

# **Does Aristotle's Philosophy Offer Us a Viable Architectonic Account of the World?**

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of Doctor of Philosophy

### Declaration:

I, Peter Jackson confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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### Abstract:

This thesis seeks to show the consistency and quality of Aristotle's ontology in its treatment of worldly being(s) by examining how Aristotle treats a range of worldly phenomena.

It does so by following Aristotle and considering (a) the structuring of worldly being in general by establishing that we exist as objects in a world of objects and that it is as determinate beings that we exhibit states and characteristics, (b) the structuring of our "physical" human engagement with the world through our exhibition of desire, choice, pleasure, and natural human biological development, (c) the structuring of our "mental" human engagement with the world through our human faculties for imagination, memory, and reason, (d) the structuring of organic being in accordance with the underlying concepts of limit (determinateness), priority (temporality), symmetry (duality), the "mean" (centredness), and proportion (dynamic wholeness), (e) the structuring of organic being as soul and matter, and (f) the meaning of "God" as the keystone of this system.

It ultimately seeks to defend the value of Aristotle's ontological or architectonic approach to the world and does so, implicitly and to some extent explicitly, vis-à-vis other philosophical approaches to the world.

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## Abbreviations Used:

Names of Grouping	Names of Aristotelian Texts	Abbr. Used
Parva Naturalia	<b>Nicomachean Ethics</b> / Ethica Nicomachea	<i>N.E.</i>
	<b>Eudemian Ethics</b> / Ethica Eudemia	<i>E.E.</i>
	<b>Politics</b> / Politica	<i>Pol.</i>
	<b>Rhetoric</b> / Rhetorica	<i>Rhet.</i>
	<b>Poetics</b> / Poetica	<i>Poet.</i>
	<b>Physics</b> / Physica	<i>Phys.</i>
	<b>Metaphysics</b> / Metaphysica	<i>Met.</i>
	<b>On Coming-to-Be and Passing Away</b> / On Generation and Corruption / De Generatione et Corruptione	<i>GC.</i>
	On the Soul / <b>De Anima</b>	<i>De An.</i>
	<b>On Sense and Sensibles</b> / On Sense and Sensibilia / De Sensu et Sensibilibus	<i>Sens.</i>
	<b>On Memory and Recollection</b> / De Memoria et Reniscentia	<i>Mem.</i>
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	<b>On Dreams</b> / De Insomniis	<i>Insomn.</i>
	<b>On Divination by Dreams</b> / De Divinatione per Somnum	<i>Div.</i>
	<b>On Longness and Shortness of Life</b> / De Longitudine et Brevitate Vitae	<i>Long.</i>
	<b>On Youth and Old Age</b> [On Life and Death] / De Juventute et Senectute	<i>Juv.</i>
	<b>On Respiration</b> / De Respiratione	<i>Resp.</i>
	<b>History of Animals</b> / Historia Animalium	<i>HA</i>
	<b>On the Parts of Animals</b> / De Partibus Animalium	<i>PA</i>
	<b>On the Motion of Animals</b> / De Motu Animalium	<i>MA</i>
	<b>On the Generation of Animals</b> / De Generatione Animalium	<i>GA</i>
	<b>On the Progression of Animals</b> / De Incessu Animalium	<i>IA</i>
Organon	<b>Categories</b> / Categoriae	<i>Cat.</i>
	<b>On Interpretation</b> / De Interpretatione	<i>De Int.</i>
	<b>Prior Analytics</b>	<i>Pr. An.</i>
	<b>Posterior Analytics</b>	<i>Post. An.</i>
	<b>Topics</b>	<i>Top.</i>
	<b>On Sophistical Refutations</b>	<i>Soph. El.</i>
	<b>Meteorology</b> / Meteorologica	<i>Mete.</i>
	On the Heavens / <b>De Caelo</b>	<i>De Cael.</i>
	<b>On Breath</b> / De Spiritu	<i>Spir.</i>
	<b>Magna Moralia</b>	<i>MM</i>

## Aristotelian Texts Used:

Quotations from Aristotle are generally from the Oxford or Loeb translations with a few exceptional translations taken from specialist works.

## *Preface*

The objective of this work is to present Aristotle's philosophical worldview and show the reader that it is valid, valuable, and even indispensable for a full and true understanding of the world. Despite the intuitive clarity of Aristotle's "common sense" realism, however, we find that it is even difficult to get into a position in which we can properly engage with Aristotle since his *pre-modern* viewpoint is based upon the "metaphysics" and "ontology" which Leslie Jaye Kavanaugh explains as that:

"Metaphysics... always implies an architectonic – an ontological structure that positions beings and Being within a complex composition<sup>1</sup>"

and which Immanuel Kant explains as that: "By the term *Architectonic* I mean the art of 'constructing a system. Without systematic unity, our knowledge cannot become science; it will be an aggregate, and not a system<sup>2</sup>'. Moving back to Aristotle we find that he insists upon the need for a philosophical architectonic on the basis that:

"There is a science which investigates being as being and the attributes which belong to this in virtue of its own nature (ἔστιν ἐπιστήμη τις ἣ θεωρεῖ τὸ ὄν ἢ ὅν καὶ τὰ τοῦτω ὑπάρχοντα καθ' αὐτό). Now this is not the same as any of the other so-called special sciences; for none of these others treat universally of being as being. They cut off a part of being and investigate the attribute of this part; this is what the mathematical sciences for instance do (*Met.* Γ 1003a21-26)"

and that: "It is evident...that it belongs to one science [i.e. philosophy] to be able to give an account of these concepts [i.e. opposites, plurality, unity, negation, privation etc.] as well as of substance (οὐσία)...and that it is the function of the philosopher to be able to investigate all things (*Met.* Γ 1004a32-1004b1)". In short, then, we see that Aristotle insists that we need philosophy in order to represent the ontology of the world

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<sup>1</sup> Kavanaugh, Leslie Jaye *The Architectonic of Philosophy: Plato, Aristotle, Leibniz* (Amsterdam, 2007) p 2.

<sup>2</sup> Kant, Immanuel *Critique of Pure Reason* (London, [orig. 1781]1934) p 471

around us and this position assumes that the world is, indeed, a system which can be represented systematically<sup>3</sup>.

As regards why we have to defend and discuss such a basic precept of “traditional” philosophy as that the world can and should be understood philosophically – this being held by such various thinkers as Aristotle and Kant – I suggest that we need to do so because there are sceptical philosophers who do not (strangely enough) believe in philosophy and they are people who have a popularity which requires us to defend the very existence of philosophy from their prejudices if we wish to take (Aristotle’s) philosophy seriously. As regards the basic principles of this “antiphilosophy” we find that David Hume asserts such things as that:

“...upon the whole, there appears not, throughout all nature, any one instance of connexion which is conceivable by us. All events seem entirely loose and separate. One event follows another; but we never can observe any tie between them. They seem *conjoined* but never *connected*...the necessary conclusion *seems* to be that we have no idea of connexion or power at all, and that these words are absolutely without any meaning, when employed either in philosophical reasonings or common life<sup>4</sup>”

and that: “Our idea...of necessity and causation arises entirely from the uniformity observable in the operations of nature, where similar objects are constantly conjoined together, and the mind is determined by custom to infer the one from the appearance of the other. These two circumstances form the whole of that necessity, which we ascribe to matter. Beyond the constant *conjunction* of similar objects, and the consequent *inference* from one to the other, we have no notion of any necessity or connexion<sup>5</sup>”. I add that an updated version of Hume’s antiphilosophy is the antiphilosophy of Richard

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<sup>3</sup> I note that Leslie Jaye Kavanaugh observes regarding Kant’s architectonic that: “...the method of the architectonic of pure reason constitutes the construction of a *schema* wherein the parts are arranged as to first principles. This *schema*, originating from an idea, is an *architectonic* unity rather than a *technical* unity (*The Architectonic of Philosophy: Plato, Aristotle, Leibniz* (Amsterdam, 2007) p 5)” and I suggest that the critical distinction between Kant and Aristotle here is that Kant’s philosophy centres upon our thought seeking to discern the supposed *a priori* and formal laws of nature whereas Aristotle’s philosophy is concerned with being (which encompasses our thought) and seeks to carve nature at its joints.

<sup>4</sup> Hume, David *An Enquiry Concerning Human Understanding* (1757) §58

<sup>5</sup> Hume, David *Ibid.* §64

Rorty who argues regarding "...the idea that we have ontological intuitions which make the notion of "mind" more than just a blur<sup>6</sup>" that:

"We no more know "the nature of mind" by introspecting mental events than we know "the nature of matter" by perceiving tables. To know the nature of something is not a matter of having it before the mind, of intuiting it, but of being able to utter a large number of true propositions about it"<sup>7</sup>

and that: "...we do not start with visual images. We do not "start" with *anything*. We are just trained to make reports – some perceptual, some introspective – as part of our general training in uttering true sentences, our learning of the language<sup>8</sup>" and with Rorty concluding that: "Functionalism comes down to saying that anything you want to say about persons will have an analogue in something you can say about computers, and that if you know as much about a person as a team consisting of the ideal design engineer and the ideal programmer know about a computer, then you know *all* there is to know about the person<sup>9</sup>".

Now, I suggest that if the idea that we can possibly see "man" as a "bundle" of events or as a "computer" (or even as a "machine") seems to be ludicrously bad then this is probably because it *actually is ludicrously bad* but I add that this also a highly respectable ludicrous badness which has proved itself to be highly convenient in the sense that it justifies technocracy by elevating "science"<sup>10</sup> and by subjectivising and relativizing man and making him "plastic"<sup>11</sup>. In other words, although I will show the

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<sup>6</sup> Rorty, Richard "Mind as Ineffable" in Richard Q. Elvee (ed.) *Mind in Nature; Nobel Conference XVII* (San Francisco, 1982) p 65-66

<sup>7</sup> Rorty, Richard *Ibid.* p 69

<sup>8</sup> Rorty, Richard *Ibid.* p 71

<sup>9</sup> Rorty, Richard *Ibid.* p 74 (cf. "What we've got is not a mind but a program, that is, a way of being wired up. When one puts it in those terms, it comes to seem misleading to speak of the mind as a control organ which does what the too-complex hardware can't do. Because it *is* simply the complexity of the hardware. This is my brief little defence of computers (*Ibid.* p 114)").

<sup>10</sup> Rorty argues that "...we can content ourselves with saying that the nature of a mental state is to be the sort of state of the human organism which psychologists study (*Ibid.* p 76)"

<sup>11</sup> Rorty's "pragmatism" both subjectivises man, as follows: "The question "What is the place of man in nature?" is a good one if it is constructed to mean something like: "What self-image should we humans have of ourselves?" For then it is shorthand for Kant's classic questions "What do we know? What should we do? What may we hope?" (*Ibid.* p 62)" and relativises

ludicrousness of this antiphilosophy both by explicitly arguing against it and also by subjecting it to implicit comparison with Aristotle's real philosophy, I add that we should also recognise that our situation is that our technocratic position is to some degree above criticism in the sense that it simply *is* the "solution" that "the system" (and its elites) clearly desire to have in place. This is, then, our general situation but let us also consider another direction of antiphilosophy and briefly examine it. I suggest that Alain Badiou explains well that Ludwig Wittgenstein's antiphilosophy is an emotional stance rather than a philosophical position by explaining his assertion that:

"Most of the propositions and questions to be found in philosophical works are not false but nonsensical (*TLP* 4.003)"

as follows: "It is typical of antiphilosophy that its purpose is never to *discuss* any philosophical theses...since to do so it would have to share its norms (for instance, those of the true and false). What the antiphilosopher wants to do is to situate the philosophical desire in its entirety in the register of the erroneous and the harmful. The metaphor of sickness is never absent from this plan, and it certainly comes through when Wittgenstein speaks of the "nonsensical"<sup>12</sup>, which highlights the basic problem of engagement we have considered above, i.e. that it is difficult even to make (modern) antiphilosophy engage with our (Aristotelian) philosophy.

I add that Wittgenstein seems to follow Hume in his assertion that: "There is no compulsion making one thing happen because another has happened (*TLP* 6.37)" and Rorty in his assertion of subjectivism that: "Outside logic everything is accidental (*TLP* 6.3)" and that philosophy should be restricted to: "the clarification of propositions (*TLP* 4.112)" and yet we also find that Wittgenstein's objective is not "pragmatism" but "mysticism" and hence that he asserts that: "There are, indeed, things that cannot be put into words. They *make themselves manifest*. They are what is mystical (*TLP* 6.522)" and that:

"The sense of the world must lie outside the world.

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the world, as follows: "The nominalist...construes "finding the nature of X" as just finding the most useful way to talk about the things which have traditionally been called "X" – a way which need not employ any term coreferential with "X" (*Ibid.* p 79)."

<sup>12</sup> Badiou, Alain *Wittgenstein's Antiphilosophy* (London, 2011) p 77



In the world everything is as it is, and everything happens as it does happen: *in* it no value exists – and if it did exist, it would have no value.

If there is any value that does have value, it must lie outside the whole sphere of what happens and is the case. For all that happens and is the case is accidental.

What makes it non-accidental cannot lie *within* the world, since if it did it would itself be accidental.

It must lie outside the world (*TLP* 6.41)”

which does, I suggest, provide us with such insights into our modern “antiphilosophy” as (a) that we encounter an immense egotism in respect to all of these thinkers (b) that they all refuse to engage with philosophical tradition and with the world itself (c) that their conclusions may appear to be elegant or useful but that they are inevitably partial and shallow and (d) that the combination of ego with shallowness and lack of system inevitably leads to the intellectual confusion, deceit, and wishful thinking that we undoubtably encounter in a large part of modern philosophy<sup>13</sup>.

As regards “real” philosophy and the peculiar quality of Aristotle’s philosophy within this tradition let us consider Georg W.F. Hegel’s wonderfully perceptive assessment of Aristotle’s *system* that:

“He [i.e. Aristotle] gets the sensuous phenomenon before him in its entire completeness, and omits nothing, be it ever so common. All sides of knowing enter his mind, all interest him; all are handled by him with depth and exhaustiveness...[and] Aristotle...abandons a determination only when he has traced it to another sphere wherein it retains no longer its former shape...[and] sometimes Aristotle does not aim

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<sup>13</sup> I suggest that shallow or ungrounded philosophy often leads to confusion and politicisation and that it is hence that we find that the (supposed) implications of such philosophies often run contrary to the philosopher’s apparent basic intention. We see an example of the muddled opportunism of mainstream modern thinking, i.e. that its disconnection from reality allows it to be interpreted in many different ways, by observing that whereas Alain Badiou comments that: “...Anglo-American grammarian philosophy – that twentieth-century form of scholasticism...is contrary to everything that Wittgenstein the mystic, the aesthete, the Stalinist of spirituality, could have desired (*Wittgenstein’s Antiphilosophy* (London, 2011) p 70-1)” we find that Karl Popper contrarily argues that this very approach to philosophy: “...really all goes back to Wittgenstein, who said that the meaning of a sentence is the method of its verification, and who says in his *Tractatus* that science can say all that can be said, and that after that there can be no unanswerable questions left (“World 3 and Emergent Evolution” in *Knowledge and the Body-Mind Problem: In defence of interaction* (London, [orig. 1969] 1994) p 76)” (and I suggest that we encounter a similar confusion regarding the philosophy and intent of René Descartes and the use made of his philosophy).

to reduce all to unity, or at least to a unity of antithetic elements; but, on the contrary, to hold fast each one in its determinateness, and thus to preserve it<sup>14</sup>”

and also Martin Heidegger’s equally perceptive assessment of Aristotle’s philosophical *intent*, as follows:

“...did we not assert, during the first enumeration of the four meanings of being in the Aristotelian sense, that the unity of these four meanings remains obscure in Aristotle? We did. However, this does not rule out but, for a philosopher of Aristotle’s stature, precisely entails that this unity be troubling in view of its multiplicity. We need only observe how Aristotle explains the *πολλαχῶς* [i.e. the manifold]. Thus he says on one occasion (*Met.* K 1060b32f): τὸ δ’ ὄν πολλαχῶς καὶ οὐ καθ’ ἓνα λέγεται τρόπον. “Beings are manifold and so not articulated according to one way.” But he also sees immediately and clearly the result that this view, when taken out of context, could generate, namely the dispersion of ὄν into many τρόποι, a dissolution of the ἓν. In contrast, Aristotle states: παντὸς τοῦ ὄντος πρὸς ἓν τι καὶ κοινὸν ἢ ἀναγωγὴ γίγνεται (1061a10f). “For each being, for all beings in whatever sense, there is a leading up and back to a certain one and common”; and at 1060b35: κατὰ τι κοινόν: “to some sort of common.” We are always encountering this cautious and (as to what the encompassing one may be) open-ended τι (of some sort). Aristotle speaks of the final and highest unity of being in this fashion; see 1003a27 in *Met.* Γ 1003a27 (and many other passages): τὸ ὄν ἢ ὄν, τὸ εἶναι ἀφ’ οὗ τις – a sort of governing from out of and in itself<sup>15</sup>”

and as regards how Aristotle stands within the tradition (according to these thinkers) we see (A) that Hegel concludes (a) that the great benefit of Aristotle’s approach is that his “...Final Cause is true and concrete, as opposed to the abstract Platonic Idea<sup>16</sup>” and (b) that its great deficit is that although: “Aristotle always moves in the speculative...he seems always to be philosophising only on the individual, the special, and not to arrive at what is absolute, universal or God...the one Absolute, the Idea of God, appears in

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<sup>14</sup> Hegel, G.W.F. “The Philosophy of Aristotle” *The Journal of Speculative Philosophy* ([orig. 1825-6] 1871) p 73-75

<sup>15</sup> Heidegger, Martin *Aristotle’s Metaphysics Θ 1-3: On the Essence and Actuality of Force* (Indiana, [orig. 1931] 1995) p 23

<sup>16</sup> Hegel, G.W.F. “The Philosophy of Aristotle” *The Journal of Speculative Philosophy* ([orig. 1825-6] 1871) p 76

Aristotle's Philosophy, but as a particular somewhat, side by side with the others<sup>17</sup>” and (B) that Heidegger concludes that: “...in spite of his tendency to radicality he did not press on into the ultimate originality of the Being of the world<sup>18</sup>.”

