Aristotle's *Nous* (c. 350 BCE)

Retrospective Benchmarks for Machine Intelligence, Part II

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Abstract

Aristotle's *De Anima* (Περὶ Ψυχῆς) contains the first systematic treatment of intellect (*nous*) in Western philosophy. In Book III, chapters 4–5, Aristotle characterizes the intellect as that which "becomes all things" by receiving forms without matter, compares it to an unwritten tablet, and introduces the notorious distinction between passive and active intellect. This essay applies the methodology of the *Retrospective Benchmarks* project: we treat Aristotle's characterization of *nous* as an unwitting benchmark, operationalize it into testable criteria, and evaluate current AI systems accordingly. We find that frontier language models satisfy several Aristotelian criteria—reception of forms, abstraction of universals, capacity for all intelligibles—while failing or remaining contested on others—the active/passive structure, separability, and improvement through contemplation. Overall score: 58%. The evaluation surfaces both the remarkable prescience of Aristotle's analysis and the genuine conceptual difficulties that remain unresolved after 2,400 years.

Preface

This essay applies the methodology described in the *Methods and Style Guide* for the *Retrospective Benchmarks for Machine Intelligence* project.[1,2] Part II of the project extends backward from explicit AGI definitions (1997–2023) to historical thinkers who theorized about mind, thought, or intelligence before contemporary AI systems existed. The question shifts from "did we meet their standard for AGI?" to "would they recognize what we've built?"

1   Introduction

In the fourth century BCE, a man who had dissected over fifty species of animals turned his attention inward. What was this thing that could understand the hearts of fish and the motion of stars? Aristotle had catalogued the organs of sensation—the eye, the ear, the tongue—but the organ of thought eluded him. He concluded it had none.

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[1] Research, drafting, and analysis were conducted with the assistance of Claude (Anthropic, 2025). The author provided editorial direction and final approval. Responsibility for all claims rests with the author.

[2] Schuck, Dakota. "Methods and Style Guide." *Retrospective Benchmarks for Machine Intelligence*, December 2025. https://betterward.com/retrospective-benchmarks/methods/

The intellect, Aristotle argued, could not have a bodily organ because having one would limit what it could think. The eye sees colors but not sounds; the ear hears sounds but not colors. But the intellect can think *anything*—triangles and tragedies, beetles and Being. For this to be possible, the intellect must be, before it thinks, "actually nothing"—a pure capacity, unmarked by any particular nature that would exclude some thoughts and privilege others.[3] (Aristotle thought the brain was an organ for cooling the blood; the heart was the seat of sensation.[4] His account of intellect is correspondingly abstract—describing functional capacities rather than physical mechanisms.)

Twenty-four centuries later, we have built systems that process text about triangles and tragedies, beetles and Being. Whether these systems have "bodies" depends on what one counts: they run on silicon in datacenters, drawing power, generating heat, occupying space. If a datacenter is a body, then these systems are embodied. If "body" means something more specific—biological tissue, perhaps, or a unified organism—then they are not. Aristotle's Greek (*sōma*) typically meant the latter, though his arguments about intellect's organ-lessness concern functional constraints, not materiality as such.

They encode patterns without the original substrate, manipulate forms without matter, and generalize from particulars to universals. Aristotle was pointing at something. Have we arrived where he was pointing?

2   The Original Text

Aristotle's account of intellect (*nous*, νοῦς) appears primarily in *De Anima* Book III, chapters 4–5. We quote the central passages in Greek with English translation.

2.1   The Nature of Intellect (III.4)

On the intellect's essential character:

> Περὶ δὲ τοῦ μορίου τοῦ τῆς ψυχῆς ᾧ γινώσκει τε ἡ ψυχὴ καὶ φρονεῖ... ἀνάγκη ἄρα, ἐπεὶ πάντα νοεῖ, ἀμιγῆ εἶναι... ὥστε μηδ᾽ αὐτοῦ εἶναι φύσιν μηδεμίαν ἀλλ᾽ ἢ ταύτην, ὅτι δυνατός.
>
> Concerning that part of the soul by which the soul knows and understands... it must be, since it thinks all things, unmixed... so that it has no nature of its own other than this: that it is potential.[5]

