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Nous in *De Anima* as a Pattern for Induction in the *Posterior Analytics*

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Interpretations of *Posterior Analytics* II.19 reflect a division between non-traditionalist and traditionalist (or empiricist and rationalist) readings of Aristotle.¹ On the one hand, empiricist readings suggest that Aristotelean first principles are logical entities and that induction is a generalizing process concerned chiefly with perceptions or terms. On the other hand, rationalist readings suggest induction is a noetic grasp of universal concepts which secures an ontological link between reason and reality. These two readings do not wholly conflict. To show this, induction will be considered in the context of *De Anima*'s treatment of nous as a faculty which stands in analogical and operational relation to the other powers of the soul. It will be argued that induction is a process engaged with the complexity and simplicity of being (the one and or in the many) by which the soul comes to know the universal. Because induction is such a process, the soul apprehends a principle of illumination which has the power to bring the entire experience into a kind of stereoscopic unity. A genetic account of induction will clarify how reason depends upon this illumination for its authority and collating power.² Induction will thereby be said to correspond with a traditionalist reading of *Posterior Analytics* II.19, while certain empirical and logical objections are reframed.

¹ There is a nuanced and complex spectrum between logical and ontological, and between empiricist and rational readings. On the nature of nous, cf.: Lesher, James H. "The Meaning of ΝΟΥΣ in the Posterior Analytics." *Phronesis* 18, no. 1 (1973): 44-68.; Perelmuter, Zeev. "Nous and Two Kinds of Epistêmê in Aristotle's 'Posterior Analytics'" *Phronesis* 55, no. 3 (2010): 228-54. On the linguistic nature of induction and knowledge, cf.: Bronstein, David. "The Origin and Aim of Posterior Analytics II.19." *Phronesis* 57 (2012): 29-62.; Panayides, Christos. "A Note on Aristotelian First Principles." *Hermathena* 184 (2008): 19-51. On intuition, induction, and nous, cf. Aydede, Murat. "Aristotle on Episteme and Nous: The Posterior Analytics." Revised Version from *Southern Journal of Philosophy* 36, 1 (1998): 15-46. Accessed at <http://faculty.arts.ubc.ca/maydede/Aristotle.pdf>; Kahn, Charles, H. "Aristotle on Thinking," in *Essays on Aristotle's De Anima*, ed. Martha C. Nussbaum and Amélie Oksenberg Rorty (Great Clarendon Street, Oxford: Oxford University Press, 2003), 359-380.

² I borrow 'Collating' from *On the Teacher*, cf: Aquinas, Thomas St., and Ralph McInerney. On the Teacher, in *Thomas Aquinas: Selected Works*. (New York, NY: Penguin Books, 1998), 202, 210.

First, this paper will remark upon the organization of *De Anima* according to ἐφεξῆς (succession). Ἐφεξῆς reveals the analogical and interdependent nature of the diverse powers of the soul. Nutrition and perception will illustrate that this ἐφεξῆς is both poetic and analogical. This aspect of ἐφεξῆς will also clarify the genetic and analogic relationship between perception and nous. The role of phantasia will further clarify ἐφεξῆς as a progression both of distinction and continuity. After which, noetic activity will be shown to be a parallel, albeit unique form of poetic imitation. Finally, induction will be considered in light of ἐφεξῆς.

The Role of Ἐφεξῆς

Aristotle arrives in Book II of *De Anima* at a general definition of soul, but he claims that it fails to “express the peculiar nature of” any existing soul.³ Earlier, he said it is not enough for a “definitive formula (όριστικὸν λόγον) to express as most now do the mere fact; it must include and exhibit the ground also (ἀλλὰ καὶ τὴν αἰτίαν ἐνυπάρχειν καὶ ἐμφαίνεσθαι).”⁴ To address this, he first enumerates kinds of souls according to their powers. The enumeration, from nutritive to rational proceeds in a manner similar to an enumeration of the meaning of figure:

What applies to the soul is just about the same as what concerns geometrical figures, for always in the one next in succession (ἐφεξῆς) there is present in potency the previous one (ὑπάρχει δυνάμει τὸ πρότερον), both in figures and in things with souls, as the triangle is in the quadrilateral and the nutritive potency in the perceptive one...and why they are in this sort of succession (ἐφεξῆς) must be considered.⁵

³Aristotle, *On the Soul*, II.3, 414b20-30, transl. by J.A. Smith, at the Internet Classics Archive, <http://classics.mit.edu/>.

Similarly, Theaetetus finds in trying to define the power (δύναμις) of squaring that a generic formula will not fit both the oblong and the rational square (Plato, *Theaetetus*, 147e-148b). Both *Theaetus* and *De Anima* ask whether a single formula can fit both rational and irrational δύναμεις of the soul. This paper suggests Aristotle’s answer relies upon analogy, ἐφεξῆς, and ποίησις.

⁴Aristotle, *On the Soul*, II.2, 413a15-20, transl. Smith at <http://classics.mit.edu/>.

⁵Aristotle, *On the Soul*, II.3, 414b25-415a5, in *On the Soul & On Memory and Recollection*. Translated by Joe Sachs. (Santa Fe, New Mexico, Green Lion Press, 2001), 89-90; Greek in this paper from Aristotle, *De Anima*, in *De Anima Libri III*. Ed. Guilelmus Biehl. (Lipsiae B.G. Teubneri), 1896.