Now, I suggest that we should question whether we need Hegel's Idea or Heidegger's Dasein to *complete* Aristotle's system or if Aristotle's system simply stands up on its own on the basis of the revealed principle that:

“...nature is only one particular genus of being (ἐν γάρ τι γένος τοῦ ὄντος ἡ φύσις)  
(*Met.* Γ 1005a34)”

i.e. on the basis that we simply find that the world is both sensible and super-sensible and that we can to some degree “see” the super-sensible through the sensible<sup>19</sup>. We see, however, that *this* philosophical tradition is a real conversation with other people and is a mature engagement with other thinkers and with the world itself whereas the alternative is, I suggest, pseudo-philosophy and antiphilosophy which is ultimately founded upon solipsism and narcissism. This is the distinction I find between our philosophy (or at least a large part of it) and Aristotle's and I suggest that the reader should at least be willing to test the prejudices and conceits of modern thinking by considering whether Aristotle's philosophy is, indeed, “nonsensical”.

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<sup>17</sup> Hegel, G.W.F. *Ibid.* p 77-8

<sup>18</sup> Heidegger, Martin *Plato's Sophist* (Indiana, [orig. 1924-5] 1992) p 59

<sup>19</sup> For an interesting article on the necessary interdependency of ontological commitment, method, and metaphysical construction see Suman Gupta's “Ontological Commitment, Methods and Philosophical Positions” in *Indian Philosophical Quarterly* (1975). On the sensible and supersensible see also Giovanni Reale's *The Concept of First Philosophy and the Unity of the Metaphysics of Aristotle* (New York, 1980) esp. p 126-127.

## 1 Aristotle on Objective Reality

I will break down and show in this work the thoroughness, consistency, and correctness of Aristotle's *architectonic* of being and of human being and, to this end, let us begin immediately below by revealing the basic philosophical framework and approach of Aristotle's picturing of the world. The basic components of Aristotle's "architectonic" of the world are as follows (1) the "categories" of being and of being-in-the world: "substance", "quantity", "quality", "relation", "place", "time", "being-in-a-position", "having", "doing", "being affected" (2) the "elements" of earth, water, air, and fire which can (and should) be recast as solid, liquid, gas, and plasma (or, alternatively, energy) and (3) the "first principles" or "originative sources" described as follows:

"We must reckon as an "originative source" (ἀρχήν) and as "primary" (πρώτην) the matter which underlies, though it is inseparable from (τὴν ὕλην τὴν ἀχώριστον μὲν, ὑποκειμένην), the contrary qualities (τοῖς ἐναντίοις): for "the hot" (τὸ θερμόν) is not matter for "the cold" (ὑλὴ τῷ ψυχρῷ) nor "the cold" for "the hot", but the *substratum* is matter for them both (ἀλλὰ τὸ ὑποκείμενον ἀμφοῖν). We therefore have to recognise three "originative sources": *firstly* that which is potentially perceptible body (τὸ δυνάμει σῶμα αἰσθητόν), *secondly* the contraries (αἱ ἐναντιώσεις) (I mean, e.g., heat and cold), and *thirdly* Fire, Water, and the like [i.e. the elements] (GC II 329a30-35)"

from which we see that these "principles" operate (a) as "matter" or thingliness (b) as "contraries" and (c) as "elements"<sup>20</sup> or "enformed matter" and then as "substance"

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<sup>20</sup> I note that Aristotle comments on the term "element" generally that:

"The term "element" is also applied metaphorically to any small unity which is useful for various purposes; and so that which is small or simple or indivisible is called an "element (στοιχεῖον)". Hence it comes that the most universal things are elements (τὰ μάλιστα καθόλου στοιχεῖα εἶναι); because each of them, being a simple unity, is present in many things – either in all or in as many as possible. Some too think that unity and the point are first principles. Therefore since what are called genera are universal and indivisible (because they have no formula), some people call the genera elements (ἐπεὶ οὖν τὰ καλούμενα γένη καθόλου καὶ ἀδιαίρετα (οὐ γὰρ ἔστι λόγος αὐτῶν), στοιχεῖα τὰ γένη λέγουσιν τινες), and these rather than the differentia, because the genus is more universal (*Met.* Δ 1014b3-13)"

regarding which: “...what is the most characteristic of substance appears to be this: that, although it remains, notwithstanding, numerically one and the same (ἐν ἀριθμῷ ὅν), it is capable of being the recipient of contrary qualifications (τῶν ἐναντίων εἶναι δεκτικόν) (*Cat.* 4a10-11)” (and see also *Metaphysics* Δ for detail of Aristotle’s basic philosophical terminology).

I suggest that this basic picture of “principles” working through the “contraries” open to “substances” allows us to interrogate and make sense out of a range of areas of reality with examples being (A) what Howard Curzer calls Aristotle’s “doctrine of disjoint spheres” in respect to human “virtues” which posits that the field of *human virtue* covers a range of “dispositions” which possess scales of “contraries” as follows:

“...every disposition (πᾶσαν διάθεσιν) is both produced and destroyed by the same things applied in a certain manner, for example health by food and exercises and climate; these points are clear from induction...[although] it must be grasped that in every continuum (ἐν ᾧ παντι συνεχεῖ) that is divisible there is excess and deficiency and a mean, and these either in relation to one another or in relation to us (καὶ ταῦτα ἢ πρὸς ἄλληλα ἢ πρὸς ἡμᾶς)<sup>21</sup>, for instance in gymnastics or medicine or architecture or navigation...from the start our nature does not diverge from the mean in the same way as regards everything, but in energy we are deficient and in self-indulgence excessive (*E.E.* II 1220a26 – *E.E.* II 1222a39)”

regarding which Aristotle gives us the paradigm example of the courageous man who is a mean between: “...the man who is not afraid of things of which he ought to be afraid, nor when nor as he ought, [and who] is rash, [and] he that is afraid of things of which he ought not to be afraid, and when and as he ought not to be, [and who] is cowardly (*E.E.*

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which shows us that Aristotle’s “element” is not a “simple” or a “datum” in a modern sense (e.g. the simplistic simples of Hume and Descartes) but is rather a distinct example of formal being-in-the-world (and see also *Post. An.* II 96b15-26). I also note that Russell Winslow explains well the elemental or foundational nature of Aristotle’s “categories” as that: “...in Aristotle, for a logical statement to bear continuity and unity – its measure of certainty – it must reflect the continuity that secures the being about which the statement is made. Thus, insofar as categories are the beings that are, for Aristotle, these *ur*-logical structures cannot be simply human words and concepts divorced from the world. Moreover, we might even say that the world gives itself to us as categories (*Aristotle and Rational Discovery* (London, 2007) p 6-7).”

<sup>21</sup> Cf. “...it follows that as...actions are contrary to each other and to the mean, so also the states of character that cause them are contrary to each other and to virtue (ἀνάγκη, ὥς ταῦτ’ ἀλλήλοις ἐναντία καὶ τῷ μέσῳ, οὕτω καὶ τὰς ἔξεις ἀλλήλαις ἐναντίας εἶναι καὶ τῇ ἀρετῇ) (*E.E.* II 1222a20-22)”.

II 1221a18-19)” and we find that Aristotle provides an extensive table of emotions / virtues at *E.E.* II 1221a using this principle which begins with the following terms: Irascibility, Spiritlessness, Gentleness (the mean); Rashness, Cowardice, Courage (the mean) etc.<sup>22</sup>

We also find that Aristotle adds the further *structuring* in respect to virtue that there are both “intellectual” and “moral” virtues, as follows:

“...the [soul] has two parts (δύο μέρη τῆς ψυχῆς), and the virtues are divided between them (καὶ αἱ ἀρεταὶ κατὰ ταῦτα διήρηνται), one set being those of the rational part (τοῦ λόγον ἔχοντος), intellectual virtues, whose work is true (ὧν ἔργον ἀλήθεια), whether about the nature of a thing or about its mode of production, while the other set belongs to the part that is irrational but possesses appetite (αἱ δὲ τοῦ ἀλόγου, ἔχοντος δ’ ὄρεξιν) (*E.E.* II 1221b28-32)”

and as regards the problems incumbent in a contrary *unstructured* view of human character Aristotle argues that:

“...not to know that it is from the exercise of activities on particular objects that states of character are produced is the mark of a thoroughly senseless person (τὸ μὲν οὖν ἀγνοεῖν ὅτι ἐκ τοῦ ἐνεργεῖν περὶ ἕκαστα αἱ ἕξεις γίνονται, κομιδῇ ἀναισθήτου) (*N.E.* III 1114a9-10)”

on the basis, as discussed above, that we must evidently see that human being is structured, grounded, and channelled in the senses (a) that our behaviour can be broken down into discrete areas or “habits” which correspond to their objects of desire, (b) that our behavioural objects have “virtues” as equilibrical “mean” states, e.g. courage is not opposed to cowardice but is a mean between rashness and cowardice, i.e. on Aristotle’s account we have a real engagement with the world rather than just having “*have / have-*

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<sup>22</sup> I note that Howard Curzer outlines Aristotle’s position well in his *Aristotle and the Virtues* (Oxford, 2012), as follows: “(i) ...no action or passion exhibits more than one virtue (or vice) because each virtue governs completely different objects...the spheres of the virtues do not intersect (p 23) (ii) the doctrine of the mean recommends triangulating in on the right choice (p 51) (iii) When Aristotle stipulates that one virtue, temperance, governs food, drink, and sex, he is saying that these three pleasures are so intertwined or parallel that a single trait is right for all three (p 20) (iv) Aristotle narrows the spheres of the virtues partially to ensure that different virtues have different objects (p 224) and (v) [There are] virtues...each governing a different sphere or aspect (*peri ho*) of human life. Each virtue consists of an *intellectual component* consisting of some sort of knowledge and intellectual abilities, plus a *moral component* consisting of dispositions concerned with passions, desires, pleasures etc. (p 294-5)”.

not” “on / off” *contraries* like switches, and hence (c) that we must recognise that we are “beings” which are discrete substantive objects or actors *in* the world whilst also being *of* the world and *formed by* the world.

A further example of qualities acting through and on objects is (B) the field of *human desire* in which we see (i) that:

“...every desire is for the sake of something: for the object of desire is the starting point for the practical intellect (καὶ ἡ ὄρεξις <δ> ἕνεκά του πᾶσα· οὗ γὰρ ἡ ὄρεξις, αὕτη ἀρχὴ τοῦ πρακτικοῦ νοῦ) (*De An.* III 433a15-16)”

and (ii) that:

“...things different in kind are, we think, completed by different things (τὰς ἐνεργείας τὰς διαφερούσας τῷ εἶδει ὑπὸ διαφερόντων εἶδει τελειοῦσθαι) (*N.E.* X 1175a25-26)”

and with a specific example being that: “...it is not every pleasure one should seek from tragedy, but the appropriate kind [of pleasure] (οὐ γὰρ πᾶσαν δεῖ ζητεῖν ἡδονὴν ἀπὸ τραγωδίας ἀλλὰ τὴν οἰκείαν) (*Poet.* 1453b10-11)” and with the paradigmatic picture which emerges here being that (a) forces or principles (b) (inter-)act with (c) substances and objects. I comment that the negative significance of this picture of desire is that it precludes the very *idea* of and *possibility* of a “hedonistic calculus” on the basis that the real world is a complex of various objects of desire and of various desiring objects which are only *theoretically* interchangeable<sup>23</sup> and with the ultimate consequence of this situation being that we must engage with a worldly situation in which: “...“Each animal is thought to have a proper pleasure, as it has a proper function (δοκεῖ δ’ εἶναι ἐκάστῳ ζῷον καὶ ἡδονὴ οἰκεία)”; viz. that which corresponds to its activity (ἡ γὰρ κατὰ τὴν ἐνέργειαν). If we survey them species by species, too, this will be evident; horse, dog, and man have different pleasures (*N.E.* X 1176a3-6)”. I add that Aristotle expands on this point by arguing that not only does each species have its own peculiar world and objects of desire but each individual man possesses such a world and such objects to some degree and Aristotle also adds that this peculiar awareness and specificity of man

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<sup>23</sup> Aristotle argues that the objects of the world cannot be reduced to a *scale of values* on the basis that: “...those persons are wrong in their criticism who imagine that all terms are used analogously, so that that which is neither a shoe nor a hand will be intermediate between “shoe” and “hand”...as though there must be an intermediate in all cases (*Met.* I 1056a31-35)”.

is not a gift from the gods, as it were, but actually arises from out of the peculiarly conflicted nature of human being itself<sup>24</sup>.

I ultimately suggest that the significance of this structured picture of reality is that the subtlety and concreteness of Aristotle's account does by its very nature implicitly reject and rebut reductionist accounts of the world (i.e. such as the hedonistic or felicific calculus) and I add that other areas of reality which also fit Aristotle's picture are (C) that we engage with many different "objects" from the world (or aspects of the world) through our various senses (and Aristotle famously adds that we also have a "common sense" which can survey and take in the whole object) and on this subject area Aristotle argues that a "sense" is peculiarly delimited by its "object" as follows:

"...there are some things that cannot be employed for something other than their natural objects, for instance sight – it is not possible to see a thing that is not visible, or to hear a thing that is not audible (*E.E.* II 1227a23-25)"<sup>25</sup>

(D) that our mind engages with the various "objects" in the world through various "sciences" and hence Aristotle continues (from the above) by arguing that "science" possesses an additional range of possibility and interpretation over "sense" as follows:

"... but a science does enable us to do a thing that is not the object of the science. For health and disease are not the objects of the same science in the same way: health is its object in accordance with nature, and disease in contravention of nature (*E.E.* II 1227a26-28)"

(i.e. the medical method can be used both to cure and to poison) and (E) that we as people are "objects" which possess an *innate* capacity for "friendship" and "love" with other relatable "objects" and with this relationship taking the forms of uni-directional empathy, mutual sympathy between beings, and coming together in a shared identity.

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<sup>24</sup> Cf. "...in the case of man each individual seems dear to himself, although in the case of other animals it is not so, for example a horse to itself...so it is not dear to itself. But neither are children, but only when they have come to possess purposive choice; for when that point is reached the mind is at variance with the appetite (ἡδὴ γὰρ τότε διαφωνεῖ ὁ νοῦς πρὸς τὴν ἐπιθυμίαν) (*E.E.* VII 1240b31-34)".

<sup>25</sup> See also Hendrik Lorenz's "The Assimilation of Sense to Sense-Object in Aristotle" in *Oxford Studies in Ancient Philosophy XXXIII* (Oxford, 2007)



To expand on Aristotle's "love" and its objects in more detail I observe further that we can even say that a "self" in a sense *only exists* through its ability to relate to, emulate, and engage with others and also that Aristotle describes the directionality of "love" from one person to another as follows:

"Loving depends, more than being loved, on the actual feeling, whereas being loved corresponds with the nature of the object (ἔστι δὲ καὶ κατὰ τὴν φιλίαν τὸ φιλεῖν μᾶλλον ἢ τὸ φιλεῖσθαι, τὸ δὲ φιλεῖσθαι κατὰ τὸ φιλητόν) (E.E. VII 1239a34-36)"

and that he argues that this *directional* love leads to a situation between the parties in which: "Some persons grow up by nature affectionate and others ambitious; one who enjoys loving more than being loved is affectionate, whereas the other enjoys being admired and loved more. So the man who enjoys being admired and loved is a lover of superiority, whereas the other, the affectionate man, loves the pleasure of loving (E.E. VII 1239a27-31)" whereas true friendship is a *mutual* love such that: "A friend is one who loves and is loved in return, and those who think their relationship is of this character consider themselves friends (φίλος δὲ ἐστὶν ὁ φιλῶν καὶ ἀντιφιλούμενος: οἴονται δὲ φίλοι εἶναι οἱ οὕτως ἔχειν οἰόμενοι πρὸς ἀλλήλους) (Rhet. II 1381a1-2)"<sup>26</sup>. We see, then, that Aristotle ultimately considers how the world is structured so that there is *meaningful interaction* between a wide range of objects over space, over time, and through various dimensions, i.e. through desire, love, sense etc.

