Thought as internal speech in Plato and Aristotle

Abstract

Scholars often assert that Plato and Aristotle share the view that discursive thought (*dianoia*) is internal speech (TIS). However, there has been little work to clarify or substantiate this reading. In this paper I show Plato and Aristotle share some core commitments about the relationship of thought and speech, but cash out TIS in different ways. Plato and Aristotle both hold that discursive thinking is a process that moves from a set of doxastic states to a final doxastic state. The resulting judgments (*doxai*) can be true or false. Norms govern these final judgments and, in virtue of that, they govern the process that arrives at those judgments. The principal norm is consistency. However, the philosophers differ on the source of this norm. For Plato, persuasiveness and accuracy ground non-contradiction because internal speech is dialogical. For Aristotle, the Principle of Non-Contradiction grounds a Doxastic Thesis (DT) that no judgment can contradict itself. For Aristotle, metaphysics grounds non-contradiction because internal speech is monological.

Thought as internal speech in Plato and Aristotle

Introduction

Some prominent scholars assert that Aristotle follows Plato in the view that thought is internal speech (TIS).[1] But what does TIS amount to for each philosopher and to what extent do their views differ? I argue that Plato and Aristotle agree that thought and speech share some general features, but disagree on what 'internal speech' is. To put my claim more pungently, Plato and Aristotle could both endorse the slogan 'thought is internal speech', but disagree on the details.

I focus here on how Plato and Aristotle, at least in certain places, conceive 'discursive thinking', which translates '*dianoia*' and cognate terms. Unlike other cognitive activities, such as understanding (*noêsis*) or perception (*aisthêsis*), when some agent uses thinking (*dianoia*), that agent infers, in a norm-governed way, to some judgment (*Theaetetus* 189e-190a; *Sophist* 240d; 260c; 263d; *Phaedrus* 266b; *De Anima* III 11 434a8-21). Discursive thought results in a true or false judgment (*doxa*) (*Theaetetus* 189e-190a; *Sophist* 240d; 260c; 263d. *De Anima* III 6; *Metaphysics* VI.4; *Metaphysics* IX 10; *De Interpretatione* 1).[2] *Dianoia* includes philosophical thinking but applies to modest thinking too (*Philebus* 38c-d).[3] Here, and throughout the paper, I translate the verb *doxazein* and the noun *doxa* as 'judging' and 'judgment' respectively.

---

[1] For example: (Ross 1949, ad *An. Po.* I 10, 76b23–7);(Kretzmann 1974, 15n26); (Barnes 1975, 136); (Marcovich 1986, 268); (Panaccio 1999, Chapter 1); (Polansky 2007, 422); (Lewis 2011, 357); (Hestir 2013, 194n5).
[2] For general discussion of discursive thinking in Aristotle, see: (Annas 1974, 283); (Sorabji 1983, Chapter 10); (Caston 2006, 336). On falsehood, see (Denyer 1991, 203–4).
[3] This is argued for in (Long 2013, 113); (Dixsaut 2000, 56).

Similarly, where possible, I translate the verb *legein* as 'speaking' and *logos* as 'statement' although the semantic range of *logos* in Greek is notoriously wide, sometimes requiring a different translation.

In the first part of the paper, I show where Plato and Aristotle agree. Section 1 outlines the evidence in Plato's dialogues that thought and speech share the following formal features.[4] Both are (i) processes, (ii) whose steps involve affirmation and combinations, (iii) the results of which can be false, and (iv) which are norm-governed.[5] I will sometimes talk as if one version of TIS is 'Plato's view', but, for the purposes of this paper, I remain agnostic as to whether Plato held TIS *in propria persona.* Section 2 makes the parallel case for Aristotle. The second part of the paper shows how Plato and Aristotle differ on internal speech. In section 3, I argue that Plato understands internal speech dialogically, while, in section 4, that Aristotle understands internal speech monologically. Because of this difference, the philosophers cannot ground the non-contradiction norm in the same way. Section 5 explains how each philosopher does ground the norm. In the conclusion, I offer some tentative suggestions as to why Plato and Aristotle differ on the nature of internal speech.

1 Thought and internal speech in Plato

---

[4] Plato and Aristotle often suggest that thinking and speaking are of a kind: thinking is internal speaking while articulate speech is external speaking. For Plato, see: *Tht.* 189e4–a10; *Soph.* 263b3–5; *Phlb.* 38c5–39a7, cited in (Long 2013, 113). Perhaps also *Tim.* 37b and *Phdr.* 276a5–7. For Aristotle see: *De Int.* 16b9–18, 23a32, 24b1; *APo.* 76b25; *DA* 427b11–14, 428a22–24; *De Sen.* 437a4–17; *Metaphysics* Γ.4, 1006b8–9; and *EN* 1139b15, 1142b13–14.

[5] *Dianoia* may have other features as well, on Plato's account. (Long 2013, 114) argues that *dianoia* is intellectual and careful, for example.

In Plato we find the view that thought and speech are processes. During his discussion of 'other-judging' in the *Theaetetus*, Socrates establishes agreement on what *dianoia* is:

(T1) (S) Very nice. But do you call thinking (διανοεῖσθαι) exactly what I call it? (T) What do you call it? (S) A talk (λόγος) which the soul carries on itself with itself about the things it examines. This I tell you in ignorance. For this is how it seems to me. The soul, when thinking (διανοουμένη) does nothing other than discuss (διαλέγεσθαι), asking itself questions and answering them, both affirming and denying. Whenever it first determines something, either sluggishly or sharply, then says the same thing and does not hesitate, we posit that as its judgment (δόξαν). So I, at least, call judging (δοξάζειν) speaking (λέγειν) and judgment (δόξαν) a statement (λόγος), not articulated to someone else, but in silence to oneself (*Theaetetus* 189e4-190a6).[6]

Socrates defines judgment (*doxa*) as a silent statement (*logos*). Most commentators hold that Socrates intends this definition literally.[7] But there are extensional difficulties with the stated definition.[8] First, some thoughts have no spoken analogue e.g. the thoughts an artist thinks while painting or a pianist while playing. Judgment is essential to these activities but the sorts of judgment needed to paint or play do not have an obvious linguistic equivalent. This is not just because the artist or the

---

[6] My translation, based on Levett/Burnyeat.
[7] (Panaccio 1999, 33); (Sedley 2003, 1); (Sedley 2006, 129–30); (Lorenz 2006, 92). For the Socratic background of the conception of thought as silent dialogue, see (Sedley 2006, 129–30).
[8] For a specific concern that the norms of thought might be different from the norms of speech, see (Evans 2011, 347).

musician happens not to say anything audible; it is plausible that no statement could have the same content as those thoughts.[9]

Second, some sorts of speech have no mental equivalent. One can speak ironically or to bring about a state of affairs through illocutionary force. Mental states, seemingly, can do none of this. I can say 'Hector is brave' and intend the contrary, but, it seems, I cannot judge that Hector is brave and intend to hold the contrary. Likewise, a student becomes a Master of Arts when the Vice-Chancellor says to her 'Auctoritate mihi commissa admitto te ad gradum Magistri in Artibus'. But no corresponding mental action can graduate her using illocutionary force.

To avoid such extensional difficulties, some commentators have understood Plato's TIS claim metaphorically.[10] But we need not go that far. We simply need to clarify that the thinking and speaking in question are discursive.[11] Discursive speech moves from one set of statements to a final statement; discursive thought moves from one set of judgments to a final judgment. Socrates suggests that discursive thought and speech are at stake, when he describes the soul 'asking questions and answering them, both affirming and denying' (190a1-2), a process which eventually leads to something determinate. If thought and speech here are discursive, neither class of counter-examples should worry us. When playing the piano, the pianist is not moving from one judgment to another, so that does not provide a counterexample to discursive thought being internal speech. Indeed, Plato and Aristotle may not count such a case as *dianoia* at all. Likewise, when bringing about a graduation, the Vice-Chancellor does not move from one

---

[9] For this worry see (Burnyeat 1990, 84).

[10] (McDowell 1973, 205). (Burnyeat 1990, 84) takes Socrates claim literally, but does not think that thought can be defined as a sort of speech.

[11] This approach is taken by (Chappell 2004, 167n132); (Long 2013, 112).

statement to another, so does not present a counterexample to discursive speech being internal thought. In what follows, I shall mean discursive thought or speech, but omit the qualification for simplicity.