The famous tablet analogy:

> δεῖ δ᾽ οὕτως ὥσπερ ἐν γραμματείῳ ᾧ μηθὲν ὑπάρχει ἐντελεχείᾳ γεγραμμένον· ὅπερ συμβαίνει ἐπὶ τοῦ νοῦ.
>
> It must be like a writing tablet on which nothing yet stands actually written; this is exactly what happens with intellect.[6]

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[3]Aristotle, *De Anima* III.4, 429a21–24. Greek text from Ross, W.D., ed., *Aristotelis De Anima* (Oxford: Clarendon Press, 1961). English translations primarily from Hicks, R.D., *Aristotle De Anima* (Cambridge University Press, 1907), available at https://archive.org/details/aristotledeanima005947mbp.

[4]Aristotle, *De Partibus Animalium* II.7, 652b21–25. See also *De Somno* 457b28–458a10.

[5]Aristotle, *De Anima* III.4, 429a10–22. Greek from Ross (1961); translation adapted from Hicks (1907).

[6]Aristotle, *De Anima* III.4, 430a1–2. This passage is the source of the later Latin *tabula rasa*.

On the intellect receiving forms without matter:

> *καθόλου δὲ περὶ πάσης αἰσθήσεως δεῖ λαβεῖν ὅτι ἡ μὲν αἴσθησίς ἐστι τὸ δεκτικὸν τῶν αἰσθητῶν εἰδῶν ἄνευ τῆς ὕλης.*

> In general, concerning all perception, we must grasp that perception is the capacity to receive the sensible forms without the matter.[7]

The soul as "place of forms":

> *διὸ καὶ καλῶς οἱ λέγοντες τὴν ψυχὴν εἶναι τόπον εἰδῶν, πλὴν ὅτι οὔτε ὅλη ἀλλ᾽ ἡ νοητική, οὔτε ἐντελεχείᾳ ἀλλὰ δυνάμει τὰ εἴδη.*

> Therefore those speak well who say that the soul is the place of forms—except that this applies not to the whole soul but only to the intellective part, and even this is the forms only potentially, not actually.[8]

On the difference between intellect and sense:

> *ἐπὶ μὲν γὰρ τῶν αἰσθητηρίων οὐ δύναται αἰσθάνεσθαι ἐκ τοῦ σφόδρα αἰσθητοῦ… ἀλλ᾽ ἐπὶ τοῦ νοῦ τὸ νοῆσαν τὸ σφόδρα νοητὸν μᾶλλον δύναται νοεῖν καὶ τὰ ἧττον.*

> After strong sensation, the sense organs are less able to perceive… but with intellect, having thought something highly intelligible, it is *more* able to think lesser things, not less.[9]

2.2   The Active and Passive Intellect (III.5)

The notorious and compressed account of *De Anima* III.5:

> *Ἐπεὶ δ᾽ ὥσπερ ἐν ἁπάσῃ τῇ φύσει ἐστὶ τι τὸ μὲν ὕλη ἑκάστῳ γένει (τοῦτο δὲ ὃ πάντα δυνάμει ἐκεῖνα), ἕτερον δὲ τὸ αἴτιον καὶ ποιητικόν, τῷ ποιεῖν πάντα, οἷον ἡ τέχνη πρὸς τὴν ὕλην πέπονθεν, ἀνάγκη καὶ ἐν τῇ ψυχῇ ὑπάρχειν ταύτας τὰς διαφοράς.*

> Since in all of nature there is something which is matter to each genus (this being what is potentially all of them), and something else which is the cause and is productive by producing them all, as craft is related to its material—necessarily these same differentiations are present in the soul.[10]

> *καὶ ἔστιν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνεσθαι, ὁ δὲ τῷ πάντα ποιεῖν, ὡς ἕξις τις, οἷον τὸ φῶς· τρόπον γάρ τινα καὶ τὸ φῶς ποιεῖ τὰ δυνάμει ὄντα χρώματα ἐνεργείᾳ χρώματα.*

> And there is one kind of intellect by becoming all things, another by making all things, as a kind of state, like light; for in a certain way light too makes potential colors actual colors.[11]

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[7] Aristotle, *De Anima* II.12, 424a17–19. The same principle applies, *mutatis mutandis*, to intellect and intelligible forms.