Another important example of an architectonic structuring that we find in Aristotle's work is (4) the high-level division of organic being into the genera of (i) plant, (ii) animal and (iii) man, as follows:

"All animals have, in addition [to plants], some measure of knowledge of a sort (γνώσεώς τινος πάντα μετέχουσι) (some have more, some less, some very little indeed (τὰ μὲν πλείονος τὰ δ' ἐλάττονος, τὰ δὲ πάμπαν μικρᾶς)), because they have sense-perception (Αἴσθησιν γὰρ ἔχουσιν), and sense-perception is, of course, a sort of knowledge (ἢ δ' αἴσθησις γνῶσις τις). The value we attach to this knowledge varies greatly according as we judge it by the standard of human intelligence (πρὸς φρόνησιν) or the class of lifeless objects (πρὸς τὸ τῶν ἀψύχων γένος). Compared with the

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<sup>26</sup> I add as regards the connection between "friendship" and "love" that Aristotle argues that: "...love (ἔρως) seems to resemble friendship (φιλία), for the lover is eager to share the life of the loved one, although not in the most proper way but in a sensuous manner (κατ' αἴσθησιν) (E.E. VII 1245a25-27)".

intelligence possessed by man, it seems as nothing to possess the two senses of touch and taste only; but compared with entire absence of sensibility it seems a very fine thing indeed. We should much prefer to have even this sort of knowledge to a state of death and non-existence (τεθνεὸς καὶ μὴ ὄν). Now it is by sense-perception that animals differ from the creatures which are merely alive [i.e. plants] (Διαφέρει δ' αἰσθήσει τὰ ζῷα τῶν ζώντων μόνον); since, however, if it be an animal (ἐὰν ᾗ ζῷον), its attributes must of necessity include that of being alive (ἀνάγκη ζῆν), when the time comes for it to accomplish the function proper to that which is alive (δεήσει ἀποτελεῖν τὸ τοῦ ζῶντος ἔργον), then it copulates and unites and becomes as it were a plant (τότε συνδυάζεται καὶ μίγνυται καὶ γίγνεται ὥσπερ ἀνὲρ φυτόν), just as we have said (GA I 731a32-731b8)”

from which we see that Aristotle believes that we can *classify organic being* on the basis (i) that *all* living things *share* the “function proper to that which is alive” which is the reproduction of the kind (which also requires a prior “self” or substantive being and also a capacity for self-supporting nutrition) (ii) that it is the power of sensation that differentiates animal from plant (see also *Juv.* 467b19-26) (iii) that the power of human intelligence (and of human desire and pleasure; see *N.E.* X 1176a8-10) is of a different order or quality to the power as it is expressed in sensate animals (and as the power of movement and hence sensation gives animals a radically different quality of life than that of plants). Aristotle does, then, regard (i) plant, (ii) animal, and (iii) man as being generic organic *elements* of nature to which I add that (iv) the “eternal” heavenly objects and (v) the “simple” elements are the other generic but inorganic *elements* of nature.

From a further alternative perspective I add that Aristotle also gives a different but complementary picture of organic being through his conceptualisation of a “scale of life” in nature which runs from the inanimate through plants and animals to man (see *N.E.* I 1098a1ff; *Resp.* 477a15ff) and within which insects are an intermediate form (see *Long.* 467a20-21; *Juv.* 468b2-3) and also testacea (see *GA* I 731b8) and from which we see that it is *meaningfully* possible to say at a very high level *both* that there is an observable “*scala naturae*” from chemical element through plant and animal to man (as above) and *also* that:

“...life is defined in the case of animals by the power of perception (τὸ δὲ ζῆν ὁρίζονται τοῖς ζῴοις δυνάμει αἰσθήσεως), in that of man by the power of perception or thought (ἄνθρωποις δ' αἰσθήσεως ἢ νοήσεως); and a power is defined by reference to the corresponding activity (ἡ δὲ δύναμις εἰς τὴν ἐνέργειαν ἀνάγεται) which is the essential

thing (τὸ δὲ κύριον ἐν τῇ ἐνεργείᾳ); therefore life seems to be essentially (κυρίως) the act of perceiving or thinking (*N.E.* IX 1170a16-19)”

and with Aristotle’s assessment of animal “evolution” being that:

“...all animals...have an innate faculty of discrimination, which we call sense-perception (ἔχει γὰρ δύναμιν σύμφυτον κριτικήν, ἣν καλοῦσιν αἴσθησιν). All animals have it, but in some the perception persists, while in others it does not. Where it does not, there is either no cognition at all outside the act of perception, or no cognition of those objects of which the perception does not persist. Where perception does persist, after the act of perception is over the percipients can still retain the perception in the soul (ἐν οἷς δ’ ἔνεστιν αἰσθομένοις ἔχειν ἔτι ἐν τῇ ψυχῇ). If this happens repeatedly, a distinction immediately arises between these animals which derive a coherent impression from the persistence and those which do not (πολλῶν δὲ τοιούτων γινομένων ἤδη διαφορά τις γίνεται, ὥστε τοῖς μὲν γίνεσθαι λόγον ἐκ τῆς τῶν τοιούτων μονῆς, τοῖς δὲ μή) (*Post. An.* II 99b35 – 100a4)”

and with Aristotle suggesting that this human “thought” is the highest realisation of animal “sensation” and hence that thought is the “...aim of all things, or of all things that possess sensation or reason; or would be, if they could acquire the latter (εἰ λάβοι νοῦν) (*Rhet.* I 1362a23-24)”. I add that Russell Winslow explains the end product (so far) of this natural evolution as follows: “How do humans move? *Anthropoi* move in their most exquisitely human way not by metabolising, not by walking, nor by seeing and hearing, but human beings reveal their natural motion in and through their *orthoi logoi* – which is to say, through the cultivation of their ethical and intellectual virtues<sup>27</sup>” or, in other words, that if we see man as *a real product of evolution* rather than as *a chance product of nature* we should also see (with Aristotle) that man possesses the nutrition and reproduction of the plant, the movement of the animal, and also the mind of man which positively transforms all that has gone before.

I add in respect to *Aristotle’s principle of “evolution”* (a) that the development of the animal’s capacity for thought leads in “man” to a development of and enabling of his sense of and capacity for “love” and “care” along the lines that: “...those [animals] that have more understanding and possess some memory continue the association, and have a more social relationship (πολιτικώτερον) with their offspring (*HA* VII 589a1-3)”

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<sup>27</sup> Winslow, Russell *Aristotle and Rational Discovery* (London, 2007) p 10

and (b) that Aristotle’s principle of “evolution” is ultimately *a cascading of principles of meaning* (and of consequent action and affection) through history and being, as follows:

“...it is also a law of nature – activity is a more desirable thing, and there is the same relation between effect and activity as between the parties here: the person benefitted is as it were the product of the benefactor (ἡ γὰρ ἐνέργεια αἰρετώτερον, τὸν αὐτὸν δὲ λόγον ἔχει τὸ ἔργον καὶ ἡ ἐνέργεια, ὁ δ’ εὖ παθὼν ὥσπερ ἔργον τοῦ εὖ ποιήσαντος). This is why even animals have the philoprogenitive instinct, which urges them to produce offspring and also to protect the offspring produced. And in fact fathers love their children more than they are loved by them...and these in turn love *their* children more than their parents, because activity is the greatest good. And mothers love their children more than fathers, because they think that the children are more their work; for people estimate work by its difficulty, and in the production of a child the mother suffers more pain (*E.E. I 1241a40–1241b9*)”

from which I suggest that the development of (or evolution of) “mind” is also the development of “care” in the world and also that nutrition, sensation, and thought (and plant, animal, and man) are themselves an evolution of being which further substantiates Aristotle’s evolutionary conceptualisation of a *scala naturae*<sup>28</sup>.

I add the further complication in respect to how Aristotle understands the basic structuring and evolution of the main components of the world (especially organic and inorganic) that Aristotle argues regarding the inorganic structuring of nature that the “simple” elements “imitate” the “divine” and that “organic” being is distinct from both of these only in the sense that it is perishable and “composite” and with “rational” beings having the further distinction that they are able to determine their own motion to some extent, as follows:

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<sup>28</sup> Cf. “It looks as though Nature herself desires to provide that there shall be a feeling of attention and care (αἰσθησιν ἐπιμελητικὴν παρασκευάζειν) for the young offspring. In the inferior animals this feeling which she implants (ἐμποιεῖ) lasts only until the moment of birth; in others, until the offspring reaches its perfect development; and in those that have more intelligence (φρονιμώτερα), until its upbringing is completed. Those which are endowed with most intelligence show intimacy and attachment (συνήθεια καὶ φιλία) towards their offspring even after they have reached their perfect development (human beings and some of the quadrupeds are examples of this); birds show it until they have produced their chicks and brought them up; and on this account hen birds which have laid eggs but omit to sit on them, deteriorate in their condition, as though they were deprived of one of their natural endowments (*GA III 753a8-16*)”.

“...the heavenly bodies [do not] tire in their activity; for motion does not imply for them, as it does for perishable things, the potentiality for the opposite, which makes the continuity of the motion distressing; this results when the substance is matter and potentiality; not actuality (ἡ γὰρ οὐσία ὕλη καὶ δύναμις οὐσα, οὐκ ἐνέργεια, αἰτία τούτου). Imperishable things are resembled in this respect by things which are always undergoing transformation, such as earth and fire (μιμεῖται δὲ τὰ ἄφθαρτα καὶ τὰ ἐν μεταβολῇ ὄντα, οἷον γῆ καὶ πῦρ); for the latter too are always active, since they have their motion independently and in themselves (καὶ γὰρ ταῦτα αἰεὶ ἐνεργεῖ: καθ’ αὐτὰ γὰρ καὶ ἐν αὐτοῖς ἔχει τὴν κίνησιν). Other potentialities, according to the distinctions already made, all admit of the opposite result; for that which is capable of causing motion in a certain way can also cause it not in that way; that is if it acts rationally (τὸ γὰρ δυνάμενον ὥδὲ κινεῖν δύναται καὶ μὴ ὥδὲ, ὅσα γε κατὰ λόγον) (*Met.* Θ 1050b25-33)”

and I add in respect to the parallelism between the “organic” and “inorganic” (i) that Aristotle sees in nature a “cyclical” principle which underlies *both* organic and inorganic being in the sense that: “Fire comes-to-be through the agency of Fire [i.e. fire spreads] and Man through that of Man [i.e. man reproduces] (*GC* I 320b20-21)” (ii) that Aristotle argues the “organic” cycle of being is “complex” in the sense that: “...the seed comes from other individuals which are prior and complete, and the first thing is not seed but the complete being, e.g. we must say that before there is a seed there is a man, not the man produced from the seed, but from another from whom the seed came (*Met.* Λ 1073a1-3)” and (iii) that Aristotle argues that “inorganic” being is “simple” in the sense that:

“The cause of this continuous process, as has been frequently remarked, is cyclical motion (τούτου δ’ αἴτιον, ὥσπερ εἴρηται πολλάκις· ἡ κύκλῳ φορά), the only motion which is continuous (μόνη γὰρ συνεχής). Hence also the other things which change into one another, for instance, the simple bodies, by being acted upon or having power to act, imitate cyclical movement (διὸ καὶ τᾶλλα ὅσα μεταβάλλει εἰς ἄλληλα κατὰ τὰ πάθη καὶ τὰς δυνάμεις, οἷον τὰ ἀπλᾶ σώματα, μιμεῖται τὴν κύκλῳ φορὰν). For when Air comes-to-be from Water, and Fire from Air, and Water again from Fire, we say that coming-to-be has completed the cycle, because it has come back to its starting-point. Hence motion in a straight line is also continuous because it imitates cyclical motion (ὥστε καὶ ἡ εὐθεῖα φορὰ μιμουμένη τὴν κύκλῳ συνεχῆς ἐστίν) (*GC* II 337a 1-8)”

and with Aristotle explaining elsewhere that what is “...continuous...[is] more strictly and in a prior sense one whose motion is more simple and indivisible (οὐ ἀδιαίρετωτέρα ἢ κίνησις καὶ μᾶλλον ἀπλῆ) (*Met.* I 1052a21-22)” and with his conclusion on “inorganic” matter being that it is “always active” in the sense that: “...contains in itself the cause of its continuity. A thing is of this kind if its motion is one and indivisible in respect of time and place (ἀλλὰ ἔχει ἐν αὐτῷ τὸ αἴτιον αὐτῷ τοῦ συνεχὲς εἶναι. τοιοῦτον δὲ τῷ μίαν τὴν κίνησιν εἶναι καὶ ἀδιαίρετον τόπῳ καὶ χρόνῳ) (*Met.* I 1052a25-26)”.

As regards this seeming distinction between “inorganic” and “organic” being, however, I add that Aristotle argues that we find in “the other animals the factor of force is as simple as it is in the case of inanimate objects” which shows us that Aristotle’s critical distinction is not between “inorganic” and “organic” but between “human” and “non human”, as follows:

“In inanimate things the moving principle is simple, but in living things it is multiple, for appetite and rational principle are not always in harmony. Hence whereas in the case of the other animals the factor of force is simple as it is in the case of inanimate objects, for animals do not possess rational principle and appetite in opposition to it, but live by their appetite, in man both forms of force are present – that is, at a certain age, the age to which we attribute action in the proper sense; for we do not speak of a child as acting, any more than a wild animal, but only a person who has attained to acting by rational calculation (ἐν μὲν τοῖς ἀψύχοις ἀπλῆ ἡ ἀρχή, ἐν δὲ τοῖς ἐμψύχοις πλεονάζει: οὐ γὰρ αἰεὶ ἡ ὄρεξις καὶ ὁ λόγος συμφωνεῖ. ὥστ’ ἐπὶ μὲν τῶν ἄλλων ζώων ἀπλοῦν τὸ βίαιον, ὥσπερ ἐπὶ τῶν ἀψύχων (οὐ γὰρ ἔχει λόγον καὶ ὄρεξιν ἐναντίαν, ἀλλὰ τῇ ὀρέξει ζῆ)) (*E.E.* II 1224a23-30)”

and with Aristotle explaining above that *his* critical distinction is that our peculiar human consciousness is a result of an *imbalance of self* and that we are required by our human nature to *correct or manually focus* ourselves through our own capacity to formulate an overarching “object” or “aim” in our lives. I note, however, that apart from the peculiar stress of human beings – who are conflicted in the world by their desire and mind pulling them in different directions – that Aristotle believes that *all* organic beings suffer the stress of: “...perishable things, [which have] the potentiality for the opposite, which makes the continuity of the motion distressing; this results when the substance is matter and potentiality; not actuality (*Met.* Θ 1050b26-28)” which shows us, I suggest, how consistently and coherently integrated Aristotle’s philosophical picture of man is with his wider philosophical picture of the world. I

suggest that it is evident that Aristotle's account of the world as an "education of forms" is nuanced and realistic, that it should not be confused with crude anthropocentrism, and also that Aristotle's position is evidently superior to a purely materialistic viewpoint which, as Aristotle repeatedly observes, adequately explains nothing.

As regards the supposed "errors" of Aristotle's basic account of the world (as set out above) I make note of Aristotle's famously erroneous claim that there are simple "spontaneously generated" organisms in nature whose matter take on form "spontaneously", as follows:

"Those natural objects which are produced, like artificial objects, spontaneously (ἀπὸ ταῦτομάτου), are those whose matter can also imitate for itself that motion which the seed initiates (ὅσων ἡ ὕλη δύναται καὶ ὑφ' αὐτῆς κινεῖσθαι ταύτην τὴν κίνησιν ἣν τὸ σπέρμα κινεῖ). Those whose matter cannot do this cannot be generated otherwise than by their proper parents (*Met. Z* 1034b5-8)"

and I comment, first, as regards the (im)plausibility of "spontaneous generation" that we find that Monte Ransome Johnson observes that: "...contemporary theories about the origins of life on earth (and on other planets in the speculative field of astrobiology) suggest that life originates through a process called "abiogenesis" or "biopoesis" whereby organic molecules arise from recombination of inanimate matter. The notion of "self-assembly" in these theories is arguably equivalent to the traditional term "spontaneous." A recent textbook on the subject opens with these words: "The main assumption held by most scientists about the origin of life on Earth is that life originated through a spontaneous and gradual increase of molecular capacity<sup>29</sup>" and, second, as regards the relationship between "organic" and "inorganic", between "chemistry" and "biology", and as regards the true nature of organic being as a channelling of "form" we find that Karl Popper observes that:

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<sup>29</sup> Johnson, Monte Ransome "The Medical Background of Aristotle's Theory of Nature and Spontaneity" in *Proceedings of the Boston Area Colloquium in Ancient Philosophy* (2011) p 139-140. I note that Johnson comments on the subtlety of Aristotle's account of spontaneous generation which as "a process of concoction (*Ibid.* p 136)" expects to find gradation and differences which accord with the nature of the phenomena under observation (which are intermediate between animal and mineral). I add that Johnson concludes that: "On the one hand, Aristotle rejected spontaneity (and equivocal generation or abiogenesis) as the origin of all life on Earth, where we are likely to accept it as our best going theory; and Aristotle accepted spontaneity as a cause in the case of certain species of animals where we reject it (and detect universal generation), such as eels and insects (*Ibid.* p 140)".

“If you take a bacterium, then it never dies normally because it doesn’t produce offspring and then die, but it produces offspring by splitting itself. So, if you take a present-day bacterium, none of its ancestors has died. In other words, it’s still the same “thing” as the original bacterium from which it comes. So we could say the very opposite of what you say: it is not a new organism but a very old organism in a slightly changed form<sup>30</sup>”

from which I suggest that the nature of elemental “life” is far more open than is often claimed. As regards the “divine” I suggest that it is interesting that Aristotle seems willing to reject anthropocentrism by contemplating the idea that *from one perspective* chemical being and simple organic being is “divine” since it is pure (and Aristotle reasonably suggests that chemical being “imitates” astral being<sup>31</sup>) and also with his thought that more sophisticated organic life is in one sense increasingly conflicted and therefore increasingly defective whilst also being ultimately able to reconnect with the “good” and “God” through the remediation of human reflection<sup>32</sup>.

