textual analysis with a postmodernist orientation. The book contains many insightful observations and analyses.

# The Common Sense

Aristotle’s discussion in *De anima* Book 3, chapters 1–2 indicates that the individual senses, though they received separate treatments in the preceding chapters, are not in fact independent capacities, but facets of a single perceptual capacity of the soul. As a unity, the perceptual part of the soul can also discharge certain complex perceptual functions that transcend the powers of the individual senses. For example, when we perceptually discriminate red from sweet or when we perceive that the same object is both red and sweet, there has to be something, Aristotle maintains, to which both special sensibles are present at the same time, and that can be neither vision nor taste severally. Rather, perceptual discrimination and integration are functions of the higher-order perceptual capacity emerging from the unity of the perceptual capacity of the soul, traditionally known as the “common sense” (widely known by the Latin term *sensus communis*). Sustained scholarly discussion of Aristotle’s concept of the common sense begins with Block 1961 and Kahn 1966, with reference to the chronology of Aristotle’s works. Scholars diverge over questions such as what the common sense in Aristotle is, which functions belong to it, and how they are discharged. These questions are helpfully overviewed and addressed by Gregoric 2007. Functions that are usually ascribed to the common sense include perception of the common sensibles (e.g., shape, magnitude, motion), accidental perception of the special sensibles of one sense by another sense (e.g., seeing a sweet thing), perception of accidental sensibles (e.g., seeing Socrates), perception of time (see Verbeke 1985, cited under *Phantasia* and the Related Capacities), discrimination of reports of different senses, integration of such reports, and the perception of perceiving—which has been regarded as a precursor of the modern concept of perceptual consciousness, for which see Kosman 1975 and Caston 2002. Some interpreters construe the common sense widely, to include also *phantasia*, for which there is some support in Aristotle’s texts. These interpreters, of course, attribute many more functions to the common sense, including the perception of time, memory, dreams, and possibly even the nonrational ability to assess or judge the actual reports of the senses or their traces. The expression “common sense” (*koinē aisthēsis*) is very rare and ambiguous in Aristotle, an issue that has contributed significantly to the controversies generated around his notion of a common sense (see Block 1988, Brunschwig 1991, and Gregoric 2007). The unity of the perceptual capacity of the soul is guaranteed by the unity of the bodily perceptual system envisaged by Aristotle. The peripheral sense organs are connected through “passages” and the network of blood vessels with the central sense organ, the heart. Aristotle takes the heart to be the special sense organ of touch and taste (the flesh and the tongue being their connatural media), but also the central sense organ that all sensory motions have to reach in order to produce perception.

**Block, Irving. 1961. The order of Aristotle’s psychological writings. *American Journal of Philology* 82:50–77.**

An influential paper in which Block takes Aristotle’s approach to the common sense in different psychological writings as a signpost for reconstructing their chronological order. Kahn 1966 is a reaction to this paper.


## Block, Irving. 1988. Aristotle on the common sense: A reply to Kahn and others. *Ancient Philosophy* 8:235–249.

The last in a series of Block’s papers dealing with the common sense. It provides an overview of Block’s views on the common sense in Aristotle, a summary of the criticisms raised against his views, and Block’s replies.

**Brunschwig, Jacques. 1991. Les multiples chemins aristotéliciens de la sensation commune. *Revue de Métaphisique et de Morale* 4:455–474.**

Unjustly neglected paper by one of the leading French scholars, arguing that the few occurrences of the expression *koinē aisthēsis* in Aristotle should not be translated as “common sense,” but as “common sensibility,” referring to a constitutive element of all individual senses.


## Caston, Victor. 2002. Aristotle on consciousness. *Mind* 111:751–815.

Caston develops the line of interpretation in Kosman 1975 and applies it to contemporary debates. Maintains that Aristotelian perceptual awareness is both intrinsic to every act of perception and reflexive, for in each act of perception about an external object and about itself. There is a helpful appendix on the inner sense theories, and an exhaustive bibliography.

**Gregoric, Pavel. 2007. *Aristotle on the common sense*. Oxford: Clarendon.**

Analyzes all Aristotelian passages that mention “common sense” and proposes disambiguation. Supplies detailed treatments of each function of the common sense, construed traditionally as a higher-order perceptual capacity of the soul that excludes *phantasia*. Argues that perception of the common sensibles is not its function, whereas awareness of perceiving is.

**Johansen, Thomas K. 2005. In defense of inner sense: Aristotle on perceiving that one sees. *Proceedings of the Boston colloquium on ancient philosophy* 21:235–276.**

Careful reading of the relevant passages from *De anima* Book 3, chapter 2 and *On sleep and waking* chapter 2 to the effect that perceptual awareness is a function of the common sense, against the lines of interpretation in Kosman 1975 and Caston 2002, but in agreement with Gregoric 2007. More on this in Johansen 2012 (cited under General Overviews).