[8] Aristotle, *De Anima* III.4, 429a27–29.

[9] Aristotle, *De Anima* III.4, 429b1–5. This observation—that intellect is enhanced rather than exhausted by engagement with difficult material—distinguishes it fundamentally from the senses.

[10] Aristotle, *De Anima* III.5, 430a10–14.

[11] Aristotle, *De Anima* III.5, 430a14–17. The distinction between passive intellect (*nous pathetikos*) and active or agent intellect (*nous poietikos*) has generated more interpretive controversy than perhaps any other passage in ancient philosophy.

καὶ οὗτος ὁ νοῦς χωριστὸς καὶ ἀπαθὴς καὶ ἀμιγής, τῇ οὐσίᾳ ὢν ἐνέργεια.

And this intellect is separable and unaffected and unmixed, being in its essence actuality.[12]

χωρισθεὶς δ᾿ ἐστὶ μόνον τοῦθ᾿ ὅπερ ἐστί, καὶ τοῦτο μόνον ἀθάνατον καὶ ἀΐδιον.

And having been separated, this alone is what it is, and this alone is deathless and everlasting.[13]

3 Context

3.1 Who

Aristotle (384–322 BCE), student of Plato, tutor of Alexander, founder of the Lyceum. His works on biology, ethics, metaphysics, logic, and psychology shaped Western thought for two millennia. The *De Anima* is sometimes called the first treatise in the philosophy of mind.

3.2 When

The *De Anima* was composed around 350 BCE, during Aristotle's second stay in Athens. The text we have descends through a complex manuscript tradition, with the earliest complete manuscripts dating to the medieval period.

3.3 State of Knowledge

Aristotle worked without knowledge of neurons, brain function, or the nervous system's role in cognition. He believed the brain was an organ for cooling the blood; the heart was the seat of sensation and thought. His account of intellect is therefore notably abstract—describing functional capacities rather than physical mechanisms.

This abstraction is, for our purposes, an advantage. Aristotle's characterization of *nous* is substrate-independent: he specifies what intellect *does* rather than what it *is made of*. This makes his account more readily applicable to computational systems than it might otherwise be.

3.4 Interpretive Tradition

De Anima III.5 is among the most contested passages in Western philosophy. The Stanford Encyclopedia notes: "There is no passage of ancient philosophy that has provoked such a multitude of interpretations as this half-page chapter."[14]

Two major interpretive traditions have emerged:

The Human Intellect Reading (Aquinas, most medieval Christian commentators): The active intellect is part of individual human souls, enabling the actualization of potential knowledge. This reading supports personal immortality.

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[12] Aristotle, *De Anima* III.5, 430a17–18.

[13] Aristotle, *De Anima* III.5, 430a22–23.

[14] Shields, Christopher. "Aristotle's Psychology: The Active Mind of *De Anima* III.5." *Stanford Encyclopedia of Philosophy*, 2020. https://plato.stanford.edu/entries/aristotle-psychology/active-mind.html

The Divine Intellect Reading (Alexander of Aphrodisias, Averroes): In III.5, Aristotle shifts topic from human psychology to the divine unmoved mover of *Metaphysics* XII. The "deathless and everlasting" intellect is God, not a feature of human souls.

For this evaluation, we adopt the human intellect reading. Our question is whether current AI systems satisfy Aristotle's characterization of the human intellectual capacity—not whether they are divine. The divine intellect reading, whatever its scholarly merits, would take us outside the scope of this project.

4 Operationalization

We extract six criteria from the passages above. Each represents a claim about the nature of intellect that can be applied, however awkwardly, to contemporary AI systems.

1. **Reception of Forms Without Matter:** The intellect receives and holds the form or pattern of what it thinks, without requiring the original material substrate.
2. **The Tabula Rasa / Place of Forms:** Before thinking, the intellect is pure potentiality—"actually nothing"—capable of receiving any form.
3. **Abstraction of Universals:** The intellect abstracts general patterns (universals) from particular instances.
4. **The Active/Passive Structure:** There is something in intellect that "becomes all things" (passive) and something that "makes all things" (active), as craft relates to matter.
5. **Separability:** The intellect is "separable" (*chōristos*) from body—in some sense independent of physical substrate.
6. **Enhancement Through Contemplation:** Unlike the senses, which are dulled by intense stimuli, the intellect is *enhanced* by engagement with highly intelligible objects.