Let us conclude on this point by considering Aristotle’s methodology here by observing that Aristotle looks at his subject matter in several different ways – e.g. as plant / animal / man and also as nutritive / sensitive / intellective – and that he believes that we can (and should) seek to carve nature at the joints in various directions and at various levels for various purposes. I also add in respect to Aristotle’s overall method – and also in respect to how he sees our seeing of the world – that the underlying problem with which Aristotle is dealing is how to cut through the mass of worldly particulars to see the universals / principles which operate beneath, as follows:

“The problem at once presents itself, in what sense we are to speak of parts of the soul, or how many we should distinguish. For in a sense there is an infinity (ἄπειρα) of parts (*De An.* III 432a23-24)”

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<sup>30</sup> Popper, Karl “World 3 and Emergent Evolution” in *Knowledge and the Body-Mind Problem* (London, [orig. 1969] 1994) p 55

<sup>31</sup> Cf. “Imperishable things [i.e. the heavenly bodies] are imitated by those that are involved in change, e.g. earth and fire. For these are also ever active, for they have their movement of themselves and in themselves (*Met.* Θ 1050b28-30)”

<sup>32</sup> For interesting essays on the nature of “animality” and “humanity” see Thomas Nagel’s “What Is It Like to Be a Bat?” in *Philosophical Review* (1974) and Donald Davidson’s “Rational Animals” in *Dialectica* (1982) and see also Aldous Huxley’s lecture “On Human Thought and Expression” *Youtube* (online, 1961).



(cf. “Any entity has innumerable features, not all of which cohere into a unity; likewise, an individual performs many actions which yield no unitary action (οὕτως δὲ καὶ πράξεις ἐνὸς πολλαί εἰσιν, ἐξ ὧν μία οὐδεμία γίνεται πρᾶξις) (*Poet.* 1451a17-18)”) and we ultimately find that Aristotle’s answer is to carve nature at the joints by (i) first surveying a range of alternative positions before (ii) then coming to and stating his own position that the operating principle of human being is its “soul” which has (1) nutritive, (2) sensitive, and (3) imaginative elements which are moved in various degrees by (A) reason and / or (B) appetite. In other words, I suggest (a) that we see that Aristotle argues that there is an “infinity” of parts and of facts in the world but that we *can* nevertheless discern generic distinctions in nature (b) that Aristotle knows and argues that how we divide and group this data of the world will decide the depth and truth, falsehood, or semi-truth / falsehood of how we see the world (and various cuts of being are valid for varied approaches and purposes) and (c) that in his assessment of the example we have considered above – i.e. the soul – Aristotle takes an approach which, as Thomas Kjeller Johansen correctly explains, seeks to “...posit as few psychological capacities as possible, those that are the sufficient to explain the basic varieties of life behaviour<sup>33</sup>”.

Having noted above, then, some of Aristotle’s basic architectonic structures, both in principle and as applied, let us also consider (5) that Aristotle routinely and explicitly uses the actual term “architectonic” when he is trying to explain and show the existence of (natural) guiding-principles by using the analogue of the “master-craftsman” or “*architectōn*” or, loosely though significantly, the “architect” (and, in a sense, this “architect” is an Aristotelian reply to Plato’s Demiurge), as follows. First, regarding the “master-craftsman” Aristotle argues (A) that *logos is embodied in the master craftsman* in the sense that: “...rational principle is a master-craftsman (ὁ δὲ λόγος ἀρχιτέκτων) (*Pol.* I 1260a16)” (and see also *Met.* A 981a-b) and, in more detail, that:

“...there are two arts which rule over matter and have the knowledge of it (δύο δὲ αἱ ἄρχουσαι τῆς ὕλης καὶ γνωρίζουσαι τέχναι) – the art which is concerned with use of it and the master-art of bringing forth (ἥ τε χρωμένη καὶ τῆς ποιητικῆς ἢ ἀρχιτεκτονική).

Thus the art concerned with its use is also in a sense a master-art, but as a master-art it

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<sup>33</sup> Johansen, Thomas Kjeller *The Powers of Aristotle’s Soul* (Oxford, 2012) p 79

differs from the other insofar as it knows the form (διὸ καὶ ἡ χρωμένη ἀρχιτεκτονικὴ πῶς, διαφέρει δὲ ἢ ἡ μὲν τοῦ εἶδους γνωριστική), while the art that brings forth knows the matter (ἢ δὲ ὡς ποιητική, τῆς ὕλης); for the steersman knows what kind of form the rudder should have and orders [its production], but the other knows from what [kind of] wood [it should be produced] and how it should move (*Phys.* II 194b1-7)”

which suggests that we see the world as “matter” through utilitarian eyes but as “forms” (and through “*logos*”) when we see the world as a “master-craftsman” does. Second, Aristotle argues regarding the “master craftsman” (B) that it is only by understanding the “principle” or “form” that we can achieve “completion” and hence:

“...if happiness should be posited as being actions well performed, then the best life for every polis as well as for every individual would be the practical life (τὴν εὐδαιμονίαν εὐπραγίαν θετέον, καὶ κοινῇ πάσης πόλεως ἂν εἴη καὶ καθ’ ἕκαστον ἄριστος βίος ὁ πρακτικός). But the practical is not necessarily in relation to others, as some suppose; and practical thoughts, too, are not only those occurring on account of what comes to be from acting, but much more those which are complete in themselves and are speculations and thoughts for their own sake; for a good deed is an end, and so it is a certain action. Outward actions in the highest sense, too, we say to be mainly those which master artists perform by thoughts (μάλιστα δὲ καὶ πράττειν λέγομεν κυρίως καὶ τῶν ἐξωτερικῶν πράξεων τοὺς ταῖς διανοίαις ἀρχιτέκτονας) (*Pol.* VII 1325b14-23)”

which shows us (a) that the highest expression of human being is the concrete and full expression of thought (*cf.* “the practical is not necessarily in relation to others, as some suppose; and practical thoughts...are complete in themselves and are speculations and thoughts for their own sake”) and (b) that we again see that this highest realisation of being is realised *in the thought* of the “master-craftsman” who here represents the final developed human representative of an “education of forms” which parallels the evolution of organic being that we have previously seen operative in nature generally as the development of “mind” and of “care” in the world.

Third, Aristotle argues regarding the “master craftsman” (C) that we see through the example of craft products that we encounter in the world the complexity of a *hierarchy* of “goods”, of “forms”, and of “ends” and hence:

“Every art and every inquiry, and similarly every action and pursuit, is thought to aim at some good; and for this reason the good has rightly been declared to be that at which all things aim. But a certain difference is found among ends; some are activities, others are

products apart from the activities that produce them. Where there are ends apart from the actions, it is the nature of the products to be better than the activities. Now, as there are many actions, arts, and sciences, their ends also are many; the end of the medical art is health, that of shipbuilding a vessel, that of strategy victory, that of economics wealth. But where such arts fall under a single capacity – as bridle-making and the other arts concerned with the equipment of horses fall under the art of riding...in all of these the ends of the master arts are to be preferred to all the subordinate ends (ἐν ἀπάσαις δὲ τὰ τῶν ἀρχιτεκτονικῶν τέλη πάντων ἐστὶν αἰρετώτερα τῶν ὑπ’ αὐτά) (N.E. I 1094a1-15)”

which shows us that we find a structured *hierarchy* of principles in things and in nature regarding which the “higher” principles stand over and above the “lower” principles in the sense that the need for and craft of “bridle-making” subserves the need for and craft of “horseriding” and (I add) in the sense that the organs of a man subserve the man himself. I comment here that Paul Feyerabend correctly assesses the significance of Aristotle’s position as that: “Considering the conflict between abstract principles and common sense (artisan-practice), he opted for the latter and modified philosophy accordingly<sup>34</sup>.

We have seen, then, that Aristotle implicitly argues above that the mind is in some sense capable of being a precise expression of (and perhaps a channelling of) the world and of its forms – i.e. through the paradigm of the “master-craftsman” – but I add that we also see that Aristotle states this principle explicitly as (6) that *the epistemological structuring in our thought aligns with and corresponds to the ontological structuring of nature* in the sense that:

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<sup>34</sup> Feyerabend, Paul “Intellectuals and the Facts of Life” in *Conquest of Abundance: A Tale of Abstraction versus the Richness of Being* (Chicago, 1999) p 266. I note that Aristotle uses the “teacher” as well as the “master craftsman” as an analogue through which he can *explain* the structuring of meaning in nature (and our ability to *follow* this meaning), as follows: “And that the end stands in a causal relation to the means subordinate to it is shown by teaching. For, having defined the end they show, regarding other things, that each of them is a good, because that for the sake of which is explanatory. For example, since “being healthy” is such-and-such a thing, then necessarily this other thing will be what is useful for it. And *what is healthy will be the efficient cause of health*, though only the cause of its being, but not of health being a good (E.E. 1218b16-22)”. For further consideration of the *architectonic* “master craftsman” see Claudia Baracchi’s *Aristotle’s Ethics as First Philosophy* (Cambridge, 2008), David Charles’ “Wittgenstein’s Builders and Aristotle’s Craftsmen” in R.W. Sharples (ed.) *Perspectives on Greek Philosophy* (Aldershot, 2003), and Monte Ransome Johnson’s “Aristotle’s architectonic sciences” in David Ebrey’s (ed.) *Theory and Practice in Aristotle’s Natural Science* (Cambridge, 2015).

“There are many senses in which a thing is said to “be”, but all that “is” is related to one central point, one definite kind of thing, and is not said to “be” by a mere ambiguity (τὸ δὲ ὄν λέγεται μὲν πολλαχῶς, ἀλλὰ πρὸς ἓν καὶ μίαν τινὰ φύσιν καὶ οὐχ ὁμωνύμως)...some things are said to be because they are substances (ὅτι οὐσίαι), others because they are affections of substance (ὅτι πάθη οὐσίας), others because they are a process towards substance (ὅτι ὁδὸς εἰς οὐσίαν), or destructions or privations or qualities of substance, or productive or generative of substance (ἢ φθοραὶ ἢ στερήσεις ἢ ποιότητες ἢ ποιητικὰ ἢ γεννητικὰ οὐσίας), or of things which are relative to substance (ἢ τῶν πρὸς τὴν οὐσίαν), or negations of one of these things or of substance itself (ἢ τούτων τινὸς ἀποφάσεις ἢ οὐσίας). It is for this reason that we say even of non-being that it *is* non-being. As, then, there is one science which deals with all healthy things, the same applies in the other cases also...for each one class of things, as there is one perception, so there is one science, as for instance grammar, being one science, investigates all articulate sounds (*Met.* Γ 1003a33–1003b21)”

from which we see that Aristotle argues that how we “say” things are and how we “perceive” them has at least *some* correspondence to how things actually “are” (see *Cat.* 2a19-21)<sup>35</sup>.

I add in respect to this *structuring of thought* that Aristotle explicitly states this principle of correspondence of thought and being as follows:

“...being immediately falls into genera; for which reason the sciences too will correspond to these genera (ὑπάρχει γὰρ εὐθὺς γένη ἔχον τὸ ὄν καὶ τὸ ἓν: διὸ καὶ αἱ ἐπιστῆμαι ἀκολουθήσουσι τούτοις) (*Met.* Γ 1004a4-6)”

and that Aristotle enlarges upon his idea that *our thought channels being through sciences and coalesces into sciences* in accordance with the *various objects of the world* as follows:

“...since there are many senses in which a thing is said to be one, these terms also will have many senses (ὥστ’ ἐπειδὴ πολλαχῶς τὸ ἓν λέγεται, καὶ ταῦτα πολλαχῶς μὲν λεχθήσεται), but yet it belongs to one science to know them all (ὁμῶς δὲ μιᾷς ἅπαντὰ ἐστι γινώσκειν); for a term belongs to different sciences not if it has different senses, but

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<sup>35</sup> For an interesting consideration of how we “say” things are see Rémi Brague’s “Aristotle’s Definition of Motion and its Ontological Implications” in *Graduate Faculty Philosophy Journal* (1990)

if it has not one meaning, *and* its definitions cannot be referred to one central meaning (*Met.* Γ 1004a22-25)”

and he explains “focal reference” in his *Ethics*, as follows: “...with the term “surgical”, - we speak of a surgical mind and a surgical hand and a surgical instrument and a surgical operation, but we apply the term properly to that which is primarily so called. The primary is that of which the definition is implicit in the definition of all, for example a surgical instrument is an instrument that a surgeon would use, whereas the definition of the instrument is not implicit in that of surgeon (*E.E.* VII 1236a19-23)” and he does so in the context of the argument that we cannot simplify the concept of “friendship” but must recognise both that our terms and also things in the world themselves are complex, multifaceted, and meaningful and that they exist: “...not having a common name by accident and standing in a merely chance relationship to one another (*E.E.* VII 1236b25-26)”. I suggest that Aristotle’s point of emphasis here is that by simplifying and reducing the world to “names” and our thought to nominalism we restrict and misrepresent our engagement of the world since we thereby: “...confine the use of the term friend to primary friendship [and to do this] is to do violence to observed facts, and compels one to talk paradoxes (*E.E.* VII 1236b22-23)”<sup>36</sup>.

I suggest, then, that Aristotle is continually revealing to us the positive structuring of nature and that he is doing so with our tendency towards and *need to* simplify constantly in mind for both pedagogical and philosophical reasons. In other words, I suggest that Aristotle seeks to teach us not only about the nature of nature itself but also about the nature and quality (and limitations and distortions) of our thought and mind (and of our *logos* and logic). I add that we find that Aristotle’s basic principle that we are engaging with the world by engaging with objects in the world leads consequentially to the need to consider *the degree to which* we can engage in demonstrative science about the various “beings” of the world on which subject Aristotle concludes that “...not to know of what things one should demand demonstration, and of what one should not, argues of want of education (*Met.* Γ 1006a6-8)” and that:

“...it is the mark of an educated man to look for precision in each class of things just so far as the nature of the subject (ὑλη) admits; it is evidently equally foolish to accept

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<sup>36</sup> On the subject of “focal reference” see Enrico Berti’s “Multiplicity and Unity of Being in Aristotle” in *Proceedings of the Aristotelian Society* (2001)

probable reasoning from a mathematician and to demand from a rhetorician scientific proofs (*N.E.* I 1094b23-27)”

(note: “as the subject admits”). I add that it is also clear that Aristotle also recognises that this sectorial specificity spills over into the person himself in the sense that any given person will have a *mindset* which normally corresponds to the “type” of person they are, i.e. in the sense that a mathematician, say, will see the world and treat it (and select the questions that it presents to us) in a very different way to, say, a philosopher or a carpenter. I comment that we have seen throughout our consideration so far that Aristotle’s world – which includes ourselves – is a world of distinct and meaningful beings or objects.

I add further in respect to the structuring in our thought that it is carried through into a structuring in our disciplinary approach to the world into “special” sciences and also philosophy which necessarily sits over them on the basis that:

“There is a science which investigates being as being and the attributes which belong to this in virtue of its own nature (ἔστιν ἐπιστήμη τις ἣ θεωρεῖ τὸ ὄν ἢ ὄν καὶ τὰ τούτῳ ὑπάρχοντα καθ’ αὐτό). Now this is not the same as any of the other so-called special sciences; for none of these others treat universally of being as being. They cut off a part of being and investigate the attribute of this part; this is what the mathematical sciences for instance do (*Met.* Γ 1003a21-26)”

and with Aristotle insisting (i) that philosophy has a prior and holistic importance in the sense that:

“It is evident...that it belongs to one science [i.e. philosophy] to be able to give an account of these concepts [i.e. opposites, plurality, unity, negation, privation etc.] as well as of substance (οὐσία)...and that it is the function of the philosopher to be able to investigate all things (*Met.* Γ 1004a32-1004b1)”

from which we see that Aristotle’s philosopher is the guardian of the fundamental “elements” and “categories” which we considered in *footnote 20* (ii) that science is necessarily limited to its own subject matter in the sense that: “...it does not belong to the geometer to inquire what is contrariety or completeness or unity or being or the same or the other, but only to presuppose these concepts and reason from this starting-point (*Met.* Γ 1005a11-13)” with the underlying problem here being with scientists (a)

applying philosophical concepts in a partial and utilitarian manner because they: “...use them [i.e. philosophical concepts] just so far as to satisfy their purposes; that is, so far as the genus to which their demonstrations refer extends (*Met.* Γ 1005a25-27)” (b) misunderstanding the key philosophical concept of “substance” by:

“...forgetting that substance, of which they have no correct idea, is prior to these other things. For number *qua* number has peculiar attributes, such as oddness and evenness, commensurability and equality, excess and defect (*Met.* Γ 1004b9-12)”

and ultimately (c) falling into (A) the *ontological error* of empiricism by supposing that: “...all attributes are accidental (πάντα κατὰ συμβεβηκός) (*Met.* Γ 1007a30-31)” because they cannot themselves philosophically make sense of the architectonic structure of the world and into (B) the *epistemological error* of relativism by supposing that: “...everything [is] relative – relative to opinion and perception (πρός τι ποιεῖν ἅπαντα καὶ πρὸς δόξαν καὶ αἴσθησιν), so that nothing either has come to be or will be without some one’s first thinking so. But if things *have* come to be or will be, evidently not all things are relative to opinion (*Met.* Γ 1011b5-7)”.