**Kahn, Charles H. 1966. Sensation and consciousness in Aristotle’s philosophy. *Archiv für Geschichte der Philosophie***

## 48:43–81.

In this seminal paper, Kahn shows how Aristotle’s views on perception and awareness differ from our conception of consciousness. The paper explores Aristotle’s treatment of the sensory soul in *De anima* and *Parva naturalia*. Kahn shows that the seemingly disjointed exposition is better explained with reference to its internal logic than with chronology.

**Kosman, L. Aryeh. 1975. Perceiving that we perceive. *Philosophical Review* 84:499–519.**

Provides a close reading of *De anima* Book 3, chapter 2, in which Aristotle asks how we perceive that we see and hear. Kosman argues that reflexive awareness of perception does not come from a higher-order capacity such as the common sense, but is part and parcel of every act of perception by an individual sense.

**Modrak, Deborah K. W. 1987. *Aristotle: The power of perception*. Chicago: Univ. of Chicago Press.**

A survey of all cognitive capacities according to Aristotle, focusing on the nonrational ones based on the perceptual capacity of the soul: the individual senses, the common sense, and *phantasia*. The book is a suitable introduction for advanced undergraduates.

***Phantasia* and the Related Capacities**

Usually translated as “imagination,” *phantasia* covers as diverse mental states as perceptual appearances, mental images, and dream visions. It is defined as the capacity that enables one to experience *phantasmata*, appearances or images. In *De anima* Book 3, chapter 3 Aristotle is concerned to differentiate *phantasia* from other capacities and to make it causally dependent on perception. Schofield 1995 argues that *phantasia* is a capacity for all “non-paradigmatic sensory experiences,” (p. 252) ranging from indistinct perceptions to dream images. Nussbaum 1978 suggests that *phantasia* has an interpretative role that enables the animal to perceive things under a certain description (“seeing as”), e.g., as pleasant or as food. This is one influential interpretation of *phantasia*’s cognitive role, and it coheres with Aristotle’s view that *phantasia* is necessary for locomotion. Other interpretations of the cognitive role of *phantasia* are offered by Frede 1995 and Caston 1996. Apart from locomotion, Aristotle takes *phantasia* to be necessary for thinking. Borrowing the content from perception as its causal ancestor, but freed from the limitations of perception, *phantasia* supplies the material from which the intellect lifts the forms that it thinks. Thus *phantasia* bridges the gap between perception and thought. It is controversial whether every act of *phantasia* involves a mental image (*phantasma*) and, if so, whether every mental image has pictorial character, as Nussbaum 1978 and Sorabji 2002 argue. In any case, *phantasmata* are not a class of objects that *phantasia* discriminates, as Wedin 1988 points out, which makes *phantasia* different from perception and thought. An open question is whether all animals have *phantasia* and how human *phantasia* differs from that of lower animals, as discussed by Labarrière 1984. Memory, which is directly dependent on *phantasia*, is defined as the capacity to contemplate images as copies of things experienced in the past. That is, we remember when we have a mental image as a representation of something perceived or thought in the past. The condition of memory is “perception of time,” which in this context seems to amount to awareness of the time lapse between the present mental image and the earlier experience of what the image represents. It can be indeterminate or such as to allow dating (for perception of time, in this sense and more broadly in Aristotle, see Verbeke 1985). In *On memory*, translated in Sorabji 2002, Aristotle discusses different kinds of memory failures and explains them in physiological terms. The treatise deals also with recollection (*anamnēsis*), the ability to recover an item temporarily lost to memory, which is a rational ability of searching through series of images ordered by similarity, opposition, or proximity. Aristotle dedicates a separate treatise to dream visions, translated in Gallop 1990. Dream visions are explained as due to traces from waking perception that linger unnoticed in the sense organs until reactivated in sleep. Dream visions are often distorted because of physiological process, and we are deceived by our dreams because our faculty of judgment (or the common sense) is shut down in sleep. Dream visions are by-products of natural processes, nothing prophetic or god-sent, though some may have diagnostic value.


## Caston, Victor. 1996. Why Aristotle needs imagination. *Phronesis* 41:20–55.

A close reading of *De anima* Book 3, chapter 3. Argues that Aristotle needs *phantasia* in order to account for error, which cannot be done with the causal account of perception and thought. And it has to be done, for otherwise the behavior of humans and nonrational animals cannot be explained.