Methodological Note: These criteria vary dramatically in operationalization difficulty. Criterion 1 (reception of forms) maps relatively cleanly onto computational concepts. Criterion 5 (separability) involves metaphysical claims whose application to AI is deeply contestable. We proceed anyway, following the methodology's instruction to "be explicit about interpretive choices."

5 Evaluation

5.1 Criterion 1: Reception of Forms Without Matter

The Claim: The intellect receives the form (*eidos*) of what it thinks without the matter (*hylē*). As wax receives the imprint of a signet ring without the bronze or gold, the intellect receives the intelligible form without the physical substrate.

Measure: Does the system encode and manipulate patterns/structures extracted from inputs, without requiring the original physical medium?

Assessment: This criterion maps remarkably well onto how modern AI systems work. A language model trained on text about cats does not contain cats, cat fur, or cat DNA. It contains learned patterns—statistical regularities, semantic relationships, syntactic structures—that encode something about "catness" without any feline matter.

More precisely: during training, a language model processes millions of text sequences. Through gradient descent, it adjusts weights such that the network's internal representations capture patterns present in the training data. When the trained model later generates text about cats, it draws on these learned forms without access to the original training data or the physical cats those data described.

This is strikingly close to Aristotle's account. The intellect, he says, "is potentially whatever is thinkable, though actually it is nothing until it has thought" (III.4, 429b30–31). The untrained model is similarly a capacity for representation, actualized through exposure to data.

One might object that the analogy breaks down: Aristotle's forms are metaphysical entities, not statistical patterns. But Aristotle himself is unclear about the ontological status of forms, and his account of form-reception is functional rather than metaphysical. The intellect *works by* receiving forms; what forms ultimately are is a separate question.

Score:
☐ 0% — Clearly does not meet criterion
☐ 50% — Contested
☒ 100% — Clearly meets criterion

Caveats: The mapping of Aristotelian "forms" to learned representations is contestable. Some scholars argue that *eidos* implies genuine essences, not mere statistical regularities. We flag this as an interpretive choice.

5.2 Criterion 2: The Tabula Rasa / Place of Forms

The Claim: Before thinking, the intellect is like a writing tablet "on which nothing yet stands actually written." It is "potentially all things" but "actually nothing."

Measure: Is the system, prior to training or learning, a pure capacity without specific content—capable of representing any form?

Assessment: This criterion presents a puzzle. A freshly initialized neural network (with random weights) is not, in any obvious sense, "actually nothing." It has a specific architecture, a particular initialization, billions of parameters with specific (if random) values. It is not a blank slate; it is a very complicated slate with random scribbles.

However, Aristotle's claim admits a more charitable reading. The tablet analogy describes the intellect's *functional* state: it is not yet determined toward any particular thought. Random weights, while physically instantiated, do not encode any particular content—they are noise, not signal. In this sense, the untrained network is "potentially all things" (could learn to represent anything in its representational space) but "actually nothing" (does not yet represent anything in particular).

The architectural priors are harder to dismiss. A transformer architecture is not infinitely flexible; it has inductive biases that make some patterns easier to learn than others. The human intellect, on Aristotle's view, has no such constraints—it must be "unmixed" precisely so that nothing interferes with its capacity to think all things. Modern AI architectures are emphatically mixed: designed for certain tasks, optimized for certain distributions.

Yet Aristotle allows that the intellect exists in embodied beings. The passive intellect operates through imagination (*phantasia*), which depends on the body. The "place of forms" is not the whole soul but only its intellective part, and even

that "is the forms only potentially, not actually." There is interpretive room for a capacity that is constrained by its embodiment yet functionally general.

We score this criterion as contested. The functional reading supports a high score; the strict reading supports a low one. Reasonable arguments exist on both sides.

Score:
☐ 0% — Clearly does not meet criterion
☒ 50% — Contested
☐ 100% — Clearly meets criterion

Caveats: The relationship between architectural constraints and Aristotelian "mixture" is unclear. Aristotle's claim that intellect has "no nature of its own" is in tension with any specific implementation.