Ultimately, then, we see (a) that Aristotle insists on the priority of philosophy before science on the basis that our thinking (both scientific and otherwise) is likely to go astray if it is not based upon a clear understanding of the ontological basis of the world and of the epistemological basis of our own thought and (b) that Aristotle insists that if we do not accept or understand that we see the world at a distance then we are likely to see both the world and ourselves as being a collection of “accidents” and / or that we are likely to see the world as being relative to our own opinions when both of these positions are palpably not the case<sup>37</sup>. In other words, we see that Aristotle

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<sup>37</sup> I note that not only do Aristotle’s observations upon the world implicitly rebut the idea that (blind) “chance” is responsible for the world we encounter but that Aristotle explicitly (and repeatedly) rejects this position, as follows:

“...with everything its corruption and perversion are not in any chance direction, but leads to the contrary and intermediate states (*E.E.* II 1227a36-37)”

and also, following Paul Feyerabend, I note that modern thinking has begun to understand the truth of Aristotle’s position, as follows: “Today, after the arrival of the theory of relativity, quantum mechanics, the thermodynamics of open systems (Prigogine) and the most recent developments of the science of mechanics itself (Moser) it has become evident that Aristotelian physics with its emphasis on well-structured processes with a beginning, middle, and an end, and its denial of an absolute void provides a much more adequate natural philosophy than the mechanical point of view of the seventeenth and eighteenth centuries which has retained its influence up to the present day. And those who still rant and rave against him turn out to be

suggests that without philosophy *grounding* our thoughts we run the risk of seeing the world in *physicalist* terms or in *mentalist* / *solipsistic* / *anthropocentric* terms and I add (c) that Giovanni Reale correctly (in my view) breaks the (Aristotelian) discipline of philosophy down into (i) ousiology (the study of substance(s)) (ii) ontology (the study of being) (iii) aetiology (the study of principles) and (iv) theology (the study of divinity) and with this leading to (v) a distinction between “sensible” and “supersensible” and hence between physics and metaphysics<sup>38</sup>.

We also see (7) that Aristotle extends his architectonic structuring of the world down to the level of the “special sciences” each of which possesses the particular architectonic required by its subject matter. On this matter let us not consider how Aristotle applies his philosophy to the “sciences” of physics or of zoology but how he treats the more problematic “special science” of politics and how he applies his general philosophical principles to this very specific dimension of reality. Aristotle’s fundamental principle of politics as stated in his *Politics* is that:

“...in every composite thing, where a plurality of parts, whether continuous or discrete, is combined to make a single common whole, there is always found a ruling and a subject factor (ἐν ἅπασιν ἐμφαίνεται τὸ ἄρχον καὶ τὸ ἀρχόμενον), and this characteristic of living things is present in them as an outcome of the whole in nature, since even in things that do not partake in life there is a ruling principle, as in the case of a musical scale (*Pol.* I 1254a28-33)”

which shows us that Aristotle seeks to apply an *overarching principle* (which we have already seen applied in other contexts) that the nature and texture of the world is actualised by the “powers” (and “principles”) that are within it and which are specific to their subject matter and structured and hierarchical but also generalisable by analogy. I comment that we see in outline here that Aristotle seeks to review and to highlight the *commonalities* of organic beings (“living things”) and inorganic beings (“musical scale”) and also their *differences* and that Aristotle suggests that we can expect the same principles to be operative in respect to human politics as we find in respect to other

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“crude animals who bark at things they do not comprehend” (Albertus Magnus) (*Problems of Empiricism: Philosophical Papers Volume 2* (Cambridge, 1981) p 15)”

<sup>38</sup> See Giovanni Reale’s *The Concept of First Philosophy and the Unity of the Metaphysics of Aristotle* (New York, 1980)



subject matters which seem to be (and are often treated as being) absolutely incomparable.

Now, I add that we find that the consistency and scope of Aristotle's vision which finds a common "ruling principle" in many distinct areas of worldly being does not preclude the fact that Aristotle's consistency is achieved *without reducing the subject*<sup>39</sup> and hence that Aristotle is able both to embed human politics in a wider reality and also to formulate the grounded but deep and subtle assessment of human political structures that Ed Kaitz describes below:

"Aristotle's observations are both sobering and chilling. He watched and recorded with scientific detachment the rise and fall of dozens of creatively organised city-states in ancient Greece. His keen empirical eye evaluated close to 160 different types of constitutions. In other words, Aristotle did his scholarly work each day in a living, breathing political Petri dish of inestimable value to both ancient and modern political philosophers...Democracies, says Aristotle, tend to be pulled in one direction: toward a vilification of everything involving merit, hierarchy, inequality, proportion, and worth. For Aristotle, this type of democratic "energy" actually begins at birth: "People are prone to think that the fact of their all being equally free-born means that they are all absolutely equal". The duty of a mature legislator and statesman, says Aristotle, is to spend much of his time pulling his country in the *opposite* direction from where the righteous wind tends to blow in a democracy. That means blocking legislation that undermines the ability of talented, qualified, and hardworking individuals to receive the benefit of their exertions in due proportion...By defending the rich, the statesman establishes much-needed ballast against the tendency in democracy to introduce "radical legislation"<sup>40</sup>

and with Robert Paul Wolff agreeing that political structures *do* possess such "ruling principles" or "virtues", as follows:

"...we might say, for example, that the virtue of a monarchy is loyalty, for the state is gathered into the person of the king, and the society is bound together by each subject's

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<sup>39</sup> Aryeh Kosman explains this principle well, as follows: "In none of these teachings does the individual subject disappear; whether in friendship, polity, or contemplation, the self is enhanced by incorporation, not diminished ("Aristotle on the Desirability of Friends" in *Virtues of Thought: Essays on Plato and Aristotle* (Cambridge Mass., [orig. 2004] 2014) p 182)"

<sup>40</sup> Kaitz, Ed "Aristotle's Warning" in *American Thinker* (2010) online

personal duty to him. The virtue of a military dictatorship is honour; that of a bureaucratic dictatorship is efficiency. The virtue of traditional liberal democracy is equality, while the virtue of a socialist democracy is fraternity. The ideal nationalist democracy exhibits the virtue of patriotism, which is distinguished from loyalty by having the state itself as its object rather than the king<sup>41</sup>

and I note that Wolff argues that Aristotle is (alongside Emile Durkheim) a paradigm of the *conservative tradition* regarding which: “The fundamental insight of the conservative philosophy is that man is by nature a social being<sup>42</sup>” and with Wolff’s complementary critique of liberalism (reductionism / universalism / idealism / individualism without the individual etc.) being that: “...liberalism has made the mistake of supposing that man is no more than a combination of the bestial and the angelic, the passionate and the rational. From such an assumption it follows naturally that man, like the beasts and angels, is essentially a lonely creature. But, Aristotle tells us, man has a mode of existence peculiar to his species, based on the specifically human faculty for communication. That mode of existence is society, which is a human community bound together by rational discourse and shared values<sup>43</sup>”.

I conclude at this point, then, that Aristotle’s *philosophical vision* is a defence of nature and of the principles of nature as exhibited in beings generally and particularly in man since he is himself a principle *as an individual*. I add, however, that Aristotle’s “individual” is very different than ours in the sense that he is not a brute individual who is an end and world in himself but he is, rather, contextualised by Aristotle as a *conflicted* and *ruptured* being whose individuality is *corrected* by the tapping into the depths of nature to develop the spheres and sciences of politics, philosophy, ethics etc<sup>44</sup>.

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<sup>41</sup> Wolff, Robert Paul “Beyond Tolerance” in *A Critique of Pure Tolerance* (Boston, 1965) p 3-4

<sup>42</sup> Wolff, Robert Paul *Ibid.* p 29

<sup>43</sup> Wolff, Robert Paul *Ibid.* p 30. See also Kurt von Fritz’s “Aristotle’s Anthropological Ethics and its Relevance to Modern Problems” in *Journal of the History of Ideas* (1981).

<sup>44</sup> I note as an aside that I find a strong degree of commonality between the thought of Aristotle and that of Edmund Burke who argues (i) that: “A certain *quantum* of power must always exist in the community, in some hands, and under some appellation (*Reflections on the Revolution in France* (1790) §167)” (ii) that: “The only concern of the state is, that the capital taken in rent from the land, should be returned again to the industry from whence it came; and that it’s expenditure should be with the least possible detriment to the morals of those who expend it, and to those of the people to whom it is returned (*Reflections on the Revolution in France* (1790) § 189)” (iii) that: “Circumstances (which with some gentlemen pass for nothing) give in reality to every political principle its distinguishing colour, and discriminating effect (*Ibid.* §8)”

As regards the existence of “principles” in nature and of political “principles” I suggest that this fact is obvious and I offer my own assessment of the situation as being (A) that a modern Western person navigates the world politically along a scale from the principle of “self” as expressed by pure libertarianism or anarchism (a man should simply pursue his own interests), through establishment conservatism (a man should employ and maintain the state as an umbrella under which he is enabled to pursue his own interests), through to traditionalist conservatism (a man should take advantage of, express, be a part of, and conserve the principles of his society), through to national socialism (a community or state sets down the principles which the individual must follow), and international socialism (all people must follow the same collective ideology<sup>45</sup>) (B) that societal structures can be tribal, national, or imperial and with the very distinct principles of each being blood and myth, place and history, and interest and ideology (and I note the interesting overlap between myth, history, and ideology and the distinctness of blood, place, and interest) (C) that “principles” can be ideas and ideologies (and religions) which transcend and transform cultures and with our current modern situation being that the *external* myths of religion have been replaced by the *internal* myths of ideology (i.e. the case is now that *we* rather than Jesus have been tasked with “saving” the world, whale, mankind etc.) and (D) that individual countries and societies have their own “principles” just as do individual people with this effectively being “history” as opposed to “sociology” or “anthropology”.

I ultimately suggest, then, regarding the architectonic structuring of being (following Aristotle) (1) that it is not merely possible to claim that the world is founded upon “principles” or “*archai*” but almost impossible to avoid reaching this conclusion (2) that accepting these “principles” requires us to accept that there is a structuring and meaningfulness in nature and in history and that, by *thinking philosophically*, we can see such things as A.N. Whitehead, as follows:

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and (iv) that: “The rights of men are in a sort of *middle*, incapable of definition, but not impossible to be discerned (*Ibid.* §73)”.

<sup>45</sup> From the societal angle I suggest that there are clearly three basic modern “principles” of government – conservative (traditionalist), liberal (individualist), and socialist (collectivist) – and additional dimensionalities of power as internal / external, democratic / authoritarian, and local / imperial and I note that the “global” expression of liberalism is an unhindered free market, the “global” expression of socialism is global government, and the “global” expression of conservatism is the insistence that individual societies and nations should have the right of self-determination to govern themselves on the basis of their own wishes, culture, and principles.

“A vegetable is a democracy; an animal is dominated by one, or more centres of experience...What is merely latent potentiality in lifeless matter, has awakened into some realisation in the vegetable. But in each instance of vegetation, the total bodily organism strictly limits the individuality of expression in the parts. The animal grade includes at least one central actuality, supported by the intricacy of bodily functioning. Purposes transcending (however faintly) the mere aim at survival are exhibited. For animal life the concept of importance, in some of its many differentiations, has real relevance. The human grade of animal life immensely extends this concept, and thereby introduces novelty of functioning as essential for varieties of importance<sup>46</sup>”

from which we see that and that the “principles” and “powers” which animate us are the “principles” and “powers” of nature which are analogously found in various manifestations of nature. As regards the relationship of our “principles” with “nature” I add (3) that by shifting the location of principles from nature to us we thereby move the “principles” and “powers” into ourselves and transmogrify and mythologise our picture of ourselves and of the world around us (and see my *Aristotle on the Meaning of Man* for detailed consideration of this point). I add regarding Aristotle’s politics that we find that the core of his political position is (A) that if we accept that we are “social animals” which cannot properly exist apart from society our consideration of human existence must be able to accept and accommodate the existence of society in its picturing of the world and (B) that societies exist locally as individuals in an analogous sense as people exist locally as individuals and that it is reasonable to conclude that power channels through societies by means of their structures / culture / history in a parallel way as human life / culture / history / wealth etc. channels itself through human individuals and shapes them.

Ultimately, then, I hope that the reader can now see the accuracy of G.W.F. Hegel’s assessment of Aristotle, that:

“He [i.e. Aristotle] gets the sensuous phenomenon before him in its entire completeness, and omits nothing, be it ever so common. All sides of knowing enter his mind, all interest him; all are handled by him with depth and exhaustiveness...[and] Aristotle...abandons a determination only when he has traced it to another sphere wherein it retains no longer its former shape...[and] sometimes Aristotle does not aim

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<sup>46</sup> Whitehead, A.N. “Expression” in *Modes of Thought* (New York, 1938) p 24-28

to reduce all to unity, or at least to a unity of antithetic elements; but, on the contrary, to hold fast each one in its determinateness, and thus to preserve it<sup>47</sup>”

and that he is also of a mind to question Wittgenstein’s assertion that:

“Most of the propositions and questions to be found in philosophical works are not false but nonsensical (*TLP* 4.003)”

by assessing whether all, or indeed any, of Aristotle’s above philosophical statements are, indeed, “nonsensical”. The reader should already suspect that I find a deep and mature meaningfulness in *all* of Aristotle’s thought and also a destructively egotistical and “nonsensical” principle of shallowness inherent in Wittgenstein’s thought (despite its elegance and other merits). I summarise the above assessment as being the structuring of the world into hierarchies of “principles” as (1) the “categories” of being, (2) the “elements” of being, (3) the faculties which operate through “contraries”, (4) the *scala naturae* and the cutting of nature “at the joints”, (5) the analogy of the “master craftsman” who can understand and master the world, (6) the epistemological mental structuring which runs parallel to the ontological structuring of being, and (7) the applicability of common principles to every “local” subject.

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<sup>47</sup> Hegel, G.W.F. “The Philosophy of Aristotle” *The Journal of Speculative Philosophy* ([orig. 1825-6] 1871) p 73-75

## 2 Aristotle on Passion and Action

Having outlined Aristotle’s framework “architectonic” above, let us now consider the building blocks of that structure moving from “passions” to “states” and then to “actions”. We find that Aristotle defines “*pathos*” (best though not comfortably translated as “affection” following the latin word “*affectio*” meaning the relation or disposition towards something produced in a person; a change in the state of the body or mind of a person; feeling, emotion; love, affection or good will towards somebody; will, volition, inclination) by reference to “pleasure and pain” and hence: “...by [affections] (πάθη) I mean...the feelings that are accompanied by pleasure (ἡδονή) and pain (λύπη) (N.E. II 1105b23)” and also by reference to its being “passive” in the sense that:

“...passive qualities ([ποιότητος] παθητικὰ ποιότητες) and affections (πάθη)... [are] “Just as honey itself contains sweetness and, therefore is said to be sweet”...we call honey sweet, as we said; but we do not imply that the honey itself is in some way affected. And so with all similar cases. Again, if we take heat and cold, though we call all such things passive, we do not imply that the things which admit or possess them are passive. We mean that the qualities (ποιότητων πάθους) mentioned can, one and all, *cause* a sensation (ποιητικὴν παθητικαὶ ποιότητες). The sense (πάθος), for example, of taste is affected by sweetness and sourness, by coldness and warmth that of touch (ἅφή) (Cat. 9a28–9b8)”

and with this relationship defining existence on the basis (a) that: “...he who assigns “able to affect, or be affected by, something” (τὸ δυνατόν παθεῖν ἢ ποιῆσαι) as a property of “being” (ἴδιον τοῦ ὄντος), by assigning the property potentially, has assigned it in relation to what exists (πρὸς ὄν) (Top. V 139a5-7)”, (b) that:

“...every disposition and every affection naturally comes into being in that of which it is a disposition or affection, for example, knowledge in the soul, since it is a disposition of soul (πᾶσα γὰρ διάθεσις καὶ πᾶν πάθος ἐν ἐκείνῳ πέφυκε γίνεσθαι οὗ ἐστὶ διάθεσις ἢ πάθος, καθάπερ καὶ ἡ ἐπιστήμη ἐν ψυχῇ διάθεσις οὕσα ψυχῆς) (Top. VI 145a35-37)”

and (c) that: “A property (ἴδιον) is something which does not show the essence of a thing (τὸ τί ᾗν εἶναι) but belongs to it alone and is predicted convertibly of it (ὑπάρχει καὶ ἀντικατηγορεῖται τοῦ πράγματος). For example, it is a property of man (ἴδιον

ἀνθρώπου) to be capable of learning grammar; for if a certain being is a man, he is capable of learning grammar, and if he is capable of learning grammar, he is a man (*Top.* I 102a18-22)” which shows the full complexity of Aristotle’s world as a world of “beings” and of their possible<sup>48</sup> and actual “properties”<sup>49</sup> and “dispositions”.