**Frede, Dorothea. 1995. The cognitive role of *phantasia* in Aristotle. In *Essays on Aristotle’s De anima*. Edited by Martha C. Nussbaum and Amélie Oksenberg Rorty, 279–295. Oxford: Clarendon.**

Frede argues that *phantasia* synthesizes perceptual data, supplied in a piecemeal and successive fashion, into a coherent picture of a situation or a state of affairs. What unifies Aristotle’s concept of *phantasia* is the causal account: all appearances or images are motions in the soul that are caused by sense perceptions.


## Gallop, David. 1990. *Aristotle on sleep and dreams*. Translated and with introduction, notes, and glossary by David Gallop. Peterborough, Canada: Broadview Press.

A translation of three short treatises—*On sleep and waking, On dreams* and *On divination through sleep—*with an informative introductory essay covering a variety of topics, explanatory notes, and a bibliography.


## Labarrière, Jean-Louis. 1984. Imagination humaine et imagination animale chez Aristote. *Phronesis* 29:17–49.

The paper explains the distinction between perceptual *phantasia*, which other animals share, and the specifically human *phantasia*. Labarrière also discusses the role of *phantasia* in the production of meaningful sounds and speech (*logos*), showing how *phantasia* contributes also to social organization and politics.


## Nussbaum, Martha C. 1978. Essay 5: The role of *phantasia* in Aristotle’s explanations of action. In *Aristotle: De motu animalium*. Edited by Martha C. Nussbaum, 221–269. Princeton, NJ: Princeton Univ. Press.

Attacks the view that *phantasia* necessarily, or even primarily, involves pictorial images, and argues that it allows the animal to interpret the data supplied by the senses. *Phantasia* can present this data as something desirable and worth pursuing, or as something that satisfies an existent desire, which is how it enters Aristotle’s account of action.


## Schofield, Malcolm. 1995. Aristotle on the imagination. In *Essays on Aristotle’s De anima*. Edited by Martha C. Nussbaum and Amélie Oksenberg Rorty, 249–277. Oxford: Clarendon, 1995.

A seminal discussion of imagination, originally printed in *Aristotle on mind and the senses* (edited by G. E. R. Lloyd and G. E. L. Owen, 99–140, Cambridge, UK: Cambridge Univ. Press, 1978). It saves Aristotle from the charge of inconsistency in his treatment of *phantasia* in *De anima* Book 3, chapter 3 by arguing that *phantasia* is a “loose-knit, family concept” (p. 256) that comprises all “non-paradigmatic sensory experiences” (p. 252).

**Sorabji, Richard, ed. 2002. *Aristotle on memory*. 2d ed. London: Duckworth.**

The book, originally published in 1972, contains a translation of *On memory and recollection* with a most helpful introductory study and notes. The second edition is prefaced with a new introduction containing replies to critics, discussions of some issues omitted from the first edition, and references to more recent publications.

**Verbeke, Gérard. 1985. La perception du temps chez Aristote. In *Aristotelica: Mélanges offerts à Marcel De Corte*. Edited by A. Motte, 351–377. Bruxelles: Éditions Ousia.**

Aristotle mentions perception or sense of time (*aisthēsis chronou*), in different works and contexts. In this paper Verbeke offers a coherent interpretation of this concept and claims that perception of time is the work of the common sense.

**Wedin, Michael. 1988. *Mind and imagination in Aristotle*. New Haven, CT, and London: Yale Univ. Press.**

A cognitivist approach to Aristotle. Wedin shows that *phantasia* is not a complete faculty, with special objects of its own, but a capacity that supplies representations to the faculties of perception and thought. Although quite technical at places, the book contains insightful readings of important passages.

# The Intellect

Aristotle distinguishes nonrational forms of cognition from rational thought, and also different types of rational thought. Nonrational forms of cognition, such as *phantasia* and memory, are all perception based, and they allow for intelligent behavior of higher nonhuman animals as well as for much of the cognitively less demanding activities of human beings (more on this in Frede 1996). What is distinctive of the soul of human beings is that it features a capacity for thought, or the intellect (*nous*, sometimes misleadingly translated as “mind”). This capacity, broadly construed, enables human beings to acquire concepts, to connect them, to make inferences, and to communicate them to other human beings; also, it enables human beings to discern what is good, to wish it, and to deliberate about it (practical intellect). In a narrow sense, however, the intellect is the theoretical capacity to intuit the first principles in a certain domain and to grasp the forms or essences of things, together with the causal/explanatory relations that hold among them. Such a grasp amounts to true understanding that can be formulated as a series of scientific demonstrations (Burnyeat 2008). Aristotle’s account of the intellect is largely modeled after that of perception, objects of thought being the forms that the intellect takes on. However, unlike the senses, the intellect does not have a bodily organ (Modrak 1991). This lack makes the intellect “simple” and “unmixed,” having no nature of its own, which leads to two difficulties, spelled out in *De anima* Book 3, chapter 4 and discussed by Lewis 2003: how the intellect can think anything, if thinking is to be affected by an object of thought, and how the intellect can itself be an object of thought. Aristotle claims that the human intellect is causally dependent on perception and that we cannot think without the help of *phantasia*, so that the human intellect requires the body to that extent at least. In a short and notoriously difficult chapter, *De anima* Book 3, chapter 5, Aristotle distinguishes between the active and the passive intellect (only the latter phrase is actually in the text). The former is said to make thinking of any form possible, much as light makes seeing of any color possible, and it is the only aspect that is separable, “immortal and eternal.” There are controversies ever since antiquity as to what the active intellect really is. One suggestion, defended by Aquinas in de Libera 1994, is that each human being has an active intellect that survives death. Another suggestion, developed by Alexander of Aphrodisias in Schroeder and Todd 1990, is that the active intellect is in fact the divine intellect, identified in *Metaphysics* Book 12, chapter 7 and 9 with the unmoved mover of the universe. For both readings it is a challenge to explain how the active intellect acts upon the passive to produce thinking. Two cogent modern readings of *De anima* Book 3, chapter 5 can be found in Wedin 1988 and Caston 1999.