Henceforth, the organization of the argument in *De Anima* corresponds to the ἐφεξῆς of the soul. This paper suggests that ἐφεξῆς functions for Aristotle as a kind of logos and cause within the treatise. The order of *De Anima* not only follows or imitates the increasing complexity of kinds, it reveals the significance and interdependence of these kinds when they function as parts of a single soul. Such an ἐφεξῆς is in some sense part of the most proper and complete logos of the soul which contains (ἐνυπάρχειν) and exhibits (ἐμφαίνεσθαι) the cause (αἰτίαν).⁶

Succession will be significant in examining induction, which is itself ordered according to ἐφεξῆς and depicted as a return to order (ἀρχή).⁷ The ordering of the powers and kinds of soul in *De Anima* is related to the order by which knowledge and understanding come about in an individual in the *Posterior Analytics*. Each successive power of soul depends upon a previous, more fundamental power for its operation, even while the succeeding power is itself distinct and more complete. Ἐφεξῆς proceeds from that which is first in time to that which is first simply; it also proceeds from that which is necessary to that which is necessary for living well.⁸

Poetic Imitation in the Nutritive and Sensitive Powers of the Soul

Poetic imitation (ποίησις) characterizes even the most primitive soul; it is common to both the nutritive and sensitive powers. This commonality helps explain the cause and meaning of their succession (ἐφεξῆς). Ποίησις characterizes nous also, and so it links it to these previous powers,

⁶ Aristotle, *On the Soul*, II.2, 413a15-20, transl. Smith at <http://classics.mit.edu/>.

⁷ Aristotle, *Posterior Analytics*, II.19, 100a10-15.

⁸ Cf. Aristotle, *De Anima*, II.3, 415a1-5; III.12, 434a20 & 434b20-25;

Cf. also, Aquinas, Thomas St., *Commentary on Aristotle's De Anima*, II.3 & III.12, transl. Kenelm Foster, O.P. and Sylvester Humphries, O.P. (New Haven: Yale University Press, 1951) at <http://dhspriority.org/thomas/DeAnima.htm>, §300 & §862.

From §862, “the other senses...are required for the well-being of certain animals, but not for their bare existence.”

even while nous's form of $\piοίησις$ is unique. An understanding of $\piοίησις$ in the primitive powers of soul will therefore clarify the preeminent activity of nous.

A nutritive soul is the first and simplest kind of life. It concerns the life of a body which must grow, metabolize and reproduce. The nutritive power is poetic in as much as it *imitatively* maintains its existence.⁹ For instance, nutrition involves taking up material from the environment and transforming that material. This is a limited, yet authentic form of $\piοίησις$; just as the poetic work of the sculptor transforms clay into an image of a face, so the soul transforms material (food) into its own matter. Analogous to the clay which receives the form of a human face, food receives a new form through the metabolic power of a soul.

Succeeding the nutritive power is the perceptive. Perception characterizes animal life, marking out not only a further step in the $\dot{\epsilon}\phi\epsilon\xi\eta\varsigma$ of soul, but also a more definite form of $\piοίησις$. Perception, like nutrition, communicates and translates some reality into and for its subject; yet, this translation is less destructive. Nutritive metabolism causes matter to receive a new form of existence and in effect become new material. This occurs at the cost of total assimilation—retaining the mere fact of material, but not “the what.” In the case of perception, however, that which is perceived is also assimilated, but the perceptible as such remains intact that the perceiver might not merely sense but have a particular sensitive experience.

Aristotle's theory of perception relies upon a likeness between the perception and the reality it represents. This likeness of perception's unique form of $\piοίησις$. The activity of the sensible object impresses its activity upon the senses. The soul takes on the activity, as wax does

⁹ Continuity of identity, reproduction, and growth each occurs imitatively. Imitation and poetry (nature and artifice) are the result of the communication of likeness by means of form.

the image of a ring.¹⁰ In doing so, it becomes like the sensible; the sensible is not *metabolized* by the subject in such a manner that the sensible activity is destroyed.¹¹

This new *ποίησις* still depends upon the previous nutritive power of soul—not the power of nutrition as such, but a living body as the necessary condition of a body capable of perception. The possibility of perception depends upon a body which has life, even though the activity of perception is itself a new and higher form of living.¹² The nutritive power is not cast aside as a husk is for fruit of perception, but has been implicitly included in the new activity, much as the pronunciation of letters is necessary for reading. One's knowledge of letters is not cast aside, but contained in potency (*ὑπάρχει δυνάμει*) in the act of reading.¹³ Reading is not merely better pronunciation, but formally different. The power of letters is sound, while the power of words is signification or meaning. A mature reader is generally not actively thinking of letters, but could not recognize words without such knowledge in potency.¹⁴

What Sort vs. What

Before clarifying the unique noetic *ποίησις*, it is necessary to see that nous is indeed distinct from perception. The distinction between letters and words above helps clarify this. The power of sensation is not itself the power of reason for Aristotle. Neither sensation, nor the phantasm which a sensation produces (nor even the awareness of such) requires a rational soul.¹⁵ While a

¹⁰ Aristotle, *De Anima*, II.12, 424a15-25

¹¹ Poetic imitation not only describes the mechanism of sensing, but explains why and how “sensations are always true” (*De Anima*, III.3, 427b10). The soul does not *guess* at or judge in the very act of perception. So too in noesis.