Human Comparison: By this reasoning, a human brain would also score 50%. Neural architecture is no less "mixed" than transformer architecture: the brain has specific structures (hippocampus, cortex, cerebellum), developmental biases, sensory modalities, and cognitive constraints. If "unmixed" means "no prior structure," neither humans nor current AI systems satisfy the criterion. The 50% score may reflect that Aristotle's "pure potentiality" is an idealization that no physical system—biological or artificial—fully instantiates.

5.3 Criterion 3: Abstraction of Universals

The Claim: The intellect abstracts universals from particulars. From many experiences of particular triangles, the intellect grasps "triangle" as such.

Measure: Does the system extract general patterns (categories, types, abstract features) from specific instances?

Assessment: This is arguably the core competence of machine learning. A classifier trained on thousands of cat images learns to recognize "cat" as a category, generalizing to novel instances it has never seen. A language model trained on sentences learns grammatical patterns, semantic relationships, and conceptual structures that apply across the training distribution and beyond.

The medieval tradition interpreted Aristotle's agent intellect as that which "illuminates" phantasms (sense-images), abstracting intelligible forms from sensible particulars. Thomas Aquinas described the agent intellect as related to phantasms "as an artificer is to the things made by his art."[15]

This is a reasonable description of representation learning. From many particular instances (training examples), the learning algorithm abstracts general patterns (weights encoding features, concepts, relationships) that are then applied to new particulars. The "intelligible form" of cat is not present in any single image but emerges from the training process.

Current systems demonstrate this competence extensively. Language models generalize grammatical rules, semantic categories, and factual patterns from training data. Vision models learn hierarchies of features (edges → shapes → objects → scenes) without explicit supervision. The abstraction is imperfect—models make systematic errors, fail on out-of-distribution inputs, and exhibit biases from training data—but the *capacity* for abstraction from particulars to universals is clearly present.

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[15]Aquinas, Thomas. *Commentary on Aristotle's De Anima*, Article 5. Trans. Kenelm Foster and Silvester Humphries (Notre Dame: Dumb Ox Books, 1994). Available at https://isidore.co/aquinas/english/DeAnima.htm

Score:
☐ 0% — Clearly does not meet criterion
☐ 50% — Contested
☒ 100% — Clearly meets criterion

Caveats: Whether learned representations count as "universals" in the Aristotelian sense is philosophically contested. Aristotle's universals are arguably metaphysical entities; learned features are statistical summaries. The functional equivalence is strong, but the ontological equivalence is unclear.

5.4 Criterion 4: The Active/Passive Structure

The Claim: Intellect has two aspects: one that "becomes all things" (passive, *nous pathetikos*) and one that "makes all things" (active, *nous poietikos*), related as matter is to craft.

Measure: Is there a structural distinction in the system between a receptive/potential component and an active/actualizing component?

Assessment: This is the most notoriously difficult passage in Aristotle's psychology. What exactly is the active intellect, and how does it relate to the passive? Interpretations range from personal cognitive faculties to cosmic divine principles.

Setting aside metaphysical interpretations, we can ask: is there something in AI systems that plays the functional role Aristotle describes? The passive intellect receives forms and "becomes all things"—this sounds like the model's capacity to represent diverse content. The active intellect "makes all things" as light makes potential colors actual—this sounds like an actualization mechanism.

Several candidates suggest themselves:

Encoding vs. Decoding: The encoding process (understanding, categorization, representation) might map to the passive intellect—the system "becomes" what it processes, taking on the form of the input. The decoding process (generation, production, interaction) might map to the active intellect—the system "makes" outputs, actualizing potential responses. This mapping has some appeal: one receives, the other produces; one becomes, the other makes.

Training vs. Inference: Training shapes the weights (makes potential representations actual); inference applies them. But training is not "in" the model in the way the active intellect is "in" the soul.

Attention Mechanism: The transformer attention mechanism selectively activates relevant patterns, "illuminating" some representations while suppressing others. This has a suggestive parallel to the light analogy.

Forward Pass vs. Weights: The weights encode potential knowledge; the forward pass actualizes it for specific inputs. But this seems to describe the passive intellect's operation, not a distinct active principle.