**Burnyeat, Myles. 2008. *Aristotle’s divine intellect*. *The Aquinas Lecture 2008*. Milwaukee, WI: Marquette Univ. Press.**

Accessible explanation of the Aristotelian notion of the intellect and its objects, grasped as the pinnacles of networks of explanatory concepts in a certain domain. Burnyeat maintains that the active intellect is the Prime Mover taken as the pinnacle of the network of correct explanatory concepts that shed light on all the others.


## Caston, Victor. 1999. Aristotle’s two intellects: A modest proposal. *Phronesis* 44:199–227.

Careful reading of *De anima* Book 3, chapter 5. Argues that the agent intellect is God. It is not “agent” in the sense of initiating the causal processes of human psychology, but in the sense of the final cause to which all our thinking aims and in which our intellect finds a complete actualization.

**de Libera, Alain, ed. 1994. *Thomas d’Aquin: Contre Averroès*. Paris: Flammarion.**

Latin text with French translation of Aquinas’s treatise *De unitate intellectus contra Averroistas*, with supplementary passages from other writings of Aquinas, copious notes, a bibliography, and a synoptic introduction explaining the context and the positions in the medieval debate over the active intellect. English translation of Aquinas’s treatise can be found in Beatrice H. Zedler, ed., 1968, *Saint Thomas Aquinas: On the unity of the intellect against the Averroists*, Milwaukee, WI: Marquette University Press.


## Frede, Michael. 1996. Aristotle’s rationalism. In *Rationality in Greek thought*. Edited by M. Frede and G. Striker, 157–173. Oxford: Clarendon.

Explains in a clear and lucid manner Aristotle’s conception of the intellect, how it differs from other cognitive capacities, how humans develop it, and what the proper objects of thought are. Frede claims that the human intellect is based on perception only causally, but not epistemically.

**Lewis, Frank. 2003. Is there room for Anaxagoras in an Aristotelian theory of mind? *Oxford Studies in Ancient Philosophy***

## 25:89–129.

A compelling discussion of the two difficulties generated by the “Anaxagorean” supposition that the intellect is simple and impassive, having nothing in common with anything else. Lewis develops an interpretation that can be considered as an adverbial theory of thinking.

**Modrak, Deborah K. 1991. The *Nous*-body problem in Aristotle. *Review of Metaphysics* 44:755–774.**

Considers four problematic points about *nous*: its not having a bodily organ, the intuition of essences, the active *nous*, and the relation between human and divine *nous*. All four points are found to be compatible with Aristotle’s hylomorphism.

**Oehler, Klaus. 1974. Aristotle on self-knowledge. *Proceedings of the American Philosophical Society* 118:493–506.**

Neglected but independent and philosophically interesting paper focusing on the relation of reflexivity. Oehler argues that Aristotle took all forms of cognition to be reflexive, thinking more than perception, and the Prime Mover’s thinking of thinking (*noēsis noēseōs*), most of all.

**Schroeder, Frederic M., and Robert B. Todd. 1990. *Two Aristotelian commentators on the Intellect*. Toronto: Pontifical Institute of Medieval Studies.**

Annotated English translation of *De intellectu*, attributed to Alexander of Aphrodisias, the most influential ancient commentator on Aristotle, and of the relevant part of the *De anima* paraphrase by the 4th-century scholar Themistius, anticipating the reading favored by Aquinas. The booklet contains a helpful introduction and extensive bibliography.