¹² The successive powers of soul are not *added* to the previous powers by mere addition. An animal is a unique substance, unique in form and matter; the former power is present in potency.

¹³ Aristotle, *On the Soul*, II.3, 414b25-415a5

¹⁴ Cf. Plato, *Theaetetus*, 201d-204a

¹⁵ Aristotle, *On the Soul*, III.2

phantasm can be materially implicated in the act of thinking, it is not in itself a thought. A phantasm can be an object of desire or fear without being an object of the rational soul. A dog can form opinions, memories, and more or less sophisticated plans of action concerning the objects of perception, all without reason in the strict sense of the word.

The rational soul is primarily marked off for Aristotle by knowledge of ‘the what’, the cause (material, formal, final, efficient), and understanding. The sensitive soul does not have knowledge of such things. It cannot know them as such, although it might contain them (*ἐνυπάρχειν*).¹⁶ Further, the rational soul does not merely corroborate the experience of the sensitive soul, it sees something new, or in an entirely new mode.

To understand the *έφεξῆς*, the development from sensitive to rational soul, it will be helpful to explore the dual role of phantasia. Phantasia helps explain how thought is marked off by a movement from one operation to another, or by the same power now differently disposed.¹⁷

Phantasia and Unity

Each *έφεξῆς* of soul presents a new complexity of organization ordered toward greater unity. The primitive nutritive soul is complete in itself; yet, the higher unity of the sensitive creature depends upon bodily life assumed within it.¹⁸ Each previous power of soul is contained in the preceding *έφεξῆς* and pressed into service for the sake of a life which is yet more complete and more properly one. Phantasia illustrates the progressive succession of unity. It not only organizes

¹⁶ Aristotle, *On the Soul*, III.7, 431b1-5

¹⁷ The “either...or...” (*ἢ...ἢ...*) of the passage may not be an exclusive choice, but represent a range of possible modes of rationality. Aristotle, *On the Soul*, III.4, 429b10-15; cf. Kahn (2003), 369-72.

¹⁸ It is assumed both in the manner of a previous proof, a necessary condition, a part in a whole, and in the way that knowledge of letters is in act of reading. Because letters signify sounds but words signify meaning, the difference is that of species rather than mere addition.

perceptions, it stands in relation to rational activity in a manner similar to how a living body stands in relation to the perceptive power. As the body is a kind of middle term between nutritive and perceptive power, so phantasia is the middle term between sensation and reason. For this reason, phantasia is also twofold, but in a different manner.

The twofold significance of phantasia is like that of a hinge or a middle point which is both a beginning and an end.¹⁹ First, phantasia unifies a multiplicity of sensations into one image or phantasm within the soul. Doing so, it stands most immediately as an object of *κριτικήν* for the sensitive soul.²⁰ Second, in as much as the object of understanding is contained within such an impression, it exists as an object in potency for *nous*, such that the activity of a previous ἐφεξῆς (phantasia as image of the sensible) exists as material for the subsequent power.²¹

Phantasia thereby exhibits that each successive part or kind of soul comes to depend upon a higher level of unity, a unity which is more closely bound up with the soul as such, and the existence of that particular being. For instance, the unity of a plant's life is mainly a physical order, one which can at times be divided or grafted. But in the procession of ἐφεξῆς, unity comes to be not merely a matter of bodily integrity or life, but one of identity and awareness for such a life. Ultimately, the power of *nous* gathers up and integrates the other powers of the soul into a uniquely unified being. The rational soul represents a more excellent life than that of mere bodily organization, and still more excellent even than that of a life unified by desire or motion.²²

¹⁹ Aristotle, *Physics*, VIII.8, 262a20

²⁰ Aristotle, *Posterior Analytics*, II.19, 99b35

²¹ It serves as material, but not simply (knowledge of letters to a reader). It is not the phantasm as such that is known but that which is in it.

²² Aristotle, *De Anima*, II.3; III.12.

Reason unites not only the soul itself, but the soul with the world by means of *ποίησις* and understanding. It is the unique power of a rational soul to know that there *is* a world and to become like all things by, in a manner, touching them.²³ The possibility and the depth of this unity, however, depends upon the previous powers being in analogical and material relation to nous. The nutritive and sensitive powers help make possible the insight of rational soul and its corresponding collative activity. The intimate relationship between nous and the other powers of the soul, the meaning of the soul's *ἐφεξῆς*, is illustrated both by the duality of phantasia and by the nature of sight and touch which are analogous to the peculiar work of nous.

Sight as Most Perfect; Touch as Most Indicative

Phantasia both unifies the perceptions and connects the sensing and thinking power of the soul. As the middle term between these two powers, it makes the radical *ποίησις* of nous possible. It also ensures that nous's activity is connected to or imitative of reality.