I add that Aristotle’s “feeling” or “*pathos*” covers both emotional / mental feeling and also sensual / physical feeling and also that his account of reality seeks to cover both the formal essences of “being” and also the affections and dispositions of the souls and bodies of organic, and particularly human, beings. To the basic building block of “*pathos*” I add Aristotle’s further concepts of “*dunameis*” or “faculties” or “powers” or “potentialities” which Aristotle defines as follows:

“...faculties (δυνάμεις) [are] the things in virtue of which we are said to be capable of feeling these (καθ’ ὧς παθητικοὶ τούτων), e.g. of becoming angry or being pained or feeling pity (*N.E.* II 1105b23-25)”

“habits” or “states” or “*hexeis*” which Aristotle explains as follows:

“Dispositions (διαθέσεις)...are qualities easy to move or to change, such as heat, cold, disease, health, and so on. A man is *disposed* in some manner according to all such conditions but rapidly undergoes change. Being warm, he may soon become cold; being well, he may soon become sick. So it is with all other dispositions, unless one should chance to become second nature through long lapse of time, proving either inveterate or else, at the least, very hard to displace, when we might, I think, call it a habit (ἔξις) (*Cat.* 8b36–9a4)”<sup>50</sup>

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<sup>48</sup> Cf. “It is self-evident that nothing prevents the accident from being temporarily or relatively a property; for example, the position of sitting, though it is an accident, will at the time be a property...nothing prevents the accident from becoming both a relative and a temporary property, but it will never be a property absolutely (*Top.* I 102b21-23)”

<sup>49</sup> Cf. “Our first presupposition must be that in nature nothing acts on, or is acted on by, any other thing at random, nor may anything come from anything else, unless we mean that it does so in virtue of a concomitant attribute (ληπτέον δὴ πρῶτον ὅτι πάντων τῶν ὄντων οὐθὲν οὔτε ποιεῖν πέφυκεν οὔτε πάσχειν τὸ τυχὸν ὑπὸ τοῦ τυχόντος, οὐδὲ γίγνεται ὅτι οὐκ ἐξ ὅτου οὐκ ἂν μή τις λαμβάνῃ κατὰ συμβεβηκός). For how would “white” come from “musical”, unless “musical” happened to be an attribute of the not-white or of the black? No “white” comes from “not-white” – and not from *any* “not-white”, but from black or some intermediate colour. Similarly, “musical” comes to be from “not-musical”, but not from *any* thing other than musical, but from “unmusical” or any intermediate state there may be (*Phys.* I 188a31-34)”

<sup>50</sup> Cf. “...we feel anger and fear without choice (ἀπροαιρέτως), but the virtues (αἱ ἀρεταὶ) are modes of choice or involve choice (προαιρέσεις τινὲς ἢ οὐκ ἄνευ προαιρέσεως)...For this

and “actuality” or “actualisation” or “*energeia*” which Aristotle explains as follows:

“...knowledge, like knowing, is spoken in two ways – as potential and as actual (ὅν τὸ μὲν δυνάμει τὸ δὲ ἐνεργείᾳ). The potentiality, being, as matter, universal and indefinite, deals with the universal and indefinite (ἡ μὲν οὖν δύναμις ὡς ὅλη τοῦ καθόλου οὐσα καὶ ἀόριστος τοῦ καθόλου καὶ ἀορίστου ἐστίν); but the actuality, being definite, deals with a definite object, - being a “this”, it deals with a “this” (ἡ δ’ ἐνέργεια ὠρισμένη καὶ ὠρισμένου, τόδε τι οὐσα τοῦδε τινος) (*Met. M* 1087a15-19)”

and I elaborate regarding this structuring of being (i) that “*pathē*” comprise the structuring of organic and “composite” substances in the sense that they allow organisms to *receive* the “active” qualities of the things that they encounter in the world (e.g. the sweetness of sugar)<sup>51</sup> and (ii) that *passive* “*dunamis*” must be actualised through *active* “*energeiai*” or “activities” or “actualities” and also through “*praxeis*” or “actions” and through “*hexeis*” or “habits” and “*kineseis*” or “changes” (and this can be change of place (i.e. movement), change of quality, of relationship etc.) and with “actuality” being a valid term for this expression of being since it represents the channelling of the “activity” of being which is the “now” of existence (rather than just being the mere general potentiality for this realisation).

I explain this last point further as (iii) that the full picture of Aristotelian being is not *just* of “potentialities” and “activities” statically or mechanically inhering in a “substance” or “*ousia*” but that these “*energeiai*” (from “*en*” or “in” and “*ergon*” or “function” / “work”) or “activities” are *dynamically* actualised within and as an expression of the structured being of any given “*ousia*” or “substance” or “being”<sup>52</sup> (and with the paradigm example of an “*ousia*” or “substance” being a living organism (see

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reason also they are not *faculties* (δυνάμεις)...all that remains is that they should be *states of character* (ἔξεις) (*N.E.* II 1106a2-12)”.

<sup>51</sup> I note that Carl Jung agrees with Aristotle – against the standard modern position – that “emotions” are “passive”, as follows: “Emotion, incidentally, is not an activity of the individual but something that happens to him (“The Shadow” in *Aion: Researches into the Phenomenology of the Self* (London, 1959) p 8-9)”.

<sup>52</sup> Cf. “...it is as that which is building is to that which is capable of building, and the waking to the sleeping, and that which is seeing to that which has its eyes shut but has sight, and that which has been shaped out of the matter to the matter (*Met. Θ* 1048b2-3)”



*Met.* Θ 1050a21-23)<sup>53</sup>). I add that a variant form of “actuality” is “*entelecheia*” (from “*en*” or “*in*” and “*telos*” or “*end*”) which expresses this dynamism further as being the “end” of being as a “goal directed principle” both in the “static” abstraction of the “*eidos*” or “form” or mode of being<sup>54</sup> and also as the “dynamic” life cycle of the concrete “being” or individual “*ousia*” centred around the principle of “life” which is such that: “...what has been born must have growth (αὔξησις), a highest point of development (ἀκμή), and decay (φθίσις) (*De An.* III 434a24-25)”<sup>55</sup> (and for the distinction between *energeia* and *entelecheia* see *Met.* Θ 1047a30-1047b2).

As regards the meaning and value of the above analysis I suggest that it is important for us to see that Aristotle is using *the example of man and of his ethical structuring* in order to explain the structuring of nature itself and I add regarding the particular significance of ethical “states” or “*hexeis*” (a) that these “states” are an example of the actualisation of a potentiality (b) that they are an important example of “states of being” (e.g. of having judgement, temperance) occurring on the back of prior building blocks of being – the “affections” or “emotions” – and that they therefore give us a privileged insight into a structuring and process that we find generally in nature, and hence (c) that these “states” observably *come-to-be* in the sense that they *develop in us* through the education of our natural faculties and then represent our comportment to the world rather than being a physical or mechanical or even a purely sensual or informational exchange or interaction with the outside world and (d) that these human states give us a clear case study for our consideration of worldly being since they show us that we are subject to development, education, coming-to-be, natural structuring, and evolution which can be assumed to have a wider scientific and philosophical

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<sup>53</sup> Cf. “...life is an activity (ἡ δὲ ζωὴ ἐνέργειά τις ἐστὶ), and each man is active about those things and with those faculties that he loves most (καὶ ἕκαστος περὶ ταῦτα καὶ τοῦτοις ἐνεργεῖ ἃ καὶ μάλιστ’ ἀγαπᾷ); e.g. the musician is active with his hearing in reference to tunes, the student with his mind in reference to theoretical questions, and so on in each case; now pleasure completes the activities, and therefore life, which they desire (ἡ δ’ ἡδονὴ τελειοῖ τὰς ἐνεργείας, καὶ τὸ ζῆν δὴ, οὗ ὀρέγονται). It is with good reason, then, that they aim at pleasure too, since for every one it completes life, which is desirable (*N.E.* X 1175a12-17)”.

<sup>54</sup> Cf. “By form I mean the essence of each thing and its primary substance (εἶδος δὲ λέγω τὸ τί ἦν εἶναι ἐκάστου καὶ τὴν πρώτην οὐσίαν) (*Met.* Z 1032b1-2)”

<sup>55</sup> Cf. “...we state the function of man (ἀνθρώπου ἔργον) to be a certain kind of life (ζωὴν τινα), and this to be activity or actions of the soul (ψυχῆς ἐνέργειαν καὶ πράξεις) implying a rational principle (μετὰ λόγου), and the function of a good man to be the good and noble performance of these, and if any action is well performed in accordance with the appropriate excellence (κατὰ τὴν οἰκείαν ἀρετὴν) (*N.E.* I 1098a12-15)”

significance in respect to the nature and processes of nature itself but with this significance being very difficult (and perhaps impossible) for us to fully unpack.

More particularly, we see that the kernel of Aristotle's argument is that "virtues" are significant as being *formed* "habits" rather than *surface* "emotions" or *fixed* "faculties", as follows:

"...knowledge (ἐπιστήμη) is considered as lasting and hard to displace from the mind, though a man may, in fact, have acquired it in only a moderate measure...And the same will hold good of the virtues (ἀρετή) – for instance, of temperance (σωφροσύνη), judgement (δικαιοσύνη) (*Cat.* 8b30-34)"

and with Aristotle's interest in "habits" and in "ethics" being that they give us observable and manipulable instances of *creative power* which *appear* in nature on the basis that:

"...activity plainly comes into being and is not present at the start like a piece of property (ἡ δ' ἐνέργεια δῆλον ὅτι γίνεται καὶ οὐχ ὑπάρχει ὥσπερ κτήμα τι) (*N.E.* IX 1169b29-30)"

and with his paradigm example being explained as that: "...moral character (τὸ ἦθος) is, as even its name implies that it has its growth from habit (ἀπὸ ἔθους), [achieved] by our often moving in a certain way [and it is] a habit not innate in us is [which is] finally trained to be operative in that way (ἐθίζεται δὲ τὸ ὑπ' ἀγωγῆς μὴ ἐμφύτου τῷ πολλάκις κινεῖσθαι πῶς, οὕτως ἤδη τὸ ἐνεργητικόν) (which we do not observe in inanimate objects, for not even if you throw a stone upward ten thousand times will it ever rise upward unless under the operation of force) (*E.E.* II 1220b1-5)". I add that Aristotle is also interested in "ends", "aims", "goods", and "superfluities" which he explains as follows:

"...a good life is a superfluity (τὸ δὲ εὖ ζῆν ἐστὶν ἐκ περισυίας), while life itself is a necessity (αὐτὸ δὲ τὸ ζῆν ἀναγκαῖον)...For example, to be a philosopher is better than to make money, but it is not preferable for him who lacks the necessities of life (*Top.* III 118a8-13)"

and also as that: "...a "state" indicates the [sign] of virtue, whereas "good" indicates not the [sign] but a quality (ἡ μὲν ἕξις τί ἐστι σημαίνει ἡ ἀρετή, τὸ ἀγαθὸν οὐ τί ἐστὶν ἀλλὰ

ποιόν) (*Top.* VI 144a17-19)” from which we see that Aristotle’s ultimate aim is (a) to understand the nature of the “superfluity” of the “good” and of “virtue” (or “excellence”) (b) to understand how “good” emerges (as well as and alongside brute “actuality”) as a state or disposition – naturally and / or by acquisition – in the context of the subject of human being and (c) to understand the circumstances within the world through which this “good” can be realised and actualised (and hence we see again that Aristotle uses the study of ourselves as a method through which we can understand nature).

Now, having considered the basic structuring of Aristotle’s thought about passion and action above and having seen the depth, clarity and subtlety of Aristotle’s insight, let us now consider that we must place this insight side by side with the limitedness and reductionism of philosophers such as René Descartes who asserts such things as that: “...a man who walks across a room shows much better what motion is than a man who says “It is the actuality of a potential being in so far as it is potential”, and so on<sup>56</sup>” and such as Richard Rorty who asserts such things as that:

“It may seem weird to say that there might turn out to be no living bodies, or that there might turn out to be no minds. It was of course weird to say it turned out that the earth was not at rest. It seems to be that what we need to explain is not the truth of a proposition, but the inclination of human beings to assert the proposition<sup>57</sup>”

and with our problem here being that this antiphilosophy needs to be explained and explicitly countered since it is all-pervading, i.e. we must present the choice to the reader that we can either trace the “joints” of nature with Aristotle or simply pursue our own thoughts and desires without this reflectivity and humility on the basis that “nature” does not exist and is merely whatever we make of it.

I suggest that Aristotle combats such positions – which he would have described as “sophism” – as follows. First, (1) in overall terms we see that Aristotle *refuses* to remove “man” (i.e. the “human observer”) from our philosophical account of the world or from the reality that we encounter on a day-to-day basis and Aristotle does this on the basis that *we must take into account the fact that we do and are able to positively*

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<sup>56</sup> Descartes, René “*Letter To Mersenne 16<sup>th</sup> October 1639*”, CSM III §597 p 139

<sup>57</sup> Rorty, Richard “Mind as Ineffable” in Richard Q. Elvee (ed.) *Mind in Nature; Nobel Conference XVII* (San Francisco, 1982) p 90

*replicate the world (to some extent) through our representations of the world, as follows:*

“...“knowledge” is said to be of the “knowable,” but is a “state” or “disposition” not of the “knowable” but of the “soul” (ἡ γὰρ ἐπιστήμη ἐπιστητοῦ λέγεται, ἕξις δὲ καὶ διάθεσις οὐκ ἐπιστητοῦ ἀλλὰ ψυχῆς) (*Top.* IV 124b34-35)”

and this knowledge is both natural to us and also transformative of us in the sense that:

“...if knowledge is predicated of someone, then grammatical knowledge or musical knowledge or one of the other kinds of knowledge will be predicated of him, and if a man possesses knowledge or if the description which he has is derived from his knowledge, then he will also possess grammatical knowledge or musical knowledge, or one of the other kinds of knowledge, or will derive his description from one of them, being called, for example, a “grammarian” or a “musician” (*Top.* II 111a37-111b4)”

which shows us and *gives us concrete proof that* there is a creative meaningfulness and pregnancy of possibility in nature – which Aristotle explains as that: “...nature always implies a subject in which it inheres (ἐν ὑποκειμένῳ ἐστὶν ἡ φύσις αἰεὶ) (*Phys.* II 192b34)” – which is peculiarly expressed in and through “man”. I add that we see here Aristotle’s approach towards or *strategy for* philosophically explaining the world (which was outlined in detail in my *Aristotle on the Meaning of Man*) which is that the: “...natural way of doing this [i.e. of engaging with the world] is to start from the things which are more knowable and obvious to us [e.g. the existence of man] and proceed toward those which are clearer and more knowable by nature [e.g. the nature of “substance” or “ousia”] (*Phys.* I 184a12-13)”. In other words, Aristotle insists throughout that we should never forget that our knowledge is necessarily knowledge of the world *from a human perspective*.

Second, (2) we see that Aristotle refuses to reduce the world to mathematics on the basis that:

“...the affections of the soul are inseparable from the physical matter of living beings (τὰ πάθη τῆς ψυχῆς οὕτως ἀχώριστα τῆς φυσικῆς ὕλης τῶν ζώων) in the way in which anger and fear (θυμὸς καὶ φόβος) are inseparable and not in the way in which line and plane (γραμμὴ καὶ ἐπίπεδον) are (*De An.* I 403b17-19)”

which shows us (a) that Aristotle regards “*pathos*” as “emotion” as being inextricably linked to physical nature and hence he argues (famously) that being angry or afraid has both psychological and physiological aspects and (b) that Aristotle’s view of reality is a holistic one in which he regards *both* human emotions *and* geometric and quantitative characteristics as being characteristics of the human body (though I note that he is explicitly arguing in the above quoted passage that man *cannot* properly be seen or represented *mathematically*; and see also *Met. M* 1078a23-30). In respect to his insistence upon “bodies” I add that Aristotle describes the relationship between *pathē* and bodies as being that “...to be...bodily conditions (σωματικά)...is thought to be characteristic of feeling (πάθους) rather than of a state of character (ἔξεως) (*N.E. IV* 1128b14-15)” and also that:

“In most cases it seems that none of the affections, whether active or passive, can exist apart from [the] body (φαίνεται δὲ τῶν μὲν πλείστων οὐθὲν ἄνευ [τοῦ] σώματος πάσχειν οὐδὲ ποιεῖν). This applies to anger (ὀργίζεσθαι), courage (θαρρεῖν), desire (ἐπιθυμεῖν) and sensation generally (ὅλως αἰσθάνεσθαι), though possibly thinking is an exception (μάλιστα δ' ἔοικεν ἰδίῳ τὸ νοεῖν). But if this too is a kind of imagination, or at least is dependent upon imagination (εἰ δ' ἐστὶ καὶ τοῦτο φαντασία τις ἢ μὴ ἄνευ φαντασίας), even this cannot exist apart from [the] body (οὐκ ἐνδέχουτ' ἄν οὐδὲ τοῦτ' ἄνευ σώματος εἶναι) (*De An. I* 403a6-10)”

which shows us that Aristotle (i) regards *pathē* as being bodily and *hexeis* as being psychic and (ii) suggests that the only (possibly partial) exception to this picture of an interfusion of body and soul is our power for thinking or “*nous*” though even here Aristotle is equivocal and he argues elsewhere that “*nous*” is itself a “state” that we must attain (see *Post. An. II* 99b18)<sup>58</sup>. We see, then, that Aristotle avoids the simplification of Cartesian splitting of the world into “mind” and “body” and also the subsumption of mind into world or world into mind (or into “God”) and we see, rather,

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<sup>58</sup> I note that Aristotle’s fuller position on “*nous*” is that there is both (a) a “passive” *nous* which “is such because it becomes all things (ἔστιν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνεσθαι)” and which hence involves our desiring and sensory world and (b) an “active” *nous* which “makes all things (ὁ δὲ τῷ πάντα ποιεῖν)” and which “is a kind of positive state like light (ὥς ἔξίς τις, οἷον τὸ φῶς) (*De An. III* 430a14-16)” and which involves our peculiar ability to think and to contemplate the world. I comment that it certainly seems that “passive” *nous* is more unambiguously bodily than “active” *nous* and that Aristotle’s ultimate position seems to be that there is an “active” state in nature which produces a “passive” state in us (and see Russell Winslow’s “On the Life of Thinking in Aristotle’s *De Anima*” in *Epoché* (2009)).

that Aristotle seeks to understand and appreciate (i) the relationship between the human body and human being (ii) the relationship between body and mind (iii) the relationship between mind and world and (iv) the precise nature of the human mind and, also, of the meaning of the meaning which it takes from in the world<sup>59</sup>.

Third, (3) we find that Aristotle's philosophy seeks to explain the world conceptually *through philosophy* rather than descriptively *through science* and with Aristotle's conceptual approach being stated, as follows:

“...when the agent is there (<καὶ> γὰρ τοῦ μὲν ποιοῦντος ὅταν ὑπάρχῃ), the patient *becomes* something (γίνεται τι τὸ πάσχον): but when “states” are there (ἔξεων παρουσῶν), the patient no longer *becomes* but already *is* (οὐκέτι γίνεται, ἀλλ' ἔστιν ἤδη) – and “forms” (i.e. “ends”) are a kind of “state” (τὰ δ' εἶδη καὶ τὰ τέλη ἔξεις τινέας). As to the “matter”, it (*qua* matter) is passive (ἡ δ' ὕλη ἢ ὕλη παθητικόν) (GC I 324b16-19)”

which reiterates (i) that matter is “passive” and acted upon (ii) that Aristotle's *hexeis* are the “active” transformations or phases of a “passive” pre-existing something (iii) that “forms (*eidē*)” and “ends (*telē*)” are “...kinds of “state” (ἔξεις τινέας)” and (iv) that Aristotle's *pathos* / *hexis* distinction is connected to the distinction between “being” and “becoming”<sup>60</sup>.