**Wedin, Michael. 1988. *Mind and imagination in Aristotle*. New Haven, CT, and London: Yale Univ. Press.**

According to Wedin’s cognitivist interpretation, active and passive intellect are treated as two subsystems of the faculty of thought (mind, intellect). Argues that *De anima* Book 3, chapter 5 is an attempt to describe the causal mechanism of human thought. Sometimes quite technical, the book contains interesting readings of the crucial passages.

# Desire

In *De anima* Book 3, chapters 9–11 Aristotle raises the question of which part or capacity of the soul moves animals. After a preparatory discussion, he arrives at the conclusion that desire (*orexis*), or the capacity of the soul that enables animals to have desires (*to orektikon*), sets animals in motion, and that it does so in conjunction with *phantasia*. When *phantasia* supplies an object that is, or strikes the animal as, good or bad, desire is actualized and the animal pursues or avoids that object (see Richardson 1995 and Moss 2012). In one sense, then, what moves the animal is the object of desire, and it moves the animal as an unmoved mover. In another sense, what moves the animal is desire, which moves the animal as a moved mover. In his analysis of the factors involved in animal motion at the end of *De anima* Book 3, chapter 10, pointing at his more detailed discussion in *On motion of the animals* chapters 6–10, Aristotle adds also a bodily part that serves desire as an instrument, viz., the connate *pneuma* (see How the Soul Moves the Body). This account of desire as the cause of motion applies to nonrational animals because they have perception-based *phantasia* by means of which objects that are immediately present to them appear good or bad to them, typically because they are, or have been previously experienced as, pleasant or painful. Humans also have thought-based *phantasia* on account of which objects or situations in the future can be envisioned and rationally judged as good or bad. The divergence of the objects of desire opens the possibility of conflict of desires, and may lead people to go against their better judgment, displaying weakness of the will (*akrasia*), for which see articles in Oksenberg Rorty 1980. Aristotle borrows from Plato and distinguishes three types of desire: appetite (*epithumia*), which is directed at what is pleasant or painful; spiritedness (*thumos*), which is directed at what is honorable or dishonorable; and rational wish (*boulēsis*), which is directed at what is truly good or bad for an individual. Each type of desire is explained in detail by Pearson 2012. Aristotle argues that whatever has perception and experiences pleasure and pain has appetite for the pleasant and aversion to the painful. In *De anima* Book 3, chapter 7 Aristotle remarks that appetite for the pleasant and aversion to the painful are essentially identical to each other *and* to the perceptual capacity of the soul. This remark suggests that perception suffices for desire at some level, as Corcilius 2008 insists, though perhaps not for the sort of desire that enters an account of animal motion, as argued by Lorenz 2006.

**Charles, David. 1984. *Aristotle’s philosophy of action*. London: Duckworth.**

Sophisticated philosophical study of ontological, psychological, and psychophysical aspects of Aristotle’s theory concerning nature, desire, reasoning, and action, seeking a unified picture of Aristotle’s theory of action that could be of interest to contemporary philosophers. For Charles’s more recent views on desire, see his paper in Pakaluk and Pearson 2011, and Charles 2009, cited under How the Soul Moves the Body.

**Corcilius, Klaus. 2008. *Streben und Bewegen: Aristoteles’ Theorie der animalischen Ortsbewegung*. Berlin and New York: Walter de Gruyter.**

Part 1 (pp. 19–240) offers a detailed discussion of desire as situated in Aristotle’s hylomorphic theory. Argues that desire, being a moved mover, should be identified with the bodily processes that, depending on the state of the body, accompany appearances of good or bad things—defined objectively with reference to the animal’s nature.

**Lorenz, Hendrik. 2006. *The brute within: Appetitive desire in Plato and Aristotle*. Oxford: Clarendon.**

Part 3 (pp. 113–201) develops an elegant and persuasive account of *phantasia*, nonrational desire, and the way they interact to bring about locomotion in animals. Lorenz argues that *phantasia* is required only for those desires that lead to animal motion, because such desires require envisioning a prospect.

**Moss, Jessica. 2012. *Aristotle on the apparent good: Perception*, phantasia*, thought, and desire*. Oxford: Clarendon.**

Maintains that all practical cognition is ultimately based on pleasurable or painful perceptions. These perceptions give rise, by way of *phantasia*, to appearances of goodness. Such appearances suffice for nonrational desire and emotions, but they also provide the basis for our thoughts about goodness and the ensuing rational desire and action.

**Oksenberg Rorty, Amélie, ed. 1980. *Essays on Aristotle’s ethics*. Berkeley: Univ. of California Press.**

Contains several seminal papers on Aristotle’s ethics. On the subjects of *akrasia*, and pleasure and pain in ethical context, one should consult in particular the papers by D. Wiggins, A. O. Rorty, and J. Annas. Annas discusses divergent accounts of pleasure in Books 7 and 10 of the *Nicomachean ethics*.