Phantasia allows the soul to take on a likeness of the sensed object. This likeness becomes an image in the soul or a phantasm. A phantasm is a kind of shape or motion which contains the form.²⁴ The phantasm exists because and is an expression of form which is its principle.²⁵ Put another way, the outer or sensible look of a thing is expressive of the intelligible

²³ Pieper, Joseph, "The Philosophical Act," in *Leisure, the Basis of Culture*, Ignatius Press, San Francisco, (2009), 80-95; Aristotle, *De Anima*, III.5

²⁴ In considered the connection between sensation and understanding, we may be in some sense considering the relationship between *μορφή* and *εἶδος*. This paper cannot systematically explore this, but *μορφή* may be the outer appearance or 'look' of a thing which is the result of an inner 'look' or form (*εἶδος*). The use and sense of 'form' as 'look' follows Klein (1992) & (1998). For a consideration of the relationship between thought and phantasm, or between *εἶδος* and *μορφή*, c.f.: Kahn (2003); O'Gorman (2005); White (1985). Also, the use of *εἶδος* and *μορφή* in the *Physics* and the *Metaphysics* might be analyzed. The term 'hylomorphism' is itself a sign of this overlap and ambiguity.

²⁵ One is the articulation (*logos*) of the other. As shape is to form, so might logos be to nous. Is this the connection between the formal and the logical?

look. This is why, for Aristotle, there is never the merely-empirical. The form is expressed in a shape or appearance because form is the cause, source, and organization of such. Therefore, to see or experience the shape or phantasm of a thing is both analogically related to and genetically necessary for knowledge—in so far as we come to know by apprehending the intelligible form of an object in the appearance or phantasm.²⁶

However, it is not precisely phantasm which we apprehend noetically, but the cause of its being (the why and the what). This happens, not merely by seeing the shape more clearly, looking ‘inside’ it, or learning its parts. It is a recognition of inner nature, or paradoxically, the whole. It is this non-morphological insight which characterizes the recognition of the rational soul, even if such insight never occurs without phantasm.²⁷ Both man and animal can recognize a bird, but only man can recognize or know the bird as such. Yet, the connection between the object of perception and object of thought (a connection made possible by phantasm and which is in a certain sense a connection based on identity) allows us to see why Aristotle puts weight on the analogic significance of perception. Perception contains and is an expression of the principle; therefore, Aristotle exalts sight and touch as two analogic ways to grasp the nature of thought.²⁸

First, sight. Sight provides the sensitive soul with the purest and most complete knowledge of an object. It is purest because the likeness it attains to is the least corrupted by violence. Touch disturbs the sense organ of touch (pain is the extreme example of this); it is a kind of physical upheaval, however natural or gentle. By definition, touch requires touching and is therefore a disturbance. Sight receives its impressions with the least possible disturbance, so

²⁶ Aristotle, *On the Soul*, III.7, 431b1-5

²⁷ “The soul never thinks without an image.” Aristotle, *On the Soul*, III.7, transl. Smith at <http://classics.mit.edu/>.

²⁸ Aristotle, *Posterior Analytics*, II.19, 100b

that sight is untainted, not by the physical (which is in itself not a taint), but by the disturbance of the physical. Further, sight perceives not blindly. Touch tells us very little about what we sense, but sight, most of all, preserves the unity and phantasm ('μορφή') of the sensed object; as if in seeing, we see not the sensible, but the thing itself. For this reason, Aristotle will compare noesis to a kind of illuminative vision.²⁹ Our own expression, "I see," stands within such a framework, as does the etymological meaning of εἶδος.³⁰ Aristotle continues in the Platonic tradition of the visionary quality of understanding.³¹

Remarkably, Aristotle does not limit noetic insight to the analogy of sight. He also maintains that our knowing is like touch. While sight sees most perfectly, touch touches most completely—it is the most fundamental of the senses. Touch contacts its object and is therefore an expression of unity.³² Even more than touch, nous makes contact. As the hand which is the tool of tools, so the soul grasps the intelligible object directly.³³ The soul, as the place of forms, touches or receives form, and in touching becomes like the knowable.³⁴ The nous knows by way of this preeminent ποίησις. In doing so, it achieves a unique unity with or participation in the world. But this special ποίησις has been shown to depend upon a relationship between object, sensation, and phantasm. Noetic insight, which is itself separable, is only attained because of a complex soul's complex relationship with a multifaceted whole.

²⁹ Aristotle, *De Anima*, III.5

³⁰ Cf. Klein (1992 & 1998)

³¹ Plato *Republic*, 6-7, 507b-518c

³² Yet touch still requires a medium; therefore, nous is more (immediate) even than touch (Aristotle, *De Anima*, 419a30-35).

³³ Aristotle, *De Anima*, III.8

³⁴ Perelmuter refers to a parallel statement in the Metaphyscis, "as we have seen, Aristotle ascribes truth to a concept in terms of 'touching (θιγγάνειν) it and asserting (φάνει) it truly,' and the ignorance of a concept he describes as a lack of touch (Metaph. 1051b23-25). Either we touch, say, the concept of man and are subsequently able to recognize this concept in particular men, or we do not touch it and remain ignorant of it." Perelmuter, Zeev. "Nous and Two Kinds of Epistêmê in Aristotle's "Posterior Analytics"" *Phronesis* 55, no. 3 (2010), 246.