In T1 Socrates defines judgment as silent statement. But Socrates also defines judging (*doxazein*) as silent speaking (*legein*). As well as identifying the products, judgment and statement, Socrates also identifies the processes that lead to those products, judging and speaking.[12] Thinking must be a process, as Socrates says it happens either sluggishly (*braduteron*) or sharply (*oxuteron*). As (Lorenz 2009, 92) points out, at *Sophist* 263e3-5 the Visitor defines thought as silent conversation (*dialogos*) and stresses that silent conversation is a process. If thinking has a goal, thinking must be a process. The process of thinking has a goal (*dianoias apoteleutêsis* 264b1), which is an affirmation or denial (263e10-264a2).[13] Speaking is the verbal action of conversing with an external interlocutor. Thinking is a mental action of conversing silently with an internal interlocutor. The process is made up of a series of steps, individuated as questions with affirmations or denials in response. This action aims to form a *doxa*, a silent affirmation or denial.[14]

This is discursive in the sense used above. The process moves from one set of doxastic states, internal affirmations or denials, to a final one. In fact, in T1 Socrates uses '*logos*' to refer both to the thinking process that leads to a *doxa* (189e6) and to the *doxa* produced (190a5). This shift in usage seems awkward, but, as I have shown, it is clear from the context that in the first case it is the thinking process and the second it is the

---

[12] (Denyer 1991, 112); (McDowell 1973, 205).
[13] *Timaeus* 37b also stresses that thought is silent speech that results in firm judgments and convictions (δόξαι καὶ πίστεις, *Tim*. 37b8).
[14] (Panaccio 1999, 33).

product. Indeed, abstract nouns are often ambiguous between a process and the result of that process. *Dianoia* exhibits the same ambiguity in the vicinity of T1, referring to a thought at 189d8 but to the thought process at 189e1. '*logos*' exhibits this process/product ambiguity, but this should not worry us.

Socrates does not give an example of the thought process he has in mind, but we could supply the following.[15] Suppose Nausicaa looks into a field and asks herself 'is that animal a mule?'. Nausicaa then silently affirms 'the animal has four legs' and 'the animal has hooves' and 'the animal is eating grass'. These silent affirmations lead Nausicaa to persuade herself that the animal is a mule, which, let us suppose, she consistently affirms. Which is to say, Nausicaa says to herself 'the animal is a mule'. Since a judgment is a silent statement, Nausicaa has formed the judgment (*doxa*) that a certain animal is a mule. The example *doxai* in the *Theaetetus* are slightly more complicated, since in that case thought results in obvious contradictions (*Thaetetus* 190b). However, my example illustrates the simplest case of *dianoia* as a process: concluding a final judgment from antecedent judgments. Thought and speech share the formal feature of being processes.

The second formal feature of thought and speech is that the steps in discursive thinking affirm or deny, as do the steps in speech. T1 describes the soul asking questions and replying to itself. T1 spares us some details, but a parallel passage at *Philebus* 38c1-e2 describes the soul asking itself 'what is that over there?' and offering replies before coming to the soul's settled internal answer. The picture of thought and speech as both affirming and denying leaves out some speech acts, such as commanding, and some psychological attitudes, such as supposing. Neither a command nor a supposition asserts

---

[15] That Plato has something like the following in mind is confirmed by the *Philebus* passage that we will discuss shortly.

or denies one thing of another. But even if some speech acts or psychological attitudes do not affirm or deny, Plato stresses that inferential thought and speech both involve affirmation and denial.

The third formal feature follows from this. Just as the results of discussion can be false, so the results of thinking can be false.[16] Indeed, the claim that thought is silent speech partly constitutes an account of false-judgment, so would be seriously flawed if thinking could not result in false judgments. T1 does not explain how judgments can be false, but the *Sophist* does. Composition leads to fallibility. Like Socrates in the *Theaetetus*, the *Sophist*'s Eleatic Visitor defines a judgment as a silent statement (263e3-5), which amounts to a silent affirmation or denial (263e10-264a3). This allows the visitor to import to the cognitive realm the semantic account of falsehood he established earlier.

This semantic account of falsehood argues that both judgments, elements of thought, and statements, elements of speech, are compounds. A statement or judgment is a compound of non-like types (262b1-d6). In the simplest case, those types are a noun (*onoma*) and a verb (*rhema*). Neither a string of nouns, 'lion stag goat' nor a string of verbs 'walks runs sits' state anything.[17] To state something, an agent must attach a verb or its denial to a noun.

False statement comes about when an agent puts together the wrong verb with a name. A statement like 'Theaetetus sits' names 'Theaetetus' and asserts 'sits'. The name

---

[16] (Burnyeat 1990, 84); (Denyer 1991, 112); (McDowell 1973, 205).
[17] Plato endorses composition as necessary for statements and beliefs to have semantic properties. (Denyer 1991, 166-7) argues that Plato also endorses the Fregean view (Frege, Geach, and Black 1951) that the semantic features of the statement are a function of the semantic features of the parts. That Fregean view, when adapted to Plato, seems unsustainable (Denyer 1991, 168–9) cf. (Dummett 1973, 211–19).

picks out whatever has an assertion (or denial) made of it, the verb what is asserted (or denied). An agent makes a false statement when putting together the wrong verb with a name, for example, 'flies' with 'Theaetetus'. Assuming TIS, this account transfers to doxastic states (264a-b). Judgments are false when the wrong concept is mentally asserted or denied of some subject. For Plato, composition explains how the steps or results of thought can be false.[18] Thought and speech can both have false results, because the steps in each process, as well as the results of each process, are composites.

Fourth, norms govern both thought and speech. Although there may be other norms for thought and speech, non-contradiction is key for Plato. One reason to think this: Socrates introduces the TIS model to help refute the *allodoxia* ('other-judging') account of false judgment (*Theat*. 189c1-5). *Allodoxia* occurs when 'someone asserts that one of the beings is another of the beings after she exchanged one thing for another in thought (*dianoia*)' (189c1-2).[19] The exchange is between mutually incompatible properties of an object (189c5-8). Mutually incompatible pairs of properties would be those such as beauty and ugliness (*Theaetetus* 189c6; 190b3; 190d1), justice and injustice (*Theaetetus* 190b3), odd and even (*Theaetetus* 190b7), ox and horse (*Theaetetus* 190c2),

---

[18] (Denyer 1991, Chapter 9).

[19] Ἀλλοδοξίαν τινὰ οὖσαν ψευδῆ φαμεν εἶναι δόξαν, ὅταν τίς <τι> τῶν ὄντων ἄλλο αὖ τῶν ὄντων ἀνταλλαξάμενος τῇ διανοίᾳ φῇ εἶναι. (189c1-2). We have to emend the text somehow. The sentence is not grammatical, although the best manuscripts transmit it. I have translated the text of Duke *et. al*. who follow Burnet in adding a <τι>. (Burnyeat 1990, 322n42) suggests '*anti tinos*' would better fit the context, since the Duke text already makes clear what the problem with *allodoxia* is, before Socrates refutes it at 190b-e. I myself think that Burnet's reading is plausible, since it is ambiguous. Taken as a product, *a thought*, the sentence exposes the error already, so tipping Socrates' hand. But read as a process, *thinking*, the sentence suggests that the agent made a mistake in the cognitive process. This is not the problem identified by Socrates. Further discussion of how one might emend this text can be found in (Crivelli 1998, 3–5).

9

and two and one (*Theaetetus* 190c3).[20] An agent has a false judgment just in case the agent judges that an object, *x*, has some property, *F*, when in fact *x* has an incompatible property, *G*. Importantly, the agent is trying to form a true judgment, but, through a failure, selects the wrong property out of the set of incompatible ones.[21] The false judgment results from making the wrong choice.[22] *Allodoxia* is exchanging one property for an incompatible one in a judgment and that exchange may take place during the thought process, when the agent is attempting to form a true judgment.[23]

Socrates attempts to refute the *allodoxia* account by *reductio*. Suppose Nausicaa thinks about a beast named 'Hemionos'. Nausicaa judges (i) 'Hemionos is a horse'. Hemionos is actually a mule. Plato here seems to assume that the name 'Hemionos' can be substituted for an existential generalization, 'a mule', even within the opaque context of Nausicaa's judgment. Given such a substitution principle, (i) entails that (ii) Nausicaa judges that a mule is a horse. But, by TIS, (ii) entails that Nausicaa *says to herself* 'a horse is a mule', albeit silently. This statement, 'a horse is a mule', is unacceptable, and so Socrates rejects the *allodoxia* account of false judgment. Socrates does not tell us, at this stage, precisely how obviously contradictory judgments could come about. But here is one suggestion. The *allodoxia* account of false judgment posits that false judgment arises from the exchange of one thing for another in thought (*dianoia*). As I mentioned,

---

[20] These examples are cited in (Crivelli 1998, 5).

[21] The analogies that Socrates gives for forming a false judgement, namely missing a target (*Theaetetus* 189c3) and putting shoes on the wrong feet (*Theatetus* 193c5-d2) both suggest that something has gone wrong during an goal-directed action. These analogies are further discussed in Crivelli 1998, 12.