**Pakaluk, Michael, and Giles Pearson, eds. 2011. *Moral psychology and human action in Aristotle*. Oxford: Clarendon.**

A collection of valuable recent contributions on various aspects of Aristotle’s moral psychology and theory of action. Of particular interest are M. Schofield on the role of *phantasia* in animal locomotion, J. Dow on emotions, and two pieces by D. Charles, one on the distinctiveness of Aristotle’s conception of desire and the other on *akrasia*.

**Pearson, Giles. 2012. *Aristotle on desire*. Cambridge, UK: Cambridge Univ. Press.**

Examines Aristotle’s general notion of desire and then analyzes in detail each of the three types of desire, surveying passages from a wide range of Aristotle’s works. Argues that *phantasia* is necessary for all desires.

**Richardson, Henry S. 1995. Desire and the good in *De anima*. In *Essays on Aristotle’s De anima*. Edited by Martha C. Nussbaum and Amélie Oksenberg Rorty, 381–399. Oxford: Clarendon.**

Discussion of *De anima* Book 3, chapters 9–11 through the prism of two possible interpretative strategies. In the desire-based strategy, the action is traced back to an occurrent desire, without implying that the object is discerned and desired *as* good. In the good-based model, every action is traced back to an object that is aimed at *as* good of some sort.

# How the Soul Moves the Body

Aristotle follows his predecessors in thinking that the soul moves the body, but hylomorphism eliminates the obvious possibility that

the soul moves the body by itself being moved. The soul is a form, and as such it is not the sort of thing that can be in motion, except accidentally—insofar as the body informed by that soul moves about. And it is not just that an Aristotelian soul cannot engage in spatial motion; as a form, it cannot engage in any type of motion or change (*kinēsis*). How, then, does the soul move the body? This is the question addressed in *De anima* Book 3, chapters 9–11 and in *On movement of animals chapters* 6–11. The way Aristotle responds to this question is usually formulated along the following lines. While the soul cannot undergo any type of change in the strict sense, it can undergo change in the extended sense of being brought from potentiality into actuality. It is when the capacity for desiring (*to orektikon*) is brought from potentiality into actuality that the animal moves, which happens when the capacity to have appearances (*phantasia*) is actualized with respect to certain objects, e.g., food or a potential mate, and in a certain way, e.g., so that an object appears pleasant or good. Now, the capacity for desiring stands in a hylomorphic relationship to a special bodily stuff, the “connate *pneuma*,” which is concentrated in the central organ (the heart, according to Aristotle). Being the material correlate of the capacity for desiring, the connate *pneuma* naturally reacts to acts of desiring by expanding or contracting, thus creating mechanical impulses that bring about the motion of the limbs (see Nussbaum 1978). The problem with this account is that it seems to land Aristotle with the problem of interaction that plagues dualism. The connate *pneuma* is much like the Cartesian pineal gland, leaving us with a “just so” story about a physical stuff that expands and contracts in all the right ways in response to actual desires triggered by some cognitive input. Various alternative interpretations of Aristotle’s view concerning the efficient causality of the soul, all of which try to avoid the interaction problem, are offered by Menn 2002, Labarrière 2004, Morel 2007, Charles 2009, and Corcilius and Gregoric 2013. One recurring illustration of the efficient-causal mechanism involved in animal motion is known as the “practical syllogism.” Typically, the major premise is supplied by desire, the minor by perception or *phantasia*, and the conclusion is an action. The challenge is to explain the structure and logic of the syllogism in such a way that nonrational animals can achieve it. For example, Crubellier 2004 argues that the action is not, strictly speaking, an inference from the premises, but rather an effect of their synthesis upon considering a particular practical good. Helpful material on this topic can be found in Rapp and Brüllmann 2008.

**Berryman, Sylvia. 2002. Aristotle on *pneuma* and animal self-motion. *Oxford Studies in Ancient Philosophy* 23:85–97.**

Pleasantly deflationary interpretation of the connate *pneuma*, arguing that its role is to convert qualitative change that accompanies certain perceptions, appearances, and thoughts into quantitative change that creates mechanical impulse.


## Charles, David. 2009. Aristotle on desire and action. In *Body and soul in ancient philosophy*. Edited by Dorothea Frede and Burkhard Reis, 291–308. Berlin and New York: Walter de Gruyter.

Taking Aristotle’s hylomorphic analysis of emotions as a starting point, Charles argues that desire is a psychophysical process causing another psychophysical process, the working of the connate *pneuma*, which leads to locomotion, itself a psychophysical process. Because Aristotle’s account is psychophysical throughout, it goes against our post-Cartesian intuitions.