That something akin both to sight and touch occurs in noesis reveals the significance of the ἐφεξῆς of soul. The primitive powers are both analogously related to and materially implicated in the ποίησις of the perfected power. The potential for this exalted experience exists only because the previous powers are somehow necessary to understanding.

Matter, Potency, and Subject

This paper has explored the ἐφεξῆς of the soul, showing that ποίησις is characteristic of each power, and also that each power exists in potency within the next in the manner of something like material to form—although not material absolutely. This helps reveal the overarching unity of the soul while distinguishing the proper activity of each power. In the case of understanding, the distinction is not only one of operation, but of matter, although perhaps not numerically.

Words for instance are made of nothing but letters, but a word is not a collection of letters, it is a spoken or written sign.³⁵ Similarly, the saddle maker works with the material of leather to produce a saddle which is fashioned according to a certain form. To the rider, the saddle is not leather, but itself material for a new operation. That which is formal or substantial to one is material to the other. Ἐφεξῆς explains the successive relationship between matter and form, that is, the interdependence of two kinds of causes—not unlike the relationship between saddle maker and rider, in which there is a progression unto that which is more complete.

The relationship between matter and form which soul exhibits is even more unified than that of the saddle-maker/rider example because the soul is one (as is the reader who knows both letters and words). The thinker is identical to the perceiver, so that whenever a rational subject thinks, he does so as a result of an organized complexity. Indeed, thinking alone has the power to

³⁵ Aristotle, *On Interpretation*, 16a; Plato, *Theaetetus*, 201d-203c

reveal the ἐφεξῆς and principle (ἀρχή) of the soul, and can even be said to *be* that principle. Nous both knows and is the ἀρχή.³⁶ But reason must have something to reason about, just as the sensitive soul must have a body by which to sense (just as the rider needs horse and saddle, or a reader needs lettered-words). Yet, just as the body or the physical activity of the body was not the sensing itself, so also, the phantasm is not itself the knowing, but provides the occasion or possibility of knowing.

It would be very strange to think about a saddle-maker who didn't have the riding of horses in his mind. So too, it would be strange for a person to sense without ever thinking. But the power of sensing is yet something complete in itself, in a manner that a saddle (that is a saddle not intended for a horse and riding) or letters which are not signs are not. Each power of the soul is already a complete thing which is made yet more complete, or brought to a higher perfection through ἐφεξῆς. But this new perfection is by way of something different, rather than mere augmentation; it is something in the manner by which sight perfects motion.

The difficulty of thinking about thought and understanding is showing its dependence upon the previous powers of sensation and memory (or phantasia) without robbing either nous or sensing of their own distinct and complete activity.³⁷ The example of the saddle reminds us to treat the act of understanding (horse riding) as distinct from act of perception (the saddle). In doing so, we can distinguish mere perceptive awareness and desire from rational activity. Aristotle distinguishes nous by its knowledge of forms and universals. It is the process of induction by which the soul possesses such knowledge. Keeping in mind that the human being

³⁶ Aristotle, *Posterior Analytics*, 100b15

Nous stands as a final cause and principle both for the ἐφεξῆς of a rational soul and understanding.

³⁷ There is a kind of overlap as this paper argues.

only arrives at such because nous is both separate and situated within a scheme of ἐφεξῆς, we can proceed to think about induction.

Posterior Analytics, Book II

It is now possible to read the account of induction in *Posterior Analytics* II.19 within the context of *De Anima*'s nous. Aristotle's account of induction follows the same pattern of ἐφεξῆς found in *De Anima*. He begins with a consideration of kinds of soul, but shifts almost immediately to a consideration of these powers as parts of a single soul.

But though sense-perception is innate in all animals, in some the sense-impression comes to persist, in others it does not. So animals in which this persistence does not come to be have either no knowledge at all outside the act of perceiving, or no knowledge of objects of which no impression persists; animals in which it does come into being have perception and can continue to retain the sense-impression in the soul: and when such persistence is frequently repeated a further distinction at once arises between those which out of the persistence of such sense-impressions develop a power of systematizing them and those which do not.³⁸

Some animals are capable of sensation, some which have sensation also have memory, further certain remembering animals have a power of logos. But those animals capable of logos must also have the previous powers of perception and memory. It is not simply that creatures with logos happen to have sensation and memory; rather, sensation and memory are materially necessary for human logos.³⁹ The material necessity of sensation and memory helps clarify the meaning of Aristotle's statement, "we conclude that these states of knowledge are neither innate

³⁸ Aristotle, *Posterior Analytics*, II.19, 100a1-10, trans. G.R.G. Mure, at the Internet Classics Archive at <http://classics.mit.edu/>.