[22] This option corresponds to Crivelli 1998, 8-9, the 'C' reading, which Crivelli marginally favours.

[23] For an alternative view about what 'other-judging' amounts to, see (Sedley 2006, Chapter 5).

that could mean the exchange of one thing for another during the thinking process. Imagine, then, a process like the one described below.

Nausicaa sees an animal, Hemionos, in a field and she judges that (i) 'Hemionos is a horse'. On further investigation, she learns that all the animals in that field are mules. She silently affirms that (ii) 'all animals in that field are mules'. (i) and (ii), however, commit Nausicaa to holding that Hemionos is a horse and a mule. The result is that Nausicaa judges that a horse is a mule. But, since thought is silent statement, this is equivalent to silently saying that 'a horse is a mule'. It is easy to see, then, on the model presented in the *Theaetetus*, how a self-contradictory opinion could come about.

'A horse is a mule' is unacceptable because it is an obvious contradiction. Although 'a horse is a mule' does not have the form '*p* and not-*p*', the statement is an obvious contradiction because it asserts obviously incompatible properties of something. Thus, Socrates rejects such obvious contradictions and judgments of the same form. Judgments and statements of the form '*a* is *F* and un-*F*' are unacceptable. Plato worries, at this point, that an agent might end up with a judgment or statement that asserts obviously incompatible predicates of one subject. Non-contradiction is a norm for thinking and discussing: thinking or discussing should not result in judgments or statements of the form '*a* is *F* and un-*F*'. Of course, deriving a contradiction might be a crucial step in thinking or discussing, in a *reductio ad absurdum* argument, for example. But the final result of thinking or discussing should not be a contradiction. Hence, non-contradiction is a norm.

The norm tells us what form the result of thought and speech should have. This norm governs the result, not the process itself. But the non-contradiction norm regulates

the process of thinking in virtue of being a norm for the result. Since we should not reach a contradictory thought or statement, we cannot think or speak in any way we choose. Although there are many possible thought or speech processes at least some are ruled out: namely, those processes that result in contradictions. The point is analogous to a simple norm governing the outcomes of actions, such as 'do no harm'. 'Do no harm' leaves us with many courses of action, but does rule some out, namely those that result in harm. 'Do no harm' regulates action because it directly regulates the outcome of the action.

There is a norm, non-contradiction that governs the outcome of the process. This grounds a second norm: do not follow a process which would result in a contradiction. Here is an analogy. 'Hit the target' is a norm that governs archery. This grounds a second set of norms about aiming, drawing, bow-craft and so on. Without this second set of norms, simply firing arrows at random, but hitting the target, would count as following the norms of archery. So 'hit the target' must ground this second set of norms, governing how to aim and fire a bow. Likewise, the non-contradiction norm governing the outcome of the speech process grounds a second norm, do not follow a process that would result in a contradiction. In short, a principle can ground a norm for a process by being a norm for the outcomes of that process. For Plato, non-contradiction is a norm for the thinking process grounded in the norm that contradictory judgments are not permissible outcomes of thinking and contradictory statements are not permissible outcomes of discussions.

Plato holds that the TIS doctrine amounts to, at least, the view that thought and speech share the following formal features. Both are (i) processes (ii) whose steps involve affirmation and combinations (iii) the results of which can be false (iv) and which are

norm-governed. Aristotle also thinks that thought and speech share these four formal features, as I will now show.

2 Thought and internal speech in Aristotle

Aristotle connects thought and speech. I will mention a few texts to suggest that thought and speech share pertinent characteristics, then I will argue that, like Plato, Aristotle holds that thought and speech share the four formal features mentioned above. In *De Interpretatione* at 16a13, Aristotle asserts that spoken sounds symbolize affections in the soul. Then at 16a9-18 Aristotle identifies a feature shared by a thought (*noêma*) in the soul (*têi psuchêi*) and spoken utterances (*têi phônêi*). Just like utterances, some thoughts are truth apt. Aristotle here does not compare specifically discursive thinking to speaking. '*noêma*' is a general term for mental events, not specifically discursive mental events. But a little later, at *De Interpretatione* 23a32-6, when he discusses contrary statements and judgment, Aristotle supposes that 'the things in speech follow those in thought (*dianoia*)'. Here, Aristotle proposes that thoughts correspond to spoken items. So thought and speech are both truth apt and 'contradiction-apt'. Aristotle, then, thinks of the elements of speech, statements, and the elements of discursive thought, judgments, as sharing at least some features.

Being a process is one of the features that thought and speech share, according to Aristotle. As we will see, for Aristotle thinking and speaking involve combinations; combining is a process; so, thinking is a process. But for now, we can see some places where Aristotle draws parallels between thinking and speaking as processes. At

Metaphysics IV 1006b8–9, Aristotle points out that if some predicate signifies indefinitely, one cannot 'discuss things with each other or, in truth, with oneself' (1006b9-10).[24] The process of discussion with other people shares a feature with internal discussion: both require that predicates signify definitely. Not only are thinking and discussing of a kind but also one is internal and one external. *On the Senses* 437a4–17 points out that audible speech ('*ho logos akoustos*') causes learning, but only because audible reason corresponds to internal reason.[25] *Posterior Analytics* 76b25 is even more explicit that speech comes in 'external' and 'internal' varieties, using the labels '*exô logos*' and '*esô logos*'.[26]

The second formal feature that thinking and speaking share is assertion and denial. Like Plato, Aristotle describes the components both of thinking, judgments, and of speaking, statements, in terms of assertion and denial. At *De Interpretatione* 24b1, Aristotle makes the point that voiced assertions and denial are tokens of things in the soul, namely, judgments.[27] *Nicomachean Ethics* 1139b15 echoes this. Aristotle enumerates five ways in which the soul can attain truth, by assertion or denial. In both of these passages, Aristotle simply identifies the linguistic and psychological assertion and denial, making a clear case that stating and judging share this formal feature.

---

[24] In Greek: τὸ διαλέγεσθαι πρὸς ἀλλήλους, κατὰ δὲ τὴν ἀλήθειαν καὶ πρὸς αὑτόν. Plato uses similar vocabulary to make these points. Plato uses διαλέγεσθαι and πρὸς αὑτὴν at *Theaetetus* 189e6-8 and πρὸς αὑτὴν διάλογος at *Sophist* 263e4 to describe the soul speaking to itself.

[25] Compare *Sophist* 264a2, where the stranger uses the expression μετὰ σιγῆς to refer to the internal speech and *Theaetetus* 190a6 σιγῇ πρὸς αὑτόν. Like Aristotle, Plato contrasts the voiced, audible speech with the silent, internal one.

[26] *Sophist* 263e4 uses ἐντὸς to refer to 'internal' speech and, of course, λόγος for statement.

[27] Cf. *Sophist* 263e4 where the speech in the soul is 'without voice' (ἄνευ φωνῆς).

The third formal feature of thought and speech is that both judgments and statements can be false. Aristotle is committed to this parallel: statements are affirmations or denials (*De Interpretatione* 17a25-6) and both statements and judgments must be composite to be true or false *De Interpretatione* 16a32-b5; Cf. *De Anima* III 6 430b2-3). Indeed, Aristotle develops an extended psychological account of how we form these composites.   The thrust of *De Anima* III 6 is that *nous* grasps concepts separately. This basic mental action of *nous* cannot be false.[28] But, once grasped, the concepts, such as 'diagonal' and 'incommensurable' can be combined. I could combine 'diagonal' with 'incommensurable' or with 'commensurable'. This synthesis produces results that may be false. Aristotle says as much at *De Anima* III 6 430b2-3: 'for the false is always in synthesis', by which he means that only combinations can be false. He gives the example that 'the pale thing is not pale' (430b2-3). These mental combinations are affirmative judgments, unities created by the mind: 'the mind (*nous*) makes a unity in each case' (430b5-6) (Polansky 2007, 474).

These combinations relate to doxastic states because a judgment combines a certain thing with another. In *Metaphysics* VI 4, Aristotle affirms that thought (*dianoia*) is the bearer of truth and falsehood (1027b25), and details how thoughts can be truth-bearers.[29] Judgments are attitudes towards objects (*Metaphysics* VII 4). Specifically, a judgment either attaches (predicatively) A and B or separates A and B. In each case, A is

---

[28] (Polansky 2007, 473).
[29] For other sorts of truth-bearers in Aristotle, see (Crivell 2004, Chapter 1).

the object of judgment. The basic mental attaching or separating A and B is equivalent to the linguistic action of predication.[30]

Metaphysics VI 4 tells us what mental affirmation and denial amount to. In an affirmative judgment, one item is joined to another. In a denial, one item is separated from another (1027b30-31. Cf. *De Interpretatione* 16a9-18).[31] Thus, when *a* has an affirmative judgment that Callias is pale, *a* combines Callias with pale in *a*'s thought. When *a* mentally denies that Callias is pale, *a* separates Callias and pale in *a*'s thought. The precise psychology of these mental acts is debated.[32] But clearly even mental separation must involve combination in some sense: combination into a single mental-state. Without this, there would be no difference between thinking that Callias is not pale and thinking of Callias then later thinking of paleness. Thus, each doxastic state results from a mental act that composes elements into a unity. This compositionality makes doxastic states truth apt.