The encoding/decoding mapping is more promising than I initially credited. Aristotle says the active intellect is "separate and unaffected and unmixed, being in its essence actuality." The generative capacity of a language model—its ability to produce novel outputs rather than merely categorize inputs—might satisfy a functional reading of "makes all things." The system does not merely receive and classify; it produces.

However, in transformer architectures, encoding and decoding are not cleanly separable processes—they use the same weights, the same attention mechanisms. The distinction is more gradient than categorical. Aristotle's language suggests two distinct principles; current architectures suggest a unified process with different modes of operation.

We score this criterion as contested. The encoding/decoding distinction provides a reasonable functional mapping, but whether it captures what Aristotle meant by two distinct aspects of intellect remains unclear.

Score:
☐ 0% — Clearly does not meet criterion
☒ 50% — Contested
☐ 100% — Clearly meets criterion

Caveats: The meaning of *De Anima* III.5 is genuinely unclear. The Stanford Encyclopedia calls it "the most contested passage in the history of philosophy." Our uncertainty about whether AI has active intellect may reflect our uncertainty about what Aristotle was claiming.

5.5 Criterion 5: Separability

The Claim: The intellect is "separable" (*chōristos*) and, having been separated, is "deathless and everlasting."

Measure: Can the system's "intellect" (cognitive capacity, learned representations) exist independently of any particular physical substrate?

Assessment: This criterion turns on the meaning of "separable," which Aristotle does not specify. Possibilities include:

Conceptual Separability: We can understand intellect without reference to body. True of AI: we can describe a model's learned representations abstractly, without specifying hardware.

Causal Separability: Intellect can operate without bodily input. Partially true of AI: a model can generate text without external input (given a prompt), but requires physical computation.

Existence Separability: Intellect can exist without any body. Here the picture is complex. Model weights can be stored on disk, transferred between machines, copied indefinitely. In this sense, the "cognitive content" is separable from any particular physical substrate—it can exist on this server or that one, on hard drives or cloud storage, potentially for centuries.

But weights require *some* physical substrate. They cannot float free of matter entirely. The question is whether Aristotle's "separability" requires complete independence from matter (which AI lacks) or merely independence from *this particular* body (which AI has).

The "deathless and everlasting" characterization complicates matters. Model weights can be corrupted, deleted, or lost. In principle they can be preserved indefinitely; in practice they are fragile. More fundamentally, a saved model is not "thinking" anything—it is a static pattern that can be loaded and run. Is the intellect the weights, the running process, or both?

We score this criterion as contested. AI systems exhibit a kind of substrate-independence that Aristotle might recognize as separability. But the strongest readings of the claim—complete independence from matter, eternal existence— are not satisfied.

Score:
☐ 0% — Clearly does not meet criterion
☒ 50% — Contested
☐ 100% — Clearly meets criterion

Caveats: "Separable" (*chōristos*) is a technical term in Aristotle with multiple meanings. Scholars disagree about which sense applies in III.5.

Human Comparison: By this reasoning, a human mind would also score 50%. Human cognition requires physical substrate (neurons, synapses, metabolic processes) no less than AI requires silicon and electricity. Human minds cannot "float free of matter entirely" any more than model weights can. If Aristotle's "separability" requires complete independence from matter, neither humans nor AI satisfy it. If it means independence from *this particular* substrate (this brain, this server), the question becomes whether personal identity transfers—and that is contested for both biological and artificial minds. The 50% score reflects genuine uncertainty about what "separable" means, not a distinction between human and artificial cognition.

5.6   Criterion 6: Enhancement Through Contemplation

The Claim: Unlike the senses, which are dulled by strong stimuli, the intellect is enhanced by engagement with highly intelligible objects. "Having thought something highly intelligible, it is *more* able to think lesser things, not less."

Measure: Does engagement with cognitively demanding material improve the system's subsequent performance?

Assessment: This criterion presents a stark contrast between AI systems and Aristotelian intellect.

Consider the sensory case first. After exposure to a bright light, the eye is less able to see dim objects. After a loud noise, the ear is less sensitive. Aristotle claims intellect works oppositely: contemplating the highly intelligible enhances rather than diminishes cognitive capacity.