³⁹ Kahn (2003), 360, "the 'higher' levels presuppose and rest upon the levels below: a human is a special kind of animal, an animal is a special kind of living thing...each level is qualitatively distinct, each calls for its own autonomous level of understanding and explanation...the levels below provide a necessary condition...for what lies above"

in a determinate form (οὐτε δὴ ἐνυπάρχουσιν ἀφωρισμέναι ἔξεις), nor developed from other higher states of knowledge (οὐτ' ἀπ' ἄλλων ἔξεων γίνονται γνωστικωτέρων,), but from sense-perception (ἀλλ' ἀπὸ αἰσθήσεως).⁴⁰ What does it mean that such states of knowledge arise “from sense-perception (ἀπὸ αἰσθήσεως)? It is not that these states are empirical or merely a clarification of a sense perception, but that what is known is contained *in* perception.⁴¹ While thought is related to perception, it is also as distinct and not merely an enhanced form of perception.⁴² Thought is concerned with perceptions, but not as such, “not of Callias the man.”⁴³

A Bent Line Straightened Out

Part of the difficulty in clarifying what is distinctive to thinking is the manner in which the rational mind is always in some sense engaged by or with universals. The intellect is always engaged with wholes, that is either with primitive universals or with the universal as such. Even children are engaged with universals, if confusedly.⁴⁴ Joe Sachs notes in his translation of *De Anima*, “intellect pervades all human experience...the things that we perceive are already organized in accordance with something intelligible, and one of the things the intellect thinks is

⁴⁰ Aristotle, *Posterior Analytics*, II.19, 100a10

⁴¹ Aristotle, *Posterior Analytics*, II.19, 100a15-100b

⁴² “Aristotle and Plato are of one mind on the point that human beings have access to knowledge which transcends the mere recording of the singular truths of experience. For Plato these supersensible, universal truths are innate and Recollected, while for Aristotle they are acquired from experience via our native inferential capacity of induction. But the two stand as one against any radical empiricist who, wishing to reduce episteme to mere empeiria.” Gifford, Mark. “Aristotle on Platonic Recollection and the Paradox of Knowing Universals: “Prior Analytics” B.21 67a8-30.” *Phronesis* 44, 1 (1999), 23.

⁴³ Aristotle, *Posterior Analytics*, II.19, 100a15-100b

⁴⁴ Cf. Aristotle, *Physics* I.1, 184a-b. For an excellent discussion on the multifaceted stages and or modes of knowing the universal, cf. Wheeler (1999). Klein’s ‘dianoetic eikasia’ also illuminates the complex experience of forms and universals. Cf., Klein (1992) & (1998).

the perceptible thing in its wholeness.”⁴⁵ The things we perceive are “organized in accordance with something intelligible,” both because they are organized by a certain form inherent to them, but also because they are organized *for us* by our intellects which are capable of knowing form. Our intellect both receives the principle of organization and is that principle.⁴⁶

But there is more than one way to stand in relation to a whole or a universal. An animal without logos also deals with wholes (as μορφή or phantasm), yet without knowing them as such. A rational creature can, further, be explicitly engaged with wholes, yet in distinct modes. In one mode, a person is primarily concerned with the particular as an instance of the universal. In the second mode, a person considers the universal in itself. In both cases, the same universal is present, only nous is differently disposed. Analogously, one can make a conscious judgement and act upon it, or may act upon a previous judgment without consciously revisiting the logos. In one case, a man may say, “it is the nature of salt to help cure a mouth-wound; therefore, I will gargle.” In another case, the same man differently disposed, will simply gargle saltwater out of habit. Perhaps certain animals might seek saltwater for a similar problem, but they would do so without a rich consideration of the cause and the what.

This shows that saltwater, or water in general, can be viewed either as water (a whole organized by a logos, i.e., a certain ratio) or as an occasion to know or remember the being of

⁴⁵ Aristotle, *On the Soul & On Memory and Recollection*, trans. Joe Sachs, Green Lion Press (2001), 141. n.13;

“What, however, gives unity to the whole process of knowledge is the continual presence at every stage of the activity of thought (νοῦς), which is ever seeking to grasp the universal nature of things.... There are, therefore, two aspects in which we can view νοῦς: on the one hand, it is the source of the whole body of science, and, therefore, reveals to us the essential nature of things, and, on the other hand, it is the source of the first principles on which the whole edifice of science is based.” From Watson, John. “Aristotle’s Posterior Analytics: II. Induction.” *The Philosophical Review* 13, no. 2 (1904), 158.

⁴⁶ “The principle, then, will grasp the principle.” Aristotle, Posterior Analytics, II.19, 100b15, *Introductory Readings in Ancient Greek and Roman Philosophy*, trans. Terrence Irwin and Gail Fine, ed. C.D.C. Reeve & Patrick Lee Miller, (Indianapolis, IN: Hackett, 2006) 265.

water (the universal or form).⁴⁷ Aristotle distinguishes these two activities of nous by a rather obscure analogy:

Flesh and what it is to be flesh are discriminated either by different faculties, or by the same faculty in two different states...the essential character of flesh is apprehended by something different either wholly separate from the sensitive faculty or related to it as a bent line to the same line when it has been straightened out.⁴⁸

Nous can know both water and the form of water. But it can know water only because it knows the form of water, and it can know the form of water only because it has encountered actual water. Nous can function as the bent line, bent over itself, *tending* to or ministering to a phantasm. But having tended to a phantasm, it may also straighten itself out and separate out the universal, the form from the particular. In doing so, nous thinks of the what or the cause, which strictly speaking is not the phantasm nor even the perceptible object itself. As Aristotle says, “the faculty of thinking then thinks the forms in the images,” which this paper claims can be meant in two ways.⁴⁹

The rational mind can busy itself by saying “this is water,” “this is cold,” or “this wet thing is water,” but it can also busy itself with a consideration of water, wetness, or cold. This thinking both begins with sensation and can return to sensation as an object of consideration, but also rises above particular sensations to a consideration of the noeta. In doing so, it moves from what is first to us (perceptions which are always of wholes although indistinctly) to what is first in itself (the wholes which govern the perceptions within us and the objects without). It is in this sense that Aristotle claims universals are from perception ($\alpha\pi\circ\alpha\iota\sigma\theta\circ\sigma\omega\zeta$).⁵⁰ Still, the universals

⁴⁷ Aristotle, *De Anima*, III.4

⁴⁸ The dual nature of this faculty is related to the parallel, hinge-like nature of phantasia.