Fourth thinking and speaking share the norm of non-contradiction. Like Plato, Aristotle takes non-contradiction to be a norm for discursive thinking. *Prior Analytics* II 21 provides some evidence. The chapter as a whole is concerned to explain how one may judge that, for example, A belongs to B, while knowing that A does not belong to B. The passage makes clear that it is a mistake to think that A belongs to B and does not belong to B. *Prior Analytics* II 21 66b34-67a5 goes on to point out that, if we are thinking

---

[30] *De Int.* 16a8-18 repeats this conception of thought. In both *De Int.* and *Metaphysics* vi 4, Aristotle contrasts thoughts in combination, the object of my investigation, with thoughts of simple things. How thoughts of simple things bear truth and falsehood for Aristotle is a matter of controversy, compounded by the fact that Aristotle seems to contradict himself on the issue (cf. *Metaphysics* ix 10). See (Crivelli 2004, 62-71).

[31] Cf. (Brentano 1930, 18); (Maier 1886, 24–5); (David Ross 1953, 26); (Kirwan 1971, 199).

[32] Cf. Crivelli 2004: 70; (Caston 1998).

correctly, we will not end up with any obviously contradictory judgments, such as A belongs to B and does not belong to B. Aristotle argues that we cannot hold judgments whose consequences are contradictory, because if we infer correctly, we will know that the judgments are contradictory. Wrong thinking results in an obviously contradictory judgment.[33] Non-contradiction is as a norm for language at *De Interpretatione* 17b26-36 and as a norm for dialectical debate at *Sophistical Refutations* 165a1-4, where Aristotle defines a 'refutation' as a 'deduction of the contradictory'. Non-contradiction is a norm there since, if my opponent deduces the contradictory of a statement I defend, I ought to abandon the statement that led to that refutation.

In summary, Plato and Aristotle both hold that thought and speech share formal features. Thought and speech are processes, the elements of which are combinations and hence truth-apt. The results of the thought process and the speech process can be false, that is, the process can move from a true statement or cognitive state to a false one. For both philosophers, norms, especially non-contradiction, govern thought and speech. So, to this extent, Plato and Aristotle could agree that thought is internal speech. Sections 3 and 4 argue that, despite this broad agreement, there are key contrasts between how each philosopher cashes out TIS. For Plato internal speech is internal dialogue, while for Aristotle internal speech is internal monologue. This difference implies that the norm of non-contradiction has a different source in each case, which I discuss in section 5.

3 Plato's internal dialogue

---

[33] A further passage where Aristotle points out that consistency is a norm for belief is *Metaphysics* IV 3 100b24-5, which I discuss below. See also *De Int.* 16, 23a33-37.

Few doubt that internal speech in Plato is dialogical (maybe (Brinkmann 1997, 32) who calls it a 'monologue'), but some debate the details of this dialogical character. One view is that internal speech is dialogical in the sense that whole viewpoints have advocates within one soul (Long 2008); (McCabe 2000, 275). I do not need anything so strong to show that Plato and Aristotle differ. As we will see, I argue that self-persuasion grounds the norm of non-contradiction for Plato. For this, I only need show that internal speech is dialogical in the weaker sense that any obviously contradictory statement does not persuade one element in the soul and hence the whole soul is not persuaded. This is compatible with a more modest reading of internal dialogue.[34]

In the *Philebus*, Socrates engages Protarchus' claim that pleasures are neither true nor false and makes a detour into our cognitive abilities:

(T2) Isn't it necessary for us to think things happen this way…someone seeing something in the distance not completely clearly wants to discern (*krinein*) what it is that he is seeing…after that, he might ask himself something like this… 'what on earth appears (*phantazomenon*) to be standing by the rock under the tree?' Does it seem to you that someone might say such a thing to himself, when such a thing appeared (*phantasthenta*)?... and wouldn't he, as if answering himself, hit the mark and say that 'it is a man'…or he might wrongly suppose it is the work of some shepherds and say 'it is a statue'…now suppose that there is someone else with him and he articulates to the other man what he had said to himself. What at

---

[34] Such as that of (Long 2013, 115–126).

one point we called 'judgment' (*doxa*) becomes a statement (*logos*) (*Philebus* 38c1-e2).[35]

The *Philebus* account of thought as silent dialogue concerns inquiry. (T2) describes the move from a sub-doxastic state, having an appearance, to a doxastic state, having a judgment. Indeed, inquiry features in the *Theaetetus* discussion too. The first sentence of (T1) tells us that thinking is the soul having an internal dialogue 'about things it may examine'. But inquiry comes to the fore in (T2).

The norms for internal dialogue in (T2) are the norms of dialogical interaction. In particular, the norms for persuading another agent govern internal dialogue. In the middle of (T2), Socrates reminds Protarchus that the internal interrogation is the same as an external one (38e1-5). (T2) points out that this inquiry aims to accurately discern (*krinein*) one thing from another. But, like the *Theaetetus* case, internal dialogue in the *Philebus* aims at convincing the agent an appearance is actually an appearance of, for example, a man. The process begins with an appearance. The next step questions that appearance, attempting to determine how things are: whether the object under the tree is a man or a statue. This may continue for some time (*Philebus* 38e5-7), through silent questions and affirmations or denials. Eventually, the inquiry concludes and a silent statement is recorded in the 'soul-book' by a scribe (*Philebus* 39a5).[36] This suggests that

---

[35] My translation is based on Moss (2014). (Long 2013, 113 n. 9) points out that Plato is very careful to employ the same vocabulary here as in the *Sophist* and *Theaetetus* passages: διανοούμενος at 38e6-7; δόξα at 38e3 and λόγος at 38e3.
[36] (Moss 2014, 6).

the norms governing this process are the norms of collaborative inquiry. The result is a judgment, that is, being persuaded of a certain identification.[37]

(T2)'s focus on inquiry further evidences internal speech in Plato being internal dialogue, since inquiry in Plato is often dialogical. A typical Socratic inquiry attempts to identify some concept, usually an ethical concept. Socrates stresses that finding identity conditions is an epistemic endeavor: he searches for people who, ostensibly, know what the concept is, and tests their knowledge claims (*Apology* 21b-32b; *Euthythro* 4e; *Hippias Major* 286e; *Republic* 337-8; *Meno* 77b; *Meno* 78c). Socrates does this by asking questions and drawing inferences on the basis of the interlocutor's prior commitments, until he exposes inconsistency (*Euthythro* 7a-8a; *Laches* 198a-199e; *Charmides* 160b; 161a; 163a; 164c; 176a). In the Socratic case, dialogical considerations enforce discursive norms, like consistency, and epistemic norms, like accuracy (that is, attempting to give accurate information to your interlocutor), at least in so far as such norms are enforced. This is a strong resemblance to the *Philebus* discussion of thinking as internal dialogue, which itself seems to take the features of Socratic interrogation as its model for internal dialogue. Note that the reverse does not obtain. Although *dianoia* is internal discussion and takes the norms over from Socratic discussion, it does not follow that Socratic discussion is a sort of *dianoia*.

Internal speech in Plato, then, is dialogical to the extent that the soul asks questions and answers them. I argued for this because of: the specific description of the question and answer process given in (T2); the recurrent Platonic view that inquiry involves dialogue; and the evidence, from (T1) and (T2), that internal speech is inquiry.

---

[37] Taking identification as key is suggested by (Frede 1989, 29).

If investigation involves dialogue and thought is investigation, then thought involves dialogue. So internal speech in Plato is dialogical.[38]

4 Aristotle's internal monologue

For Aristotle, even though thinking is internal speech, internal speech need not be dialogical. Aristotle reveals this when he explicitly contrasts internal and external *logos*:

> (T3) Deductions (*sullogismos*), and therefore demonstration (*apodeixis*), are not addressed to external argument (*exô logon*), but rather to argument in the soul, since you can always object to external argument, but not always to internal argument (*esô logon*) (*Posterior Analytics* 76b22-26. trans (Barnes 1994)).