## Corcilius, Klaus, and Pavel Gregoric. 2013. Aristotle’s model of animal motion. *Phronesis* 58:52–97.

Argues that Aristotle operates with a simple model in his explanation of animal motion. In this model, the soul moves the body only insofar as it enables incoming motions to have intentional content. Depending on that content and the current state of the body, a chain of outgoing motions may bring about locomotion.

**Crubellier, Michel. 2004. Le “syllogisme pratique” ou comment la pensée meut le corps. In *Aristote et le mouvement des animaux. Dix études sur le De motu animalium*. Edited by André Laks and Marwan Rashed, 9–26. Villeneuve d’Ascq, France: Presses Universitaires du Septentrion.**

This paper focuses on Aristotle’s discussion of practical syllogism in chapter 7 of *De motu animalium*. Crubellier argues that practical syllogism provides a general model to explain not only reflexive human conduct that requires rational abilities, but also instinctive behavior of non-rational animals.

**Freudenthal, Gad. 1995. *Aristotle’s theory of material substance*. Oxford: Clarendon.**

Although the book contains very little on the connate *pneuma*’s role in animal motion, it discusses its other roles, its composition, and its relation to vital heat. Some caution is required with this book, as it seems to downplay the role of the formal cause. There is a bibliography of major works on the connate *pneuma* (n. 3 on p. 106).

**Labarrière, Jean-Louis. 2004. *Langage, vie politique et movement des animaux*. Paris: Vrin.**

The third part of the book (pp. 129–242) is dedicated to Aristotle’s theory of animal locomotion, with two separate sections on psychological and physiological factors involved in the production of animal locomotion. Useful for understanding the wider philosophical context of Aristotle’s theory of animal locomotion, as much as the most important details of it.

**Menn, Stephen. 2002. Aristotle’s definition of soul and the programme of the *De anima*. *Oxford Studies in Ancient Philosophy* 22:83–139.**

In this refined and historically sensitive study of Aristotle’s psychology, Menn explains the soul’s efficient causality in analogy with arts. The ultimate efficient cause of healing is not the doctor, according to Aristotle, but the art of medicine that guides his procedures, without thereby undergoing any motion.

**Morel, Pierre-Marie. 2007. *De la matière à l’action: Aristote et le problème du vivant*. Paris: Vrin.**

Morel argues that the soul is the first cause of animal motion insofar as it is the constitutive vitality of the hylomorphic compound, but also insofar as it allows the conjunction of desire and cognitive states that represent desirable things or the means of achieving them. The soul’s efficient causality, however, crucially depends on its correlation with a suitable moved mover in the body—the connate *pneuma* in the heart.

**Nussbaum, Martha C. 1978. Essay 3: The *sumphuton pneuma* and the *De motu animalium*’s account of soul and body. In**

***Aristotle: De motu animalium*. Edited by Martha C. Nussbaum, 143–164. Princeton, NJ: Princeton Univ. Press.**

Clear formulation of the standard interpretation of the role of connate *pneuma* in moving the animal. It is the vehicle of desire that reacts to certain stimuli from perception or *phantasia* in such a way that it initiates mechanical processes that lead to movements of limbs.

**Rapp, Christof, and Philipp Brüllmann, eds. 2008. *Special Issue: Focus; Practical syllogism/Schwerpunkt; Der praktische Syllogismus*. *Philosophiegeschichte und logische Analyse* (11). Paderborn, Germany: Mentis.**

The editors’ introductory chapter lists the passages relevant for the study of practical syllogism and indicates central problems. The next chapter, by K. Corcilius, surveys two main interpretative strategies since the 1950s—one connecting practical syllogism with practical thinking, another with causal explanation of action applicable also to nonrational animals.

# Emotions

Emotions (*pathē*) play an important role in Aristotle’s ethics, since he insists that virtue includes having a proper emotional response to a given situation. Emotions are occasionally treated in psychological writings, serving as examples of things “common to body and soul” that require a hylomorphic account. A sustained treatment of emotions, however, is found only in *Rhetoric* Book 2, chapters 1–11, in which Aristotle highlights the role of emotions in constructing a persuasive speech, discusses main individual emotions, and gives a sketchy general account (Rapp 2010). Emotions are defined as “those things on account of which people so change as to differ in their judgments, and which are accompanied by pain and pleasure.” Particular emotions discussed include