⁴⁹ “The soul never thinks without an image.” Aristotle, *On the Soul*, III.7, transl. Smith at <http://classics.mit.edu/>.

⁵⁰ Aristotle, *Posterior Analytics*, II.19, 100a10

are by no means the perceptions; they are *in* them and can come to inform our knowledge of them. “Although it is the particular we perceive, the act of perception is of the universal, e.g., ‘man, not a man Calias’.”⁵¹ Regarding this dual function of *nous*, I follow Charles H. Kahn:

It must be *nous*, not sense, which operates *either* separately (like a straight line) *or* in conjunction with sense (like a line bent in two). Whereas an essence can be the object only of *nous*, the perception of the corresponding matter-form compound (flesh as a certain ratio of hot and cold, etc. can be thought of in either of two ways: as the work of sense)... or as the work of *nous* in a complex way... In acts of thinking *nous* apprehends its forms in the phantasms; in perception it apprehends them as embodied in matter. The whole line of reasoning is designed to display the objects of *nous* in different states of separation from matter: embodied flesh, the essence of flesh.⁵²

The noetic power of the soul is therefore a separable activity which is yet implicated in the complexity and multiplicity of being. Through the distinctive power of *nous*, we arrive at the indivisible universals, but because *nous* has performed the work of induction and abstraction (because it tended to the form or universal present in the phantasm) *nous* not only gains insight into the simplicity of each form.⁵³ It also is made capable of grasping the diversity of combination and division, the complexity of cause and the what, such that the rational soul becomes authoritatively capable of *logos*.

Logos is a kind of meaningful speech (φωνή) which reflects the complexity of being and human experience.⁵⁴ It has the power to authoritatively collect and order, to divide or join

⁵¹ Aristotle, *Posterior Analytics*, II.19, 100a15-100b

⁵² Kahn, Charles, H. “Aristotle on Thinking,” in *Essays on Aristotle’s De Anima*, ed. Martha C. Nussbaum and Amélie Oksenberg Rorty. (Oxford University Press 2003), 371.

⁵³ Perelmuter, on the other hand, claims *nous* does not have the double task of grasping concepts and understanding propositions, but the single task of grasping concepts only. Perelmuter (2010), 236.

⁵⁴ Cf. Aristotle, *On Interpretation*, I; II; 6;

“*Nous* is consistently presented as the capacity to apprehend forms and essences: both forms as embodied and forms alone, both forms in sensible compounds and in mathematical abstraction...one other function of *nous* mentioned by Aristotle in this section of the *De Anima*...is not only the grasp of ‘indivisibles,’ that is of the simple forms; it is also the principles of the synthesis of concepts of a judgement (43a26-8)” Kahn, Charles, H. “Aristotle on Thinking,” in *Essays on Aristotle’s De Anima*, ed. Martha C. Nussbaum and Amélie Oksenberg Rorty. (Oxford University Press 2003), 372.

according to the diverse nature of things in their dependence and independence. Logos receives this authority and power from nous. Nous is the principle of logos, much as a general of a confused army can reestablish from disarray the diverse order of its many subordinates.⁵⁵ An army is no indifferent order, but a complex one.

This is why it is significant that the process of induction traces the genetic ἐφεξῆς of a rational creature's soul and experience. In doing so, it provides the means by which logos walks in step with the nature of all being. Human reason only has authority, that is there is only understanding and ultimately scientific knowledge, if the rational soul not only divides and joins, but sees. Noetic insight stands not only as the guarantor of the rational project, but as its principle of illumination—its general.

It is as if each of the varied levels and forms of existence and experience stand in relation to one another as confused slides. The light of the intellect cannot shine through them with clarity at first, and reason therefore fails to speak with precision. But once the true ἀρχή has been apprehended, it is not only that the universal comes into focus and is known, but that the entire collection of slides can be collated and illuminated in that light—that is, in the light of nous. For this reason, the ἐφεξῆς of the soul (which some have referred to as the nested potencies or a hierarchy of powers) forms part of the structure by which the whole of reality is brought into a kind of stereoscopic unity for man.