(T3) argues that a deduction or demonstration are aimed at *logos* in the soul, called 'internal *logos*', not at external *logos*. Part of the grounds is that internal *logos* and external *logos* are not of a kind. Internal *logos* and external *logos* are not of a kind because (a) it is always possible to object to external *logos*, but (b) it is not always possible to object to internal *logos*. Although, presumably, is it *sometimes* possible to object to internal *logos*. Aristotle often uses the verb I translated here as 'object' (*enistêmi* and cognates), to mean present a counter-example to a deductive argument (*Prior Analytics* 69b6). This sense of 'object' use would fit the context of (T3), where

---

[38] The internal interlocutor, who must be persuaded, need not be hostile. There are good reasons to think that the two internal discussants are collaborating to reach a persuasive answer (Long 2013, 126).

deductions and demonstrations are under discussion. (T3), then, should be understood as contrasting internal and external *logoi* because one can always present a counterexample to an external argument but not always to an internal one.

Why does this suggest that, for Aristotle, internal *logos* need not be dialogical? If internal argument need not have a dialogical structure, then we can explain why it is sometimes impossible to present a counter-example to an internal argument. First, Aristotle cannot have in mind lack of imagination: maybe I cannot object simply because I have not thought of a counterexample. But if that were Aristotle's thought, then it would equally apply to an external *logos*, so would not show an asymmetry between internal and external *logos*. So why is it sometimes impossible to present a counter-example to internal *logos*? A monologue is a chain of assertions, not questions and answers, presented without an audience.[39] Suppose I present an internal, monological argument: 'All men are mortal; Hector is a man; so Hector is mortal'. In this case, there is no counter-example. So no matter how hard I try, I cannot find one. Since there is only one agent, myself, doing the reasoning, I cannot even give an *ersatz* counterexample. There is no one to present such a phony objection to. So, if we imagine internal *logos* to be monological, then we can explain Aristotle's claim that we sometimes cannot object.

Why, on this reading, can one always object to external *logos*? In an external *logos*, whether I argue with an interlocutor, lead a co-operative discussion, or simply present a chain of reasoning to an audience, an interlocutor can always offer a counter-

---

[39] Thus, for example, Hamlet's famous existential meditation would not count as a monologue in this sense, because he asks himself questions ('To be or not to be?'). Puck's epilogue from A Midsummer Night's Dream ('If we shadows have offended…') would also fail to count as a monologue in this sense, as it has a audience, albeit a theatre audience, rather than a character in the play.

example. That counterexample might be legitimate or it might be *ersatz*, but it can always be offered. For example, I present the argument 'Achilles is running; so, Achilles is moving' to an interlocutor. My interlocutor refuses to acknowledge the argument and offers the following counterexample: 'This tap is running; but, this tap is not moving'. An interlocutor can offer mistaken, captious or meretricious objections, even though the interlocutor, perhaps, should not offer such objections. But an external argument can always be objected to.

In (T3), Aristotle countenances that it is *sometimes* possible to object to internal argument. But, it seems, if it is possible to object to internal argument, is there not an objector? And if there is an objector, then is there not some sort of internal interlocutor? This would damage my claim that internal *logos* is monological, in Aristotle. However, if 'object' here means 'present a counterexample' then an objection does not need an internal interlocutor. An agent who presents a deduction to herself can search for counter-examples to the inference; when the inference is valid, no counter-example can be found. When the inference is invalid, a counter-example may be found. In fact, one might think that this search for counter-examples to ones own deductions or demonstrations characterises mathematical practice. Mathematicians often check for counterexamples to their proofs. Clearly, it is sometimes possible to present a counterexample to internal logos, without an internal interlocutor. (T3) shows, then, that internal *logos* is monological.

(T3) also suggests something about the nature of this internal monologue: it is inferential, in the sense that it concludes with a judgment. Aristotle focuses on showing that demonstrations are internal *logoi*. We know from elsewhere that a demonstration is a

sort of syllogism (*Prior Analytics* I 4, 24b30; I 42, 41b1; *Posterior Analytics* I 2, 71b18; 72a26), and T3 repeats that. Thus, the internal *logos* may have syllogistic form. But if the internal *logos* is syllogistic and a syllogism is an inference, this sort of thought is not only internal monologue, but also internal inference.[40] Indeed, Aristotle suggests a mechanism for internal inference. We saw above that the elements of thought, judgments, are combinations. So inference may recombine the elements of the set of judgments.[41] In *Prior Analytics* II 21, Aristotle explains how one may know the premises of an argument, but still fail to know the conclusion:

> (T4) Nothing prevents someone from knowing that A belongs to all B and, again, that this B belongs to C, while not knowing that A belongs to C, for example, that all female mules are infertile and this is a female mule while believing the same one is pregnant. For he does not know that A belongs to C unless he co-reflects on that <predicated> of each one of the two (μὴ συνθεωρῶν τὸ καθ᾽ ἑκάτερον). (*Prior Analytics* II 21 67a34-7).[42]

(T4) takes a simple case where the error arises: (a) Nausicaa knows that all mules are infertile (b) Nausicaa knows that this creature is a female mule but (c) Nausicaa does not know that this creature is infertile. Aristotle points out that (a)-(c) can obtain together, not

---

[40] Of course, external *logos* may also be inferntial too. As far as my argument here is concerned, Aristotle can hold that both sorts of *logos* may be inferential. I thank this paper's referee for this point.

[41] On this see *Pr An*. 25b30-34. Panaccio 1999, 44 suggests this sort of reading.

[42] My translation is based on Smith 1989: *ad loc*, modified and following a suggestion by one anonymous reviewer. For general discussion of this passage and deductive mistakes in Aristotle see: (LaBarge 2004); (Morison 2011); (Ferejohn 1988, 108); (Gifford 1999).

because of a difference between two senses of knowing, but because Nausicaa does not know the conclusion that this creature is infertile unless she 'co-reflects on that <predicated> of each one of the two'. The expression I translated as 'co-reflect' is rarely used in Aristotle, and only once with the sense of re-combining concepts in thought.[43] The 'concept according to each' of 'this creature' and 'infertile' is the concept that connects the two, namely, 'female mule', which suggests that co-reflecting is mentally putting concepts together to arrive at a conclusion. Clearly, the psychological mechanism of inference re-combines elements of thought to move from premises to conclusion. Judgments are combinations of elements, concepts. Re-combining those elements incorrectly can lead from true judgment, or, indeed, knowledge, to a false judgment.

Aristotle holds that thought is internal monologue with an inferential structure; Plato agrees that thought is inferential, but holds that thought is internal dialogue. Thus, Plato and Aristotle differ on the structure of the internal speech. Yet both share a commitment to non-contradiction as a norm. Given the divergent structures of internal speech, how can Plato and Aristotle ground this norm in the same way? We will see in the next section how each thinker makes non-contradiction a norm.

5 The norm of non-contradiction

For Plato, non-contradiction is a norm of rational persuasion, enforced by the internal interlocutor. At the conclusion of the refutation of the *allodoxia* account, Socrates says to Theaetetus:

---

[43] The other places are *Parts of Animals* 645a12 and *Eudemian Ethics* 1245b4.

(T5) Now try to think if you have ever said to yourself 'surely the beautiful is ugly' or 'the unjust is certainly just'. Or – to put it in the most general terms – have you ever tried to persuade yourself that 'surely one thing is another'?... And do you think that anyone else, in his right mind or out of it, ever ventured seriously to tell himself, with the hope of winning assent, that 'a cow must be a horse' or 'two must be one'? (*Theaetetus* 190b2-c3) (Trans. Levett/Burnyeat).

(T5) claims that to persuade either yourself or someone else of some *p*, *p* should not be an obvious contradiction. That is, *p* should not have the form '*x* is *F* and *x* is not *F*'. If I offer an obviously contradictory claim as persuasive, either to myself or to someone else, then I am going about persuasion the wrong way. Holding a judgment is self-persuasion.

According to (T5), the presence of the internal questioner grounds the norm of consistency. The dialectical structure of internal dialogue explains the norm of non-contradiction. In a genuine dialectical encounter, with an external interlocutor, the interlocutor will not be persuaded if you assert 'a horse is a mule' or any other obviously contradictory statement. Violating consistency in dialectic renders the speaker unpersuasive. Socrates articulates this in the *Apology*:

(T6) You cannot be believed, Meletus, even, I think, by yourself… He is like one who composed a riddle and is trying it out: 'Will the wise Socrates realize that I am jesting and contradicting myself, or shall I deceive him and others?' I think he contradicts himself in the affidavit, as if he said: 'Socrates is guilty of not

believing in gods but believing in gods', and surely that is the part of a jester.