I add that Aristotle argues regarding “truth” which he describes as an “affection of thought”, as follows:

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<sup>59</sup> I note that, as Fred D. Miller Jr observes, Aristotle avoids the error of: “The Pythagoreans and Plato [who] failed to take into account the indispensable role of the body (“Aristotle's Philosophy of Soul” in *Review of Metaphysics* (1999) p 334)”. I also note that Carl Jung agrees that we can expect body and mind to be significantly related, as follows: “...so intimate is the intermingling of bodily and psychic traits that not only can we draw far-reaching inferences as to the constitution of the psyche from the constitution of the body, but we can also infer from psychic peculiarities the corresponding bodily characteristics (“A Psychological Theory of Types” in *Modern Man in Search of a Soul* (London, [orig. 1933] 1961) p 85)” (cf. “Experience shows that it [i.e. the ego] rests on two seemingly different bases: the *somatic* and the *psychic* (“The Ego” in *Aion: Researches into the Phenomenology of the Self* (London, 1959) p 3).”

<sup>60</sup> Cf. “...that which has become habitual becomes as it were natural (καὶ γὰρ τὸ εἰθισμένον ὥσπερ πεφυκὸς ἤδη γίγνεται); in fact, habit is something like nature (ὁμοίον γάρ τι τὸ ἔθος τῇ φύσει) for the distance between “often” and “always” is not great, and nature belongs to the idea of “always”, “habit” to that of “often” (ἐγγὺς γὰρ καὶ τὸ πολλάκις τῷ ἀεί, ἔστιν δ' ἡ μὲν φύσις τοῦ ἀεί, τὸ δὲ ἔθος τοῦ πολλάκις) (*Rhet.* I 1370a5-8)”

“As to that which “is” in the sense of being true or of being by accident (τὸ δ’ ὡς ἀληθὲς ὄν καὶ κατὰ συμβεβηκὸς), the *former* depends on a combination in thought and is an affection of thought (τὸ μὲν ἐστὶν ἐν συμπλοκῇ διανοίας καὶ πάθος ἐν ταύτῃ) (which is the reason why it is the principles, not of that which “is” in this sense, but of that which is outside and can exist apart, that are sought (διὸ περὶ μὲν τὸ οὕτως ὄν οὐ ζητοῦνται αἱ ἀρχαί, περὶ δὲ τὸ ἔξω ὄν καὶ χωριστόν)); and the *latter* is not necessary but indeterminate (τὸ δ’ οὐκ ἀναγκαῖον ἀλλ’ ἀόριστον) (*Met.* K 1065a21-25)”

which shows us (i) that “truth” is a “*pathos*” *internal* to us and is an abstraction which relates to but does not directly represent the substance itself and (ii) that “accident” is *external* and actual but superficial to the substance itself (and I note that both of these cases represent meanings which are peripheral to a substance). Hence we see (iii) that “substance” is something that *we* analyse and break down in our own thought for our understanding and convenience and with the subtlety and maturity of Aristotle’s position being very different from Richard Rorty’s evasive idea that truth is equivalent to “our general training in uttering true sentences, our learning of the language<sup>61</sup>”. I contrarily suggest that Aristotle is concerned with positively assessing our engagement with the world in a full rounded sense by seeing (a) regarding “truth” that we establish “truth” in our observation of being in the world whilst also needing to appreciate the difference between the “meaning” of our truth and the “meaning” of being itself (and we see the importance here of “internal” and “external”) and (b) regarding “being” that we establish and define the meaningfulness of “essence” and the triviality of “accident”. We therefore see, in outline, that Aristotle’s objections to our modern perspective are (1) that we must take into account the fact that we engage with the world as human beings, (2) that we cannot reduce the world to mathematics, and (3) that we can only understand the world completely through philosophy and not through science.

Moving on, then, let us consider what Aristotle’s position on “passion” and “action” informs us about Aristotle’s methodology and its provenance. I suggest that it is important to note that the original and common (in Aristotle’s time) meaning of the word “*pathos*” seems to have been its use in the theatre to explain human emotion: “Misfortunes and painful experiences when on a large scale are called affections (ἔτι τὰ μεγέθη τῶν συμφορῶν καὶ λυπηρῶν πάθη λέγεται) (*Met.* Δ 1022b21)” (and Aristotle

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<sup>61</sup> Rorty, Richard “Mind as Ineffable” in Richard Q. Elvee (ed.) *Mind in Nature; Nobel Conference XVII* (San Francisco, 1982) p 71

effectively uses “*pathos*” to mean “emotion” in his *Rhetoric*, *Poetics* etc.) but that Aristotle seems to have *deliberately redeployed the term* to expand its meaning and make it serve as a unifying philosophical term<sup>62</sup> signifying:

“...a quality in respect of which a thing can be altered (πάθος λέγεται ἓνα μὲν τρόπον ποιότης καθ’ ἣν ἀλλοιοῦσθαι ἐνδέχεται), e.g. white and black, sweet and bitter (*Met.* Δ 1022b15-16)”

which he can employ in his biological writings to describe the non-essential characteristics of organic being, as follows: “Περὶ δὲ τῶν παθημάτων ...I mean such conditions of the parts as the following (Λέγω δὲ τὰ τοιαῦτα παθήματα τῶν μορίων): blue and dark colour of the eyes, high and deep pitch of the voice, and differences of colour and of hair or feathers (*GA* V 778a16-21)” (David Depew reasonably sees this use of “*pathos*” as being a biological “trait-vocabulary”) and also employ in order to explain the elements of language, as follows:

“Words spoken are symbols or signs of affections or impressions of the soul (Ἔστι μὲν οὖν τὰ ἐν τῇ φωνῇ τῶν ἐν τῇ ψυχῇ παθημάτων σύμβολα); written words are the signs of words spoken (καὶ τὰ γραφόμενα τῶν ἐν τῇ φωνῇ). As writing, so also is speech not the same for all races of men. But the mental affections themselves, of which these words are primarily signs, are the same for the whole of mankind (ὅν μέντοι ταῦτα σημεῖα πρῶτων, τὰ τὰ πᾶσι παθήματα τῆς ψυχῆς), as are also the objects of which those affections are representations or likenesses, images, copies (*De Int.* 16a4-8)”

all of which shows us that Aristotle not merely possesses a terminology to represent physical facts, particulars, features, and beings but that he possesses (and formulates) a terminology which also represents our partially corresponding thoughts, opinions, and impressions of these natural beings and aspects of being<sup>63</sup>.

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<sup>62</sup> I note that Aristotle explicitly argues that: “If no name already exists, then I think it our duty to coin one (*Cat.* 7b11-12)”

<sup>63</sup> I note that Aristotle’s basic assumption in respect to “signs” is that: “...if a peculiar affection applies to any individual class, e.g. courage to lions, there must be some corresponding sign of it (εἰ γὰρ ἔστιν ἰδίᾳ τινὶ γένει ὑπάρχον ἀτόμῳ πάθος, οἷον τοῖς λέουσιν ἀνδρεία, ἀνάγκη καὶ σημεῖον εἶναι τι); for it has been assumed that body and soul are affected together...a sign is peculiar in the sense that the affection is peculiar to the class as a whole (τὸ γὰρ σημεῖον οὕτως ἰδίον ἔστιν, ὅτι ὅλου γένους ἰδίον ἔστι τὸ πάθος), and not to it alone, as we are accustomed to use the term. Thus the same affection will be found in another class also, and man or some other animal will be brave. Therefore he will have the sign; for *ex hypothesi* there is one sign of



In other words, I suggest that we generally see that Aristotle's intention is (i) to record *all* of the instantiations of human being (using a series of standardised terms) and then to see how they translate into an overall picture of human activity and being (ii) to relate these instantiations of human being to the structures of human being and also (iii) to relate these instantiations of human being to the relationship between a human being and the world around him. As always, we find that Aristotle's thought is fully integrated and hence we see that Aristotle's positions as stated above are fully in line with his basic philosophical approach to the world which is that:

“...some things are said to be because they are substances (ὅτι οὐσίαι), others because they are affections of substance (ὅτι πάθη οὐσίας), others because they are a process towards substance (ὅτι ὁδὸς εἰς οὐσίαν), or destructions or privations or qualities of substance, or productive or generative of substance (φθοραὶ ἢ στερήσεις ἢ ποιότητες ἢ ποιητικὰ ἢ γεννητικὰ οὐσίας), or of things which are relative to substance (ἢ τῶν πρὸς τὴν οὐσίαν), or negations of one of these things or of substance itself (ἢ τούτων τινὸς ἀποφάσεις ἢ οὐσίας). It is for this reason that we say even of non-being that it *is* non-being. As, then, there is one science which deals with all healthy things, the same applies in the other cases also...for each one class of things, as there is one perception, so there is one science, as for instance grammar, being one science, investigates all articulate sounds (*Met.* Γ 1003b6-21)”

and that: “...the demonstration must start from certain premises and be about a certain subject and prove certain attributes (εἰ δὲ ἀποδεικτικὴ περὶ αὐτῶν ἐστί, δεήσει τι γένος εἶναι ὑποκείμενον καὶ τὰ μὲν πάθη τὰ δ' ἀξιώματ' αὐτῶν) (*Met.* α 997a5-7)”. I suggest, then, that we see (a) that Aristotle's philosophical vision of the world is an ousiology, i.e. is of substances or “*ousiai*” and of the attributes or “*pathē*” and “states” or “*hexeis*” which *are* or *come-to-be* in them (b) that this substantive basis of existence – i.e. of substantive beings or “wholes” – leads Aristotle to insist that our treatment of reality must always relate back and correspond to the particular substance or subject being treated and that this means that there cannot be a reductive “unity of science” but only an expansive consideration of the various structures and principles and their powers for

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one affection (ἐν γὰρ ἑνὸς ἧν). If, then, this is so, and we can collate signs of this kind in the case of animals which have only one particular affection, and if each affection has a sign, since it necessarily has only one sign, we shall be able to judge their character by their appearance (*Pr. An.* II 70b14-26)” and I comment that, as always, Aristotle is insisting here upon “substance” in the sense that he argues that *a sign must be a sign of something*.

analogy that we observe in nature<sup>64</sup> and (c) that Aristotle's observations regarding "man" in his *Ethics* as being an "ousia" having "*pathē*" and "*hexeis*" is simply a natural part of a much wider philosophical (and scientific) vision of *reality*.

As regards modern observations regarding the *obviousness* of (and obvious value of) Aristotle's perspective I add that Aristotle's active / passive distinction is both a practical observation and an explicit ontological statement *that our experience is an existential fact in the world* in the sense that:

"...where objects differ in kind the part of the soul answering to each of the two is different in kind (πρὸς γὰρ τὰ τῷ γένει ἕτερα καὶ τῶν τῆς ψυχῆς μορίων ἕτερον τῷ γένει τὸ πρὸς ἑκάτερον πεφυκός), since it is in virtue of a certain likeness and kinship with their objects that they have the knowledge they have (εἴπερ καθ' ὁμοιότητά τινα καὶ οἰκειότητα ἢ γνῶσις ὑπάρχει αὐτοῖς) (N.E. VI 1139a9-11)"

which is a "duality" which is well explained by Aryeh Kosman, as follows:

"The perceptual capacities, and the faculties of reason and thought as well, are potentialities of the sensitive and intelligent subject to be *affected* in certain ways, to be acted upon by the sensible and intelligible forms of objects in the world. When we think of them in this way, there is nothing particularly mysterious about those powers: they are simply the abilities to be open to certain affectations and closed to certain others – the reciprocal capacities, we might say, of being discriminatingly receptive and resistant<sup>65</sup>".

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<sup>64</sup> I suggest that it is a gross philosophical error to suppose that we ordinarily deal with "data" or "sensa" in our engagement with the world since we do rather deal with things or wholes (books, computers, cups of tea, people etc.) and hence find that in reality: "...it is the whole that is better known by perception (τὸ γὰρ ὅλον κατὰ τὴν αἴσθησιν γνωριμώτερον) (*Phys.* I 184a25)". I add that Aristotle argues both that types of being have their own sciences and hence: "Most of the principles... which are connected with a particular science are peculiar to it. Hence to convey to us the principles connected with each particular science is the task of experience. I mean, e.g. that it is for astronomical experience to convey to us the principles of astronomy (for it was not until the phenomena had been thoroughly apprehended that the demonstrations of astronomy were discovered) (*Pr. An.* I 46a18-22)" and also that most general terms are analogous in the sense that: "All things are not said to be actual in the same way but rather by analogy: as that is in that or to that, so this is in this or to this; for some are as motion to potentiality and others, as substance to some matter (λέγεται δὲ ἐνεργεία οὐ πάντα ὁμοίως ἀλλ' ἢ τῷ ἀνάλογον, ὥς τοῦτο ἐν τούτῳ ἢ πρὸς τοῦτο, τόδ' ἐν τῷδε ἢ πρὸς τόδε) (*Met.* Θ 1048b6-9)"

<sup>65</sup> Kosman, Aryeh "Being Properly Affected: Virtues and Feelings in Aristotle's *Ethics*" in Amélie O. Rorty (ed.) *Essays on Aristotle's Ethics* (Berkeley, 1980) p 107

and also by Claudia Baracchi using a unnatural though philosophically suggestive use of language to explain this point, as follows:

“...we may understand excellence [i.e. or “*arētē*” or “virtue”] as a possession, property, or propriety of the soul, as a *hexis* – that which a soul “has” and, when in action, *shows*...[and] the process [of learning] unfolds from a “having” to a “having”, through the enactment of a “having”...what is at stake is a certain transmission, or even translation, of a given “having”. A certain activity is transferred from the outside to the inside, as it were. Someone learning takes something in and makes it one’s own. Whether a way of acting is acquired from a teacher or from prevalent custom, the principle of action (that which directs and subtends it) is brought inside from the outside, substantially assimilated<sup>66</sup>”

but with William Charlton outlining a further subtlety that:

“At the deepest level in nature there can be no distinction between a power and what possesses it: the basic constituents of nature have no “internal constitution”...which can account for how an object is affected and affects other things<sup>67</sup>”

or, in other words, that whilst we must describe the world (with Kosman and Baracchi) as a “duality” of external and internal, action and passion, body and soul, etc. and avoid simplifying the world by evading these relationships, we must also appreciate (with Charlton) that such distinctions are *our* mental distinctions (and our abstractions) and that the real world is an integrated world or situation in which beings are wholes which simply have their own intrinsic natural powers and engage in activities in the world which encompasses them.

I add that Eric Sanday observes that the “active” and “passive” distinction is in a sense an artificial or analogous distinction in the sense that:

“...Aristotle calls this shared actuality “twofold” (*ditton*), similar in a sense to the twofold nature of the way up and the way down. To submit ourselves to the way, we must submit to a single path going from the Piraeus to Athens and from Athens to the

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<sup>66</sup> Baracchi, Claudia *Aristotle’s Ethics as First Philosophy* (Cambridge, 2008) p 117 & 109

<sup>67</sup> Charlton, William “Aristotelian Powers” in *Phronesis* (1987) p 288

Piraeus. The path is one, but its being is two. Similarly, when we submit to a perceptible, we submit to a certain self-awareness. The grasp the animal has of the object, however partial it is, is a grasp the animal has of itself<sup>68</sup>

whilst we also see that it only through such an *engagement* with the world that a man can reflect upon himself as a man and thereby possess conscious self-awareness etc. As regards why Descartes is wrong to dismiss the idea of “powers” on the basis that: “...a man who walks across a room shows much better what motion is than a man who says “It is the actuality of a potential being in so far as it is potential”, and so on<sup>69</sup>” I add that Michel Foucault explains the importance of seeing the world as “powers” as follows:

“...there is power when there is a relationship between two free subjects and there is an imbalance in this relationship such that one can act on the other and the other is, or lets himself be, “acted upon”...[and this relationship is] Never equal, because as soon as there is power there is inequality. But you could have reversible systems. Take what happens in an erotic relationship, for example. I am not talking about a love relationship; I am talking only about an erotic relationship. You know perfectly well that it is a game of power, and one in which physical strength is not necessarily the most important element...Only, what happens is that in societies, in most societies, maybe in [all societies], organisations are created to fix and maintain power relationships to the advantage of some, in a social, economic, political, institutional, et cetera, dissymmetry, which completely freezes the situation. And this is what is generally called power in the strict sense<sup>70</sup>”

and suggest that Foucault (as also Aristotle) is speaking of a deeper and nuanced worldly reality whereas Descartes is merely referring to the surface mechanisms of worldly being. I add in respect to this distinction between “actuality” and “potentiality” A.N. Whitehead’s observation that: ““Actuality” is...decision amid “potentiality”. It represents stubborn fact which cannot be evaded. The real internal constitution of an actual entity progressively constitutes a decision conditioning the creativity which

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<sup>68</sup> Sanday, Eric “*Phantasia in De Anima*” in Claudia Baracchi (ed.) *The Bloomsbury Companion to Aristotle* (London, 2013) p 110

<sup>69</sup> Descartes, René “*Letter To Mersenne 16<sup>th</sup> October 1639*”, CSM III §597 p 139

<sup>70</sup> Foucault, Michel “Interview with Michel Foucault 3<sup>rd</sup> November 1980” in *About the Beginning of the Hermeneutics of the Self* (Chicago, [orig. 1980] 2016) p 129-130

transcends that actuality<sup>71</sup>” which suggests that the concept of “actuality” (and “potentiality”) must be seen as being the best conceptual representation that we can approach to of the creative nexus of our being which positively *acts* in the world<sup>72</sup>.