This is why meaningful and trustworthy logos does not begin until through the diversity of experience, amid the complexity and jumble of impressions, some overarching unity and simplicity has been arrived at. But when this ἀρχή has been established in the soul, scientific knowledge and meaningful speech become possible. This ἀρχή stands over and above the

⁵⁵ Aristotle, *Posterior Analytics*, II.19, 100a10-15.

diversity of impressions, but also within them and around them as their structuring whole—a likeness of the formal cause of their being. It is knowledge of this governing simplicity which authorizes logos. And because the rational soul arrives at this simplicity through a sensing body, logos not only can name (speak conceptually), but attend to the various divisions, combinations, and distinctions of being.⁵⁶

For non-traditionalists, it may be tempting to say that such a reading is a relapse into Platonic-rationalism and therefore casts aside the hard-won victories of Aristotle's empirical project. There are two considerations. The first is that a reexamination of such terms (empirical and rational) should be considered in order that we may not import anything alien into Aristotle.⁵⁷ If by empiricism we mean to restrict all thinking and understanding to clarity about sensations and terms, we may have lost the rich connection to reality which the Aristotelian project promises. Second, whatever we conclude about rationalism, because of the twofold work of nous and because the work of nous is contextualized by the ἐφεξῆς of the soul, it must be remembered that the prize of first principles (the source of scientific knowledge) has only been attained through a complex relationship between nous, the entire structure of the human soul, and all the diversity of actual and potential being. While nous has been shown to be distinct from the other powers of soul, it is also intimately dependent upon them, and is concerned with the same principle of reality in which they exist and function. This dynamic between kinds, parts, and wholes belies the significance of ἐφεξῆς as not merely an order, but as a kind of cause contained

⁵⁶ Modrak, Deborah K. W. "The Nous-Body Problem in Aristotle." *The Review of Metaphysics* 44, no. 4 (1991), 770-771.

⁵⁷ Engberg-Pederson works to make such clarifications in Engberg-Pederson (1979), 305. Also, cf. Wheeler (1999) on the unnatural bifurcation of linguistic and mental concepts.

within the soul. As has been said, such a cause is not life simply, but a good life. Induction clarifies the manner by which nous achieves and makes possible such a life.

What makes each thing one is the intellect
(τὸ δὲ ἐν ποιοῦν ἔκαστον, τοῦτο ὁ νοῦς).⁵⁸

This paper has discussed how ἐφεξῆς ultimately points to the complex unity of the rational soul. The unity of soul is one of tension, in as much as it is a unity organized by the separable activity of nous. Induction in *Posterior Analytics* 430a clarifies this tension by situating nous's activity in the context of ἐφεξῆς. The ἐφεξῆς reveals the following about the noetic power of the soul:

- How the given order of parts is a necessary material condition for understanding
- That this order reflects the genetic ἐφεξῆς of human learning & understanding
- That this temporal ἐφεξῆς not only leads to noetic apprehension, but in doing so is a cause for both understanding and science

Noetic apprehension is only possible for a human being because of the integrity of the whole soul. Apprehension is not as much a turn away from material or substance, as it is insight; it is not sight of the true in distinction from the false, but insight into the nature of being. The temporal and genetic account of induction suggests that our understanding remains in touch with the world rather than absolutely abstracted from it. Because nous is essentially poetic, its apprehension of first principles does not form a threat to Aristotle's so-called empirical project, but reveals a higher level of experience of which the soul is capable. Though understanding is by its nature abstraction, it is also the soul's highest participation in and experience of reality. Because the one who understands and the one who senses is one being, the diversity of human powers is a unified diversity and our thinking is never wholly apart from images.⁵⁹ The

⁵⁸ Aristotle, *On the Soul & On Memory and Recollection*, trans. Joe Sachs, Green Lion Press (2001), III.6, 144.

⁵⁹ Aristotle, *On the Soul*, III.7

separateness of nous preserves apprehension's purity and freedom to become like all things. It also allows nous to forge a unique intimacy with all beings at the highest level. This intimacy, which Aristotle compares both to touch and to sight, is nothing other than human understanding.

Conclusion

This paper has provided a synoptic overview of an interpretation of the relationship between the parts of the soul and human understanding. There remain several areas open to further research. First, a systematic exploration between the ἐφεξῆς of soul and the complex reception and awareness of universals would be appropriate. One might analyze whether this account of ἐφεξῆς can be harmonized with Wheelers (2009) work on universals. Second, *De Anima* deals largely with formal apprehension, can this be harmonized with induction and universals? Implicit in this paper has been the argument that the difference between certain forms and universals is a difference of mode, but this could be explored with greater clarity. Third, it would be helpful to understand Aristotle emphasis in *Posterior Analytics* on the need to rise from what first makes a stand in the soul to "that which has no parts."⁶⁰ Fourth, what is the relationship between universals and the principles of reason (e.g., the law of non-contradiction)? Are they a kind of para-knowledge that comes along with formal knowledge? Fifth, detailed research exploring the relationship between logos, form, shape, and phantasia would be useful. *Metaphysics* and *Physics* might be excellent sources for such an exploration. Finally, how does this reading square with recent major works on induction, including: *An Aristotelian Account of Induction: Creating*

⁶⁰ Aristotle, *Posterior Analytics*, 100b20, trans. Irwin and Gail Fine, ed. C.D.C. Reeve & Patrick, *Introductory Readings in Ancient Greek and Roman Philosophy* (2006), 265.

Something Nothing by Louis Groarke; *Shifting the Paradigm: Alternative Perspectives on Induction* by Biondi and Groarke; *Virtues of Thought* by Aryeh Kosman⁶¹

⁶¹ I was not able to obtain these works during the writing of this paper

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