(*Apology* 26e- 27b Trans. Grube Cf. Gorgias, *Defence of Palemedes* DK 82 B 11,

§25).[44]

In external speech, a speaker, like Meletus, cannot convince his audience if he utters an obvious contradiction. Equivalently, if a thinker violates consistency, she cannot persuade herself. That is, she cannot form that judgment. It is well known that in certain formal dialectical games apparently developed in the Academy obvious contradiction was a losing condition and ended the game.[45] But in the informal, freewheeling dialectical encounters pursued by Plato's Socrates, contradictory assertions are possible, and do not necessarily end the discussion.[46] Nonetheless, contradictions violate a norm and cause the loss of credibility.[47]

In an external dialogical context, the norm of non-contradiction can be broken. Even if one demonstrates that two views are incompatible, an interlocutor can refuse to reject either of them. For example, in the *Gorgias*, Callicles never obviously abandons any of the commitments that Socrates has shown to be incompatible. Indeed, Callicles can simply refuse to discuss matters further (*Gorgias* 505b11-c2). *Euthythro* 8a shows a similar pattern. This suggests that in external dialogue non-contradiction is an evaluative

---

[44]cf. (Castelnérac and Marion 2013, 9)

[45] E.g. *Topics* viii 159a15-25.

[46] Indeed, arriving at an impass may spur the next stage of a Socratic discussion, as in the *Lysis* and the *Theaetetus*.

[47] I will not pursue in detail why asserting an obvious contradiction violates a norm for being persuasive. One suggestion is that obvious contradiction shows the speaker to be an unreliable witness. Another is that explicit contradictions are obvious falsehoods and anyone who asserts one violates a norm like Grice's maxim of quality ('Do no assert anything you believe to be false') (Grice 1991, 26–27) .

norm. Violating that norm means that you are not performing the activity correctly, but one can still perform the activity and not respect the norm.

This contrasts with judgment, that is, internal statement. We saw above that, on Plato's model, judging that *p* is persuading oneself that *p* in an internal dialogue. We have now seen that, although a speaker can assert a contradiction, a contradiction can never be persuasive in dialogue. Since a contradiction can never be persuasive and judging *p* to be true is being persuaded that *p*, an agent cannot judge a contradiction to be true. Precisely this point is stressed in (T6). It is impossible to persuade oneself of an obvious contradiction, so it is impossible to judge one to be true. While external dialogue can violate non-contradiction, internal dialogue cannot. Non-contradiction is an evaluative norm in external statement, but a constitutive norm for internal statement, i.e., judgment. We will see that Aristotle shares this conception of non-contradiction as a constitutive norm for judgment, but Aristotle has rather different reasons for that view.

For Aristotle non-contradiction is a norm for discursive thinking. Since Aristotle's internal speech lacks a dialogical form, the norm of consistency cannot be grounded in the dialogical form. Why, then, is consistency a norm for thinking in Aristotle? I suggest that Aristotle's discussion of the Principle of Non-Contradiction in *Metaphysics* IV 3, which connects the PNC with a thesis about judgment (*doxa*), can shed light on this question. In *Metaphysics* IV 3, Aristotle discusses what the firmest principle is (1005b8-18).[48] One cannot make mistakes about such a principle. Aristotle then argues that the Principle of Non-Contradiction fits this specification.[49] One cannot make mistakes about

---

[48] (Lukasiewicz 1979, 59); (Wedin 2004, 225–235).
[49] Some question whether Aristotle can show that the PNC is the only principle that fits this specification (Wedin 2004, 227–8).

the PNC because one cannot judge a contradiction to be true. If one cannot judge a contradiction to be true, then consistency is a norm for thinking. Here, I am interested in how Aristotle argues for the Doxastic Thesis (DT) that one cannot judge a contradiction to be true. Call this the Doxastic Argument.

The Doxastic Argument begins by stating the PNC:

(T7) It is impossible that the same thing belongs (*huparkhein*) and does not belong to something at the same time and in the same way (*Metaphysics* IV 3 1005b19-20. Trans. Kirwan modified)[50]

Aristotle formulates the principle in his typical fashion. When F is an attribute and x is a object, PNC says: it is not possible that, for some x, x is F and x is not F. Aristotle's preferred formulation of the PNC speaks about not only what is and is not actual, but also what is and is not possible.[51] Second, note that this version of the PNC is limited to simple states of affairs. PNC asserts that the state of affairs that x is F and x is not F is impossible. This formulation of the PNC would not cover, for example, complex propositions, such as '(p or q or r) and not-(p or q or r)' (Kirwan 1971, 89). This would require a more general formulation of the PNC.

---

[50] There is some debate over how to characterise the PNC here. (Wedin 2004, 234) distinguishes an ontological PNC, namely, $\neg\Diamond(\exists x)(Fx \land \neg Fx)$ from a logical PNC, which ranges not over things, but over statements and has the form $\neg\Diamond(\exists p)(p \land \neg p)$. The latter may be attested at *Metaphysics* IV 4 1006a1. In any case, it is agreed that Aristotle relies on a principle of the first sort in the doxastic argument.

[51] The modal aspect of this PNC is stressed by (Kirwan 1971, 89); (Wedin 2004, 219). There are conceptual worries about formulating the PNC in modal terms. Formulating the PNC in modal terms relies on quantified modal logic, which has been thought suspect since Quine (Quine 1943); (Quine 1947). Nonetheless, this is clearly Aristotle's formulation of the principle.

Aristotle states the conclusion that he aims at, the Doxastic Thesis:

(DT) It is impossible for anyone to believe that the same thing is (*einai*) and is not (*Metaphysics* 1005b23-4. Trans. Kirwan).[52]

Aristotle gives the following argument to show the DT follows from the PNC:

(T8) If it is not possible that opposites (*tanantia*) belong to the same thing at the same time… and judgment (*doxa*) opposite to an opinion is the opinion of the contradictory, it is clear that it is impossible to believe that the same thing is and is not the same thing. For the person who makes a mistake about this would have opposite judgments (*Metaphysics* 1000b31-33. Trans. Kirwan, modified).

Two aspects of the Doxastic Argument are relevant to showing how consistency is a norm for thought in Aristotle. First, what precisely does the Doxastic Argument aim to establish, i.e., how should we understand the Doxastic Thesis? Second, what is Aristotle's strategy for establishing that conclusion?

DT could be read in two ways.[53] First, DT may mean it is impossible for someone to judge that given item, *x*, that *x* is *F* and not *F*. That is, it is impossible to judge to be

---

[52] Aristotle here uses 'is', which covers both predications ('*x* is *F*') and states of affairs ('*p* is the case'). DT, therefore, could mean that it is impossible to judge that *a* is *F* and *a* is not *F*. But DT could also mean it is impossible to judge that *p* and judge that not *p*. The latter formulation is more general. Some scholars have held that what I have labelled the 'doxastic thesis' is another version of the PNC, this time a psychological version (Lukasiewicz 1979, 51) (Gottlieb 2007). Provided, however, that all agree that Aristotle thinks that DT follows the metaphysical PNC, this nuance does not affect my argument.

true any instance that violates the PNC.[54] No one could hold, for example, of Achilles that Achilles is swift and not swift. Second, DT could be read as saying that it is impossible to judge that any item can be both *F* and not *F*. That is, it is impossible not to hold the general Principle of Non-Contradiction.[55] One cannot judge that the PNC does not hold. To clarify the scope ambiguity in a more formal manner, where 'R:' reads 'judges that':

DT1 $\quad \neg \Diamond (\exists x \exists y \exists F (xR : (Fy \wedge \neg Fy)))$

That is, 'it is not possible that there is someone, *x*, some thing, *y*, and some property *F* such that *x* judges that *y* is *F* and not *F*'.

DT2 $\quad \neg \Diamond (\exists x (xR : \Diamond \exists y \exists F (Fy \wedge \neg Fy)))$

That is 'it is not possible that there is someone, *x*, who judges that it is possible that there is some thing, *y*, and some property *F*, such that *y* is *F* and not *F*'.[56]

I distinguish DT1 and DT2 merely to make the point that DT2 can be excluded from my discussion. Aristotle, arguably, intends to establish DT2. For the PNC to fit the specification of the highest principle, the PNC itself must be the principle we cannot make a mistake about.[57] But, at best, Aristotle only manages to establish DT1.

---

[53] (Wedin 2000, 120–123); (Wedin 2004, 238) and (Gottlieb 2007) identify this ambiguity.
[54] (Barnes 1969, 305); (Cohen 1986, 367) commit to this reading; (Wedin 2004, 250) surveys this reading, but does not endorse it.
[55] Commentators who understand Aristotle to be aiming at this conclusion include: (Kirwan 1971, 90); (Wedin 2004, 252), although the latter thinks that Aristotle's argument needs some informal reasoning to get to the general conclusion.
[56] For this formalism see (Wedin 2000, 120–123); (Wedin 2004, 238).
[57] (Wedin 2000, 115).

Fortunately for me, DT1 suffices for my purposes. I am arguing that consistency is a norm for thinking in Aristotle. This does not require that any agent accept that norm, the PNC, as an explicit principle. The PNC could be a norm, indeed, a constitutive norm, on judgment, even without the judgers knowing that the PNC is a condition. Compare this with a physical law. Whether or not I judge it true that momentum is conserved, I cannot violate the conservation of momentum. Likewise, if PNC is a necessary law of thought, I cannot violate it. Whether or not I judge the PNC true, PNC could still be a necessary condition on my judgments. Hence the PNC is a norm for thought in the sense that it is a condition on any thought.