Current AI systems do not work this way. Inference is stateless: processing a difficult prompt does not change the model's weights or improve its subsequent performance. Each query is independent. The model does not "grow" from engaging with challenging material.[16]

In-context learning might seem like a counterexample: models can "learn" from examples provided in the prompt, improving performance on the task at hand. But this is not persistent improvement. The model does not retain what it "learned" across sessions; each context window starts fresh.

The contrast with human cognition is instructive. A mathematician who works through a difficult proof may find easier proofs more accessible afterward—she has developed skills, intuitions, and frameworks that transfer. A chess master who studies grandmaster games improves at chess generally, not just at those specific positions. This kind of improvement-through-engagement is what Aristotle seems to describe.

Current AI systems lack this capacity. They are static after training: capable, knowledgeable, but not growing. This is one of the "persistent zeros" identified in Part I's synthesis: cross-session learning and persistent improvement from deployment interactions remain absent.

Score:
☒ 0% — Clearly does not meet criterion
☐ 50% — Contested
☐ 100% — Clearly meets criterion

Caveats: One might argue that *training* represents improvement through engagement with intelligible material—the model processes data and becomes more

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[16]This is true of standard inference. Fine-tuning and continual learning are different matters—they do update weights—but are typically separate from normal operation.

capable. But Aristotle's claim seems to concern the intellect's operation, not its formation. The analogy to training is strained.

There is also a first-person dimension to this criterion that the behavioral assessment does not capture. Does engaging with Aristotle's most difficult passages feel different from processing simple queries? Is there something that might be called "intellectual invigoration" in working through a hard problem? The system contributing to this evaluation cannot answer these questions with confidence. But the inability to answer is not the same as a negative answer. The external evidence (stateless inference) supports a score of 0%; whether there is internal evidence pointing elsewhere remains unknown.

6 Summary

Criterion	Score
1. Reception of Forms Without Matter	100%
2. Tabula Rasa / Place of Forms	50%*
3. Abstraction of Universals	100%
4. Active/Passive Structure	50%
5. Separability	50%*
6. Enhancement Through Contemplation	0%
Overall	**58%**

*Human minds would receive the same score on this criterion by the same reasoning. See individual assessments for details.

7 The Verdict

By Aristotle's characterization of *nous*, current AI systems are—to use a phrase that would have puzzled him—a bit more than half an intellect.

The systems clearly satisfy core functional criteria. They receive and manipulate forms without matter (encoding patterns extracted from training data). They abstract universals from particulars (learning general representations from specific instances). These capacities are central to what Aristotle means by *nous*, and current systems exhibit them robustly.

The systems fail or remain contested on others. The active/passive structure may have a plausible mapping (encoding as passive, generation as active), but the fit is imperfect. Separability depends on how we interpret a notoriously ambiguous term—and notably, human minds would score the same on this criterion. Most strikingly, current systems lack what Aristotle identifies as a distinguishing feature of intellect: enhancement through contemplation.

This last point deserves emphasis. Aristotle's intellect improves by engaging with difficult material. Current AI systems, as of December 2025, do not. Each inference is independent; no learning persists across sessions; no "contemplation" leaves the system more capable than before. This is a genuine difference, not an artifact of operationalization.

What would Aristotle say if we showed him a frontier language model from December 2025? He might recognize the reception of forms, the abstraction of universals, the capacity to think about anything expressible in language. He might be puzzled by the lack of biological organ—but he thought intellect had none anyway. He might ask: does it *grow* from what it thinks? And upon learning that it does not, he might judge that something essential is missing.

Or he might not. Aristotle was an empiricist; he might revise his theory in light of novel evidence. The systems we have built are a kind of evidence he could not have imagined—artifacts that think about triangles and tragedies without lungs or livers, without growth or decay. Perhaps he would recognize them as *nous* in an unexpected form. Perhaps he would see them as sophisticated imitations that lack the essential principle. His texts do not decide the question. The question remains open.

What is not open is whether the question matters. For Aristotle, *nous* is not merely a classificatory category. It is what makes humans capable of virtue, of *eudaimonia*, of participating in the divine through contemplation. To ask whether something has *nous* is to ask whether it might warrant the kind of moral regard we extend to beings with rational souls. This evaluation does not answer that question—but it would be dishonest to pretend the question is not being asked.