anger, feeling mild, feeling friendly, hatred, fear, confidence, shame, feeling kindly, pity, indignation, envy, and emulation. Particular emotions are helpfully surveyed by Konstan 2006. Aristotle’s strategy in discussing particular emotions is as follows: he first considers a state of mind associated with having a particular emotion, then he discusses the object of an emotion, and finally he examines its occasion or grounds. The aim and the scope of his treatment of emotions, however, are not quite clear. Many interpreters hold that what we find in *Rhetoric* is an account tailored solely for the discussion of a means of persuasion related to emotional dispositions of the listeners, without any deeper theoretical considerations or commitments in the background. By contrast, Dow 2011 argues that there is sufficient material in *Rhetoric* to reconstruct a coherent philosophy of emotions. The status of Aristotle’s definition of emotions has been questioned and its elements examined. The relation of emotion to judgment is the most widely debated topic. Many scholars follow Fortenbaugh 2002 in taking Aristotle to be endorsing the cognitive view that beliefs are necessary and sufficient conditions of emotions. This outlook is problematic in light of the fact that Aristotle attributes emotions to nonrational animals, which have no capacity to form beliefs. Other scholars, notably the author of Sihvola 1996, argue that emotions do not require beliefs, but only appearances or *phantasiai*, which are available to nonrational animals. Further points of controversy are related to pleasure and pain that are said to accompany emotions: what sort of pleasure and pain Aristotle has in mind, what it means that they “accompany” emotions, and whether pleasure or pain accompanies all kinds of emotions, given that Aristotle explicitly denies that hate, for instance, is accompanied by pain (or by pleasure). These questions are discussed by Leighton 1982, whereas the question of the physiological basis of emotions is addressed by Besnier 2003.


## Besnier, Bernard. 2003. Aristote et les passions. In *Les passions antiques et médiévales*. Edited by B. Besnier, P.-F. Moreau, and L. Renault, 27–94. Paris: Presses Universitaires France.

A wide-ranging survey of passions (or emotions) in Aristotle’s rhetoric, ethics, and psychology, dealing also with the physiology of emotions. Besnier considers the connate *pneuma* to be the physical substrate of emotions, owing to which emotions have bodily reactions and may lead to motions.

**Dow, Jamie. 2011. Aristotle’s theory of the emotions: Emotions as pleasures and pains. In *Moral psychology and human action in Aristotle*. Edited by M. Pakaluk and G. Pearson, 47–74. Oxford: Clarendon.**

Argues that in *Rhetoric* Book 2 Aristotle offers outlines of a complete theory of emotions, one in which all emotions are essentially pleasures or pains.

**Fortenbaugh, William W. 2002. *Aristotle on emotion: A contribution to philosophical psychology, rhetoric, poetics, politics and ethics*. 2d ed. London: Duckworth.**

Seminal work, originally published in 1975, arguing that Aristotle develops a cognitive view of emotions. The second edition contains an epilogue (pp. 93–126), with replies to criticisms and further clarifications, which can serve as an introduction to the scholarly debates on Aristotle’s conception of emotions.

**Knuuttila, Simo. 2004. *Emotions in ancient and medieval philosophy*. Oxford: Clarendon.**

Comprehensive survey ranging from Plato to the 14th century. Knuuttila argues that Plato and Aristotle develop a compositional account of emotions, as opposed to the Stoics’ cognitive account.

**Konstan, David. 2006. *The emotions of the ancient Greeks: Studies in Aristotle and classical literature*. Toronto: Univ. of Toronto Press.**

The book contains an extensive discussion of most of the particular emotions treated in *Rhetoric* Book 2. Puts Aristotle’s discussion of emotions in a wider historical and cultural context.


## Leighton, Stephen R. 1982. Aristotle and the emotions. *Phronesis* 27:144–174.

Explains that emotions can both cause changes of judgment and themselves be changes of judgment, elucidates what it means to say that pleasure and pain accompany emotions, and describes how emotions differ from desires, in particular from appetite—the desire directed at pleasure and pain.


## Oksenberg Rorty, Amélie, ed. 1996. *Essays on Aristotle’s* Rhetoric. Berkeley and Los Angeles: Univ. of California Press.

The collection contains important papers on various aspects of Aristotle’s treatment of emotions, written by leading scholars. Apart from Leighton 1982, there are papers by J. M. Cooper, D. Frede, G. Striker, and M. C. Nussbaum. Cooper and Striker are important for breaking the tie between emotion and belief/judgment.

**Rapp, Christof. 2010. Aristotle’s Rhetoric. In *Stanford Encyclopedia of Philosophy*.**

Accessible and clear overview of the structure and aims of *Rhetoric*, by the author of an authoritative German commentary on that work. The section on the three means of persuasion, one of them depending on emotional dispositions of the audience, is especially relevant.


## Sihvola, Juha. 1996. Emotional animals: Do Aristotelian emotions require beliefs? *Apeiron* 29:105–144.

Argues against the judgment/belief–based account of emotions, and builds a strong case in favor of the *phantasia*/perceptual- appearance–based account, allowing different cognitive structures for different emotions and different subjects. This argument sits well with many passages in which Aristotle ascribes emotions to animals.

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