The second point concerns the strategy of the Doxastic Argument in (T8). Aristotle must aim to establish DT1, at least. There are two key premises in the Doxastic Argument. (1) If an agent has a contradictory judgment, then that agent is in contrary states. (2) Assuming PNC and that having contrary states implies having a state and not having it, nothing, including a cognitive agent, can have contrary states. Hence, (3) no agent can have a contradictory judgment.[58] Aristotle invokes PNC as part of his argument for DT. This move may appear circular but actually is legitimate. DT makes a claim about what an agent can believe, while PNC is a claim about what can be the case. The Doxastic Argument applies the PNC to cognitive agents to show that no agent can have contradictory judgments.

---

[58] There is widespread agreement on the general strategy of Aristotle's argument here. See (Maier 1886, I, 45, n.2); (Lukasiewicz 1979, 52); (Kirwan 1971, 89); (Wedin 2000, 116). More formal statements of the argument, but which understand it as having the same basic strategy, are given by (Barnes 1969) and (Wedin 2004, 236).

However, many have thought that an agent can have contradictory judgments without being in contrary states.[59] It is often thought that the first premise is false, or at least unsupported.[60] Some commentators have sought arguments for this premise in *De Interpretatione* 14: Alexander (*On Aristotle's Metaphysics* 270.24-5); (Lukasiewicz 1979, 53); (Dancy 1975, 6, 143–152). I myself will undergird the Doxastic Argument with some different material and the help of (Crivelli 2004). I will suggest that, given Aristotle's ideas about truth-makers, believing contradictories is to be in contrary states. Aristotle has good Aristotelian reasons to ground consistency in metaphysics.

To do this, I need to say something about truth-makers for Aristotle. I will call these 'states of affairs'. Aristotle's classic statement is given in *Metaphysics* IX 10 1051b3- 4: 'that person speaks the truth who thinks what is divided to be divided and what is combined to be combined and the person whose thinking is the opposite way to the things speaks falsely'.[61] Like thoughts, states of affairs are composite items (*Metaphysics* 1051b17-23). Aristotle gives the examples of 'a log's being white' and 'a diagonal's being commensurable' as examples of composite states of affairs (*Metaphysics* 1051b20-21). These examples suggest that a state of affairs combines either two universals or an individual with a universal.[62] For example, the state of affairs Callias is pale obtains when Callias combines with pale. That state of affairs does not obtain when Callias is divided from pale.

---

[59] (Lukasiewicz 1979, 52); (Barnes 1969); (Gottlieb 2007).
[60] (Lukasiewicz 1979, 52); (Dancy 1975, 6). (Barnes 1969, 307) disagrees, and thinks that the premise in question is true.
[61] Translation from Makin 2006, ad loc.
[62] Crivelli, 2004: 54.

Aristotle has two ways to combine A and B in thought: the affirmative attitude (that A combines with B) and the denying attitude (that A is separate from B). Taken together, this view of truth makers and truth bearers gives the following. Where A and B range over individuals or universals:

(i)   The (affirmative) thought 'A is B' is true only if A combines with B

(ii)   The (denial) thought 'A is not B' is true only if A is separate from B

(iii)   The (affirmative) thought 'A is B' is false only if A is separate from B

(iv)   The (denial) thought 'A is not B' is false only if A combines with B

For Aristotle, judging that A is B and judging that A is not B are opposite states. If *a* judges that A is B, *a* has an attitude towards A, namely that A combines with B. Likewise, if *a* judges that A is not B, *a* has an attitude towards A, namely, that A is separate from B. But this is to have two opposing attitudes towards the same thing, A. Several passages back this up, when Aristotle compares mental affirmations and denials with pursuing and avoiding (Crivelli, 2004: 61) (*De Anima* III, 7 431a8-17; *Nicomachean Ethics* VI, 2 1139a21-2. Cf. *Republic* IV, 437b-c). Mental affirmation and denial, like pursuing and avoiding, are relations to the same item. But mental affirmation and denial, like pursuing and avoiding are incompatible relations to the same item.

So we can see how to support Aristotle's Doxastic Argument. Judging that *x* is *F* and *x* is *not F* would amount to affirming of *x* that it is *F* and denying of *x* that it is *F*. But this is to have opposite attitudes to *x*. Having opposite attitudes towards the same item entails having opposite relations to the same item, which violates the PNC (pointed out

by Crivelli 2004: 61). A cognitive agent, like any other item, must conform to the metaphysical PNC. Because the agent must conform to PNC, that agent cannot both affirm and deny one thing of the same thing. So the agent cannot judge a contradiction to be true.

If obviously contradictory judgment is impossible, a mental inference that results in being convinced of an obvious contradiction is impossible. Suppose that Nausicaa judges that (i) Hemionos is a horse, (ii) Hemionos is a mule and (iii) no horse is a mule. Recombining the elements of these judgments leads her to conclude that Hemionos is a horse and is not a horse. But, by the Doxastic Thesis, such a judgment is impossible. Because the judgment is impossible, the inference that leads to it is also impossible. Thus, non-contradiction is a constitutive condition on inferential thinking, that is, *dianoia*, for Aristotle.

Aristotle motivates his consistency norm for thinking on the basis of the PNC. This means that non-contradiction is a necessary condition for a *doxa*. No inconsistent *doxa* can occur, because that would involve the agent being in contrary states at the same time. Both Plato and Aristotle accept non-contradiction as a norm. In Plato, the dialogic context grounds that norm. In Aristotle, thinking is monological and inferential. So the norm of non-contradiction cannot be grounded the same way. The norm is grounded because no obviously contradictory judgment is possible, in Aristotle's account.

Conclusion

Plato and Aristotle agree on some key points concerning thought and internal speech. Both think that thought and speech are processes. Those processes involve assertion and denial. Both processes can go wrong, because of composition. Finally, both processes are governed by norms, especially non-contradiction.

However, we saw that the philosophers differ on the structure of the internal speech. For Plato internal speech is dialogical. In fact, thought is an attempt to persuade an internal interlocutor of a certain claim. So thought has the same structure as an external dialogue. Non-contradiction is an evaluative norm for external dialogue. Meletus can contradict himself in speech, but he still succeeds in speaking. However, in the case of thought, an agent, like Nausicaa, must persuade herself of p in order to judge that p is true. If p is an obvious contradiction, p cannot be judged true. Hence, Nausicaa cannot judge a contradiction to be true. Non-contradiction is a constitutive norm on judgment, for Plato.

For Aristotle, monological speech, in particular, inferential speech, models for thought. Non-contradiction is also a norm, indeed, a constitutive norm for judgment on Aristotle's view. If the result of Nausicaa's cognitive process is an obvious contradiction, she has failed, in fact, to form a judgment, since, according to the Doxastic Argument, one cannot have a self-contradictory judgment. In both Plato and Aristotle, non-contradiction is a constitutive norm for thought.

Despite this convergence, Plato and Aristotle interpret TIS quite differently: Plato as internal dialogue; Aristotle as internal monologue. I cannot here argue for a full explanation of this difference but I offer one tentative suggestion. Aristotle abandons Plato's view of thinking as internal dialogue because of Aristotle's view of dialogue.

Aristotle could not endorse a view of thinking as internal dialogue since he holds that dialectic is *pros heteron*, that is, directed towards someone else (*Topics* VIII 1. 155b7). If so, it makes no sense to conceive of thought as internal dialogue, since internal dialectic is not directed at someone else, but rather discussion the soul directs towards itself (e.g. *pros hautên* at *Theaetetus* 189e6).

Second, Plato is content that dialectic can deliver truths, from the mundane to the philosophical (*Phaedrus* 276e-277b; *Philebus* 57e-59c; *Republic* VII 537d; *Sophist* 253d-254a). However, Aristotle is more reluctant to allow dialectic to alone deliver philosophical truths. On one influential reading, dialectic in Aristotle delivers the starting points for scientific investigation, but there is more to investigation than dialectic (*Topics* I, 2. 101a34-b4).[63] That is, for Plato dialectic can, at least in principle, reach all the scientific truths. But for Aristotle, dialectic cannot, even in principle, reach all the scientific truths. So Aristotle cannot allow thought to be internal dialectic; otherwise, there would be some scientific truths that cannot feature in thought. For these two reasons, the difference between how Plato and Aristotle cash out the doctrine that thought is internal speech may be due to different conceptions of dialectic as much as different conceptions of thinking.[64]

---

[63] For this sort of reading of Aristotle see: (Nussbaum 1982, 275-283) and (Nussbaum 1986, chap. 8). There are differences within this family: (Irwin 1988, 14–15). For criticism of Irwin and an alternative approach to some of these questions see (Berti 1996). For further comparisons between Aristotle and Plato's views of dialectic, see (Fink 2012, 1–16).