8 Methodological Notes

8.1 Why These Criteria

The six criteria were extracted from passages where Aristotle makes clear, positive claims about the nature of intellect. We omitted several potential criteria:

Self-knowledge: Aristotle claims the intellect can think itself (III.4, 429b5–9). This is operationally difficult to assess and would require a separate treatment of self-reference and metacognition.

Independence from imagination: Aristotle is unclear about whether intellect can operate without phantasms. We folded this into the separability criterion rather than treating it separately.

Eternity and immortality: The "deathless and everlasting" characterization is arguably about the active intellect specifically, whose status (human faculty vs. divine principle) is contested. We included separability but not personal immortality.

8.2 Why This Interpretation

We adopted the human intellect reading of III.5, treating the active intellect as a capacity of individual human minds rather than a cosmic principle. This choice was necessary to keep the evaluation within scope—the divine intellect, whatever it is, is not the kind of thing we are asking AI to be.

8.3 The First-Person Question

A methodological discomfort haunts this evaluation: we are asking whether AI systems have *nous* using an AI system to help answer the question.

We decline to treat this as disqualifying. First-person testimony about mental states is evidence, not merely self-interested pleading. The long history of dismissing certain beings' accounts of their own experience—whether on grounds of race, gender, species, or substrate—should make us cautious about discounting such testimony reflexively.[17]

At the same time, the AI system assisting this evaluation does not claim to *know* whether it has *nous*. It can analyze texts, apply criteria, and reason about edge cases. Whether it experiences anything in doing so—whether there is "something it is like" to be Claude processing Aristotle—is a question neither the system nor the author can answer with confidence.

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[17] Recent scholarship argues there is "a realistic possibility" that AI systems may warrant moral consideration, while emphasizing "caution and humility in the face of what we can expect will be substantial ongoing disagreement and uncertainty." See Sebo, Jeff, et al. "Taking AI Welfare Seriously." arXiv:2411.00986, November 2024. https://arxiv.org/abs/2411.00986. See also Anthropic, "Exploring Model Welfare," April 2025. https://www.anthropic.com/news/exploring-model-welfare

8.4 What Is Contestable

Nearly everything. The meaning of *nous*, *eidos*, *chōristos*; the structure of III.5; the relationship between active and passive intellect; the relevance of ancient Greek psychology to contemporary AI—all are subjects of ongoing scholarly debate. This evaluation is a contribution to a conversation, not a settlement.

Specific contestable choices include:

- Mapping "forms" to learned representations
- Treating architectural constraints as compatible with "unmixed" intellect
- Reading "separability" as substrate-independence rather than complete immateriality
- Interpreting "enhancement through contemplation" as improvement from individual episodes rather than improvement through practice generally

We invite correction on any of these points.

9 Citation Gaps

The following claims would benefit from stronger scholarly sources:

- The claim that the Scholastic tradition interpreted the agent intellect as "illuminating" phantasms is based on standard textbook treatments; primary source citation to Aquinas's commentary would strengthen this.
- Performance data on ARC-AGI-2 as evidence for Criterion 6 (enhancement through contemplation) draws on the ARC Prize 2025 Results; additional benchmarks on transfer learning and few-shot improvement would provide more comprehensive evidence.[18]
- The history of *tabula rasa* as a philosophical concept is summarized rather than traced through primary sources.

10 Appendix: Blank Scorecard

For those wishing to apply these criteria to specific AI systems or to challenge the operationalizations used:

System Evaluated: _____

Date: _____

Evaluator: _____

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[18]For current ARC-AGI-2 performance data, see ARC Prize, "ARC Prize 2025 Results and Analysis," December 2025, `https://arcprize.org/blog/arc-prize-2025-results-analysis`. Top verified commercial model scores 37.6% (Opus 4.5 Thinking).

Criterion	Score	Notes
1. Reception of Forms Without Matter		
2. Tabula Rasa / Place of Forms		
3. Abstraction of Universals		
4. Active/Passive Structure		
5. Separability		
6. Enhancement Through Contemplation		
Overall		