Bibliography

Annas, Julia. 1974. "Forms and First Principles." *Phronesis* 19 (3): 257–83.

Barnes, Jonathan. 1969. "The Law of Contradiction." *The Philosophical Quarterly*, 302–
    9.

———. 1975. *Posterior Analytics*. Oxford: Clarendon Press.

———. 1994. *Posterior Analytics*. 2nd ed. Oxford University Press, USA.

Berti, Enrico. 1996. "Does Aristotle's Conception of Dialectic Develop?" In *Aristotle's
    Philosophical Development: Problems and Prospects*, edited by William Wains,
    105–30. Lanham, Maryland, USA.: Rowman & Littlefield Publishers, Inc.

Brentano. 1930. *Warheit Und Evidenz*. Hamburg: Felix Meiner Verlag.

Brinkmann, Klaus. 1997. "Commentary on Dixsaut." In *Proceedings of the Boston Area
    Colloquium in Ancient Philosophy*, 13:28–34. Brill.

Burnyeat, Myles, and Mary Jane Levett. 1990. *The Theaetetus of Plato*. Indianapolis:
    Hackett Publishing.

Castelnérac, Benoît, and Mathieu Marion. 2013. "Antilogic." *Baltic International Yearbook of Cognition, Logic and Communication* 8 (1): 1-31.

Caston, Victor. 1998. "Aristotle and the Problem of Intentionality." *Philosophy and Phenomenological Research* 58 (2): 249–98.

———. 2009. "Aristotle's Psychology." In *A Companion to Ancient Philosophy*, by Mary Louise Gill and Pierre Pellegrin, 316–46. Oxford: Wiley-Blackwell.

Chappell, Timothy. 2004. *Reading Plato's Theaetetus*. Vol. 20. Indianapolis: Hackett Publishing.

Cohen, Marc. 1986. "Aristotle on the Principle of Non-Contradiction." *Canadian Journal of Philosophy* 16 (3): 359–70.

Crivelli, Paolo. 1998. "ΑΛΛΟΔΟΞΙΑ." *Archiv Für Geschichte Der Philosophie* 80 (1): 1–29.

———. 2004. *Aristotle on Truth*. Cambridge: Cambridge University Press.

Dancy, Russell. 1975. *Sense and Contradiction: A Study in Aristotle.* Springer Science & Business Media.

Denyer, Nicholas. 1991. *Language, Thought, and Falsehood in Ancient Greek Philosophy*. London: Routledge.

Dixsaut, Monique. 2000. *Platon et La Question de La Pensée: études Platoniciennes*. Cambridge University Press.

Dummett, Michael. 1981. *Frege: Philosophy of Language*. Cambridge: Cambridge University Press.

Evans, Matthew. 2011. "Plato on the Norms of Speech and Thought." *Phronesis: A Journal for Ancient Philosophy* 56 (4): 322–49.

Ferejohn, Michael. 1988. "Meno's Paradox and De Re Knowledge in Aristotle's Theory of Demonstration." *History of Philosophy Quarterly* 5 (2): 99–117.

Fink, Jakob Leth. 2012. *The Development of Dialectic from Plato to Aristotle*. New York: Cambridge University Press.

Frede, Dorothea. 1989. "The Soul's Silent Dialogue a Non-Aporetic Reading of the Theaetetus." *Proceedings of the Cambridge Philological Society (New Series)* 35: 20–49.

Frege, Gottlob, P. T. Geach, and Max Black. 1951. "On Concept and Object." *Mind* 60 (238): 168–80.

Gifford, Mark. 1999. "Aristotle on Platonic Recollection and the Paradox of Knowing Universals: *Prior Analytics* B. 21 67a8-30." *Phronesis: A Journal for Ancient Philosophy* 44 (1): 1–29.

Gottlieb, Paula. 2007. "Aristotle on Non-Contradiction." http://stanford.library.usyd.edu.au/entries/aristotle-noncontradiction/.

Grice, H. Paul. 1991. *Studies in the Way of Words*. Cambridge, Mass.: Harvard University Press.

Hestir, Blake. 2013. "Aristotle's Conception of Truth: An Alternative View." *Journal of the History of Philosophy* 51 (2): 193–222.

Irwin, Terence. 1988. *Aristotle's First Principles*. Oxford: Clarendon Press.

Kirwan, Christopher. 1971. *Aristotle's Metaphysics*. Oxford: Clarendon Press.

Kretzmann, Norman. 1974. "Aristotle on Spoken Sound Significant by Convention." In *Ancient Logic and Its Modern Interpretations*, edited by John Corcoran, 3–21. Dordrecht: D. Reidel Publishing Company.

LaBarge, Scott. 2004. "Aristotle on'Simultaneous Learning'in Posterior Analytics 1.1
and Prior Analytics 2.21." *Oxford Studies in Ancient Philosophy* 27: 177–215.

Lewis, Frank A. 2011. "'Predication, Things, and Kinds in Aristotle's Metaphysics.'"
Phronesis 56 (4): 350–87.

Long, Alex. 2008. "Plato's Dialogues and a Common Rationale for Dialogue Form." In
The End of Dialogue in Antiquity, edited by Simon Goldhill. Cambridge:
Cambridge University Press.

———. 2013. *Conversation and Self-Sufficiency in Plato*. Oxford: Oxford University
Press.

Lorenz, Hendrik. 2006. *The Brute Within: Appetitive Desire in Plato and Aristotle*.
Oxford: Oxford University Press Oxford.

Lukasiewicz, Jan. 1979. "Aristotle on the Law of Contradiction." In *Articles on Aristotle*,
edited by Jonathan Barnes, Malcolm Schofield, and Richard Sorabji, 3:50–62.
London: Duckworth.

Maier, Heinrich. 1886. *Die Syllogistik Des Aristoteles*. Tubingen: Buchhandlung.

Marchovich, Miroslav. 1986. "Plato and Stoa in Hippolytus' Theology." *Illinois Classical Studies* 11 (1/2): 265–69.

McCabe, Mary Margaret. 2000. *Plato and His Predecessors: The Dramatisation of Reason*. Cambridge: Cambridge University Press.

McDowell, John. 1973. *Theaetetus*. Oxford: Oxford University Press.

Morison, Benjamin. 2011. "An Aristotelian Distinction between Two Types of Knowledge." *Proceedings of the Boston Area Colloquium in Ancient Philosophy* 27: 29–57.

Moss, Jessica. 2014. "Plato's Appearance/Assent Account of Belief." *Proceedings of the Aristotelian Society* 114: 213–38.

Nussbaum, Martha. 1982. "Saving Aristotle's Appearances." In *Language and Logos: Studies in Ancient Greek Philosophy*, edited by Malcolm Schofield and Martha Nussbaum, 267–93. Cambridge: Cambridge University Press.

———. 1986. *The Fragility of Goodness: Luck and Ethics in Greek Tragedy and Philosophy*. Cambridge: Cambridge University Press.

Panaccio, Claude. 1999. *Le Discours Intérieur: De Platon à Guillaume d'Ockham*.

    Cambridge: Cambridge University Press.

Polansky, Ronald. 2007. *Aristotle's De Anima: A Critical Commentary*. Cambridge:

    Cambridge University Press.

Quine, Willard V. 1943. "Notes on Existence and Necessity." *The Journal of Philosophy*,

    113–27.

———. 1947. "The Problem of Interpreting Modal Logic." *The Journal of Symbolic*

    Logic 12 (2): 43–48.

Ross, W. David. 1949. *Aristotle's Prior and Posterior Analytics*. Oxford: Clarendon

    Press.

———. 1953. *Aristotle*. London: Methuen.

Sedley, David. 2003. *Plato's* Cratylus. Cambridge: Cambridge University Press.

———. 2006. *The Midwife of Platonism: Text and Subtext in Plato's* Theaetetus.

    Oxford: Oxford University Press.

Sorabji, Richard. 1983. *Time, Creation, and the Continuum: Theories in Antiquity and*

    the Early Middle Ages. Chicago, IL: University of Chicago Press.

Wedin, Michael V. 2000. "Some Logical Problems in Metaphysics Gamma." *Oxford Studies in Ancient Philosophy* 19: 113–62.

———. 2004a. "Aristotle on the Firmness of the Principle of Non-Contradiction." *Phronesis* 49 (3): 225–65.

———. 2004b. "On the Use and Abuse of Non-Contradiction: Aristotle's Critique of Protagoras and Heraclitus in *Metaphysics* Gamma 5." *Oxford Studies in Ancient Philosophy* 26: 213–39.