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<sup>71</sup> Whitehead, A.N. *Process and Reality* (Cambridge, 1929) p 68-69

<sup>72</sup> For a general discussion of the “*pathē*” see Amélie Oksenberg Rorty’s “Aristotle on the Metaphysical Status of *Pathe*” in *The Review of Metaphysics* (1984) and D.S. Hutchinson’s *The Virtues of Aristotle* (Routledge, 1986), for *pathē* as a structuring of reality see Alan Code’s “Aristotle’s Investigation of a Basic Logical Principle: Which Science Investigates the Principle of Non-Contradiction?” in *Canadian Journal of Philosophy* (1986), and for discussion of *pathē* as emotions Jamie Dow’s “Aristotle’s Theory of the Emotions: Emotions as Pleasures and Pains” in Michael Pakaluk & Giles Pearson (eds.) *Moral Psychology and Human Action in Aristotle* (Oxford, 2011). For a consideration of Aristotle’s philosophy as an “ousiology” see Giovanni Reale’s *The Concept of First Philosophy and the Unity of the Metaphysics of Aristotle* (New York, [orig. 1967] 1980) and for an explanation of “*entelecheia*” see Stephen Menn’s “The Origins of Aristotle’s Concept of *Energeia*: *Energeia* and *Dunamis*” in *Ancient Philosophy* (1994)), Alfred E. Miller and Maria G. Miller’s “Aristotle’s Metaphysics as the Ontology of Being-Alive and its Relevance Today” in *Proceedings of the Boston Area Colloquium in Ancient Philosophy* (2004), and Wilfrid Sellars’ account of an Aristotelian (necessarily material and individuated) carrot in his “Aristotle and Emergent Evolution” (online, unpublished undated typescript). For an interesting modern consideration of “states” see Robert Rosen’s “The Concept of State” in *Life Itself: A Comprehensive Inquiry Into the Nature, Origin, and Fabrication of Life* (New York, 1991).

### 3 Aristotle on Desire

Having considered the basic structuring of human being as “powers”, “emotions” “dispositions”, “states”, “activities” etc. let us move on to consider the irrational and innate orectic or desiring “side” of human being. We find, first, that this “side” is itself structured as follows: “...appetite (ὄρεξις) is the genus of which desire (ἐπιθυμία), passion [or spirit] (θυμὸς), and wish (βούλησις) are the species (*De An.* II 414b3-4)” and that it fits into a wider architectonic structure of human being, the two main heads of which are “mind” and “appetite”, as follows:

“...the things which move the animal (τα κινουῦντα τὸ ζῷον) are intellect (διάνοιαν), imagination (φαντασίαν), purpose (προαίρεσιν), wish (βούλησιν) and [desire] (ἐπιθυμίαν). Now all these can be referred to mind (νοῦν) and [appetite] (ὄρεξιν). For imagination and sensation cover the same ground as the mind (Καὶ γὰρ ἡ φαντασία καὶ ἡ αἴσθησις τὴν αὐτὴν τῷ νῷ χώραν ἔχουσιν) (for they all exercise judgement (κριτικά)) though they differ in certain aspects as has been defined elsewhere (*MA* 700b17-22)”

and with further detail of Aristotle’s position being (i) that “*appetite*” drives “*movement*” and implies “*imagination*” and “*sensation*” and / or “*thought*”, as follows:

“...inasmuch as an animal is capable of appetite it is capable of self-movement (ἢ ὀρεκτικὸν τὸ ζῷον, ταύτη αὐτοῦ κινητικόν); it is not capable of movement without possessing imagination (ὀρεκτικὸν δὲ οὐκ ἄνευ φαντασίας); and all imagination is either (1) calculative or (2) sensitive (φαντασία δὲ πᾶσα ἢ λογιστικὴ ἢ αἰσθητικὴ). In the latter all animals, and not only man, partake (ταύτης μὲν οὖν καὶ τὰ ἄλλα ζῷα μετέχει) (*De An.* III 433b28-31)”

(see also *MA* 701a4-6) (ii) that “*sensation*” drives “*imagination*” and “*appetite*”, as follows: “If sensation, necessarily also imagination and [appetite] (εἰ δ’ αἴσθησιν, καὶ φαντασίαν καὶ ὄρεξιν); for, where there is sensation, there is also pleasure and pain, and, where these, necessarily also [desire] (ὅπου μὲν γὰρ αἴσθησις, καὶ λύπη τε καὶ ἡδονή, ὅπου δὲ ταῦτα, ἐξ ἀνάγκης καὶ ἐπιθυμία) (*De An.* II 413b23-25)” and (iii) that when “*thought*” drives “*movement*” this necessarily requires “*appetite*” (i.e. Aristotle specifically excludes “contemplation” here), as follows: “...mind is never found

producing movement without appetite, for wish is a form of appetite (ὁ νοῦς οὐ φαίνεται κινῶν ἄνευ ὀρέξεως, ἡ γὰρ βούλησις ὀρεξις) (*De An.* III 433a22-23)”<sup>73</sup>.

Having outlined above the basic architectonic of Aristotle’s account of human desire I add that Aristotle differentiates human desire from animal desire on the basis that man *has a sense of time*, as follows:

“...appetites may conflict, and this happens wherever reason and desire are opposed, and this occurs in creatures which have a sense of time (γίνεται δ' ἐν τοῖς χρόνου αἰσθησιν ἔχουσιν) (for the mind advises us to resist with a view to the future, while desire only looks to the present (ἡ δ' ἐπιθυμία διὰ τὸ ἥδη); for what is momentarily pleasant seems to be absolutely pleasant and absolutely good, because desire cannot look to the future) (*De An.* III 433b5-8)”

and with our relationship with time – our “view to the future” – enabling us to achieve our “good” as well as being a source of internal conflict, as follows:

“...human thought... does not possess the good at this moment or that (οὐ γὰρ ἔχει τὸ εἶ ἐν τῷδὲ ἢ ἐν τῷδὲ), but its best, being something *different* from it, is attained only in a whole period of time (ἀλλ' ἐν ὅλῳ τινὶ τὸ ἄριστον, ὃν ἄλλο τι) (*Met.* Λ 1075a7-10)”

and I suggest that a part of this “view to the future” is our ability to take ownership and to shape and direct our own individual human “self” – i.e. it is a commitment to seeing ourselves as a being which is a living entity existing over time – which can be described as a *personal entelechy* which, as A.D. Smith explains, allows us to:

“...have an appreciation of our lives as a whole and respond evaluatively to given situations by reference to that wider context”<sup>74</sup>

and I add that it is interesting that we fail in this self-realisation through “weakness of will” or *akrasia* both if we think and act too quickly (and so are led by our passions) or

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<sup>73</sup> Cf. “...the word living is used in many senses (πλεοναχῶς δὲ τοῦ ζῆν λεγομένου), and we say that a thing lives if any one of the following is present in it – mind, sensation, movement or rest in space, besides the movement implied in nutrition and decay or growth (κἂν ἐν τι τούτων ἐνυπάρχη μόνον, ζῆν αὐτό φαμεν, οἷον νοῦς, αἰσθησις, κίνησις καὶ στάσις ἢ κατὰ τόπον, ἔτι κίνησις ἢ κατὰ τροφήν καὶ φθίσις τε καὶ αὔξησις) (*De An.* II 413a 22-25)”

<sup>74</sup> Smith, A.D. “Character and Intellect in Aristotle’s *Ethics*” in *Phronesis* (1996) p 68

if we do not think and act quickly enough (and so are led by events). We find that Aristotle explains this situation as follows: “Of incontinence (ἀκρασία) one kind is impetuosity, another weakness. For some men after deliberating fail, owing to their emotion (διὰ τὸ πάθος), to stand by the conclusions of their deliberation, others because they have not deliberated are led by their emotion (ἄγονται ὑπὸ τοῦ πάθους) (*N.E.* VII 1150b19-22)”<sup>75</sup> and that the end result of this lack of “aim” or “focus” is both (a) limitedness in the sense that: “...people who have no fixed aim are not given to deliberation (*E.E.* II1226b30-31)” and (b) incoherence or lack of “integrity” in the sense that: “...assuredly an evil man is not a single individual but many, and a different person in the same day, and unstable (*E.E.* VII 1240b16-17)”.

We see, then, from the above assessment that Aristotle expects “desire” to develop and mature over “time” through the guidance of “reason” (and “mind”) and I add that Aristotle develops this point by observing that “desire” is “present in us from birth” (and is presumably “the impulse within the thing itself (τὴν ἐν αὐτῷ ὁρμήν) (*E.E.* II 1224b8)”) whereas “reason” will come to be “if our growth is allowed”, as follows:

“...we possess by nature both parts<sup>76</sup>; since rational principle is a natural property, because it will be present in us if our growth is allowed and not stunted, and also desire is natural, because it accompanies and is present in us from birth; and these are pretty nearly the two things by which we define the natural (σχεδὸν δὲ τούτοις δυοὶ τὸ φύσει διορίζομεν) – it is what accompanies everybody as soon as he is born, or else what comes to us if development is allowed to go on regularly, for example grey hair, old age etc. (*E.E.* II 1224b29-35)”

and Aristotle adds that:

“...since the intellectual excellences involve reason, these forms of goodness belong to the rational part, which as having reason is in command of the [soul]; whereas the moral

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<sup>75</sup> Cf. “...from the start our nature does not diverge from the mean in the same way as regards everything, but in energy we are deficient and in self-indulgence excessive (*E.E.* II 1222a37-39)”

<sup>76</sup> Aristotle argues that: “...the [soul] has two parts, and the virtues are divided between them, one set being those of the rational part, intellectual virtues, whose work is true (ὧν ἔργον ἀλήθεια), whether about the nature of a thing or about its mode of production, while the other set belongs to the part that is irrational but possesses appetite (ἔχοντος δ’ ὀρεξίν) (*E.E.* II 1221b28-32)” and also that: “...[excellence] has two forms, moral virtue and intellectual excellence (ἀρετῆς δ’ εἶδη δύο, ἡ μὲν ἠθικὴ ἡ δὲ διανοητικὴ) (*E.E.* II 1220a4)”



virtues belong to the part that is irrational but by nature capable of following the rational – for in stating a man’s moral qualities we do not say that he is wise or clever but that he is gentle or rash (*E.E.* II 1220a8-12)”

from which we see (a) that Aristotle has a particular interest in our reasoning faculty because it *comes into being* (and engenders a particularly human sense of individuality) rather than being innate and (b) that Aristotle’s primary interest is in how a man *develops* into or *matures* into a gentleman and with this maturation being achieved through the shaping of character and of desires as the concentrated and focussed “care” of a mature human being (which is achieved in the teeth of our human situation<sup>77</sup>).

In respect to this arc of natural human development I note that it is significant that Aristotle argues that “care” is found in the “middle” of a man’s life, i.e. in his “*akmē*”, since this is the consequence of the fact that the young have too much energy to “care” on the basis that: “The young, as to character, are ready to desire and to carry out what they desire. Of the bodily desires they chiefly obey those of sensual pleasure and these they are unable to control *Rhet.* II 1389a3-6)” and that regarding the elderly we find that they “...are chilled whereas the young are hot...They live in memory rather than in hope (*Rhet.* II 1389b29-1390a6)” and with it being only in the man in his prime that we find (or *should* find) that: “Their rule of conduct is neither the noble nor the useful alone, but both at once. They are neither parsimonious nor prodigal, but preserve the due mean. It is the same in regard to passion and desire...all cases of excess or defect in the other two [i.e. youth and old age] are replaced by due moderation and fitness. The body is most fully developed from thirty to thirty-five years of age, the mind at about forty-nine (*Rhet.* II 1390a33-1390b10).” I suggest that it is a significant distinction that animals reach their “end”, and the full use or expression of their natural energy, in their expression of the reproductive powers of their mature years whereas Aristotle’s “man” reaches his “end” in the harnessing of his “reason” and “desire” as self-control and as “care” which also primarily occurs during his prime years.

I add further regarding how Aristotle is interested in how our reason shapes our desires and in how our desires shape our characters that we find that Aristotle argues that our “life” is itself a “mode of knowing” in the sense that:

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<sup>77</sup> Cf. “...in the case of man each individual seems dear to himself, although in the case of other animals it is not so, for example a horse to itself...so it is not dear to itself. But neither are children, but only when they have come to possess purposive choice; for when that point is reached the mind is at variance with the appetite (ἡδὴ γὰρ τότε διαφωνεῖ ὁ νοῦς πρὸς τὴν ἐπιθυμίαν) (*E.E.* VII 1240b31-34)”

“...perception and knowledge themselves are the thing most desirable for each individually (ἔστι δὲ τὸ αὐτοῦ αἰσθάνεσθαι καὶ τὸ αὐτὸν γνωρίζειν αἰρετώτατον ἐκάστω) (and it is owing to this that the appetite for life is implanted by nature in all, for living must be deemed a mode of knowing (καὶ διὰ τοῦτο τοῦ ζῆν πᾶσιν ἔμφυτος ἡ ὄρεξις: τὸ γὰρ ζῆν δεῖ τιθέναι γνῶσιν τινά)) (E.E. VII 1244b27-29)”

but with the important caveat that our “aims” and “starting points” are not themselves rational even if we only achieve them as rationally mediated and directed desires or “goods”, as follows:

“...does [virtue] (ἀρετὴ) decide the aim or the means to it? Well, our position is that it decides the aim, because this is not a matter of logical inference or rational principle, but in fact this must be assumed as a starting-point (ἀρχὴ). For a doctor does not consider whether his patient ought to be healthy or not, but whether he ought to take walking exercise or not (E.E. II 1227b24-27)”

which shows us that our world is not *logical* in the sense that our logic is only a mediate glimpse of the principles of nature which are themselves unknowable and with a further statement of this position being that: “...all essences are by nature first principles of a certain kind (εἰσὶ δὴ πᾶσαι μὲν αἱ οὐσίαι κατὰ φύσιν τινὲς ἀρχαί), owing to which each is able to generate many things of the same sort as itself (διὸ καὶ ἐκάστη πολλὰ δύναται τοιαῦτα γεννᾶν), for example a man engenders men, and in general an animal animals, and a plant plants. And in addition to this, obviously man alone among animals initiates certain conduct – for we should not ascribe conduct to any of the others (πρὸς δὲ τούτοις ὁ γὰρ ἄνθρωπος καὶ πράξεων τινῶν ἐστὶν ἀρχὴ μόνον τῶν ζώων: τῶν γὰρ ἄλλων οὐθὲν εἵπομεν ἂν πράττειν) (E.E. II 1222b16-20).” We therefore find that we cannot, for Aristotle, understand our world *as* “logic” but only *through* logic and we do so by regarding the natural impulses of worldly beings and by following their desires and hence reasons through to their “ends”. In human terms we find that we engage with and contemplate the objects of the world as only human beings can and with our peculiar human desire being registered in the very first words of Aristotle’s *Metaphysics* which are that: “All men by nature desire to know (Met. A 980a22)”.

In essence, then, we see that the situation in respect to human desire is that it is a natural impulse which must be *guided by human reason* in the sense that: “...the reasoning faculty is a principle controlling not reasoning but appetite and passions

(ἄρχει δ' ὁ λογισμὸς οὐ λογισμοῦ ἀλλ' ὀρέξεως καὶ παθημάτων) (*E.E.* II 1220a1-2)” and with this human reason standing in for the automatic guidance of nature but without simply being nature itself. Having considered, then, the complex and conflicted nature of human being, let us also consider the pure phenomenon of desire by considering the nature of *purely* animal desire or instinct which is (1) (famously) that animals are like “winding machines” (τὰ αὐτόματα) driven by instinct (*MA* 701b2) and that: “...dogs do not delight in the scent of hares, but in the eating of them, but the scent told them that the hares were there (*N.E.* III 1118a18-19)” (2) that: “Temperance and self-indulgence...are concerned with the kinds of pleasures that the other animals share in...these are touch and taste (*N.E.* III 1118b24-26)” and (3) that “desire” is the “impulse” for animal “movement” in the sense that:

“My appetite says, I must drink; this is drink, says sensation or imagination or thought, and one immediately drinks (εὐθὺς πίνει). It is in this manner that animals are impelled to move and act, the final cause of their movement being desire (τῆς μὲν ἐσχάτης αἰτίας τοῦ κινεῖσθαι ὀρέξεως οὕσης) (*MA* 701a34-5)”

which Cynthia Freeland explains as that:

“A berry does not “cause” a bird to eat it by simply being there in the bird’s environment, or even by being seen by the bird. It can only enter into a causal story about the bird’s behaviour if the bird sees this round red shiny thing as food. For this, imagination is required<sup>78</sup>”

and I add that animals’ peculiar *power to sense* is a consequence of their ability and perhaps “desire” *to move* and to be able to find sustenance on the basis that: “Plants get their food from the earth by their roots; and since it is already treated and prepared no residue is produced by plants – they use the earth and the heat in it instead of a stomach, whereas practically all animals, and unmistakably those that move about from place to place, have a stomach, or bag, – as it were an earth inside them – and in order to get the food out of this, so that finally after the successive stages of concoction it may reach its completion, they must have some instrument corresponding to the roots of a plant (*PA* II 650a21-27)”. I note that we again encounter the emphasis that the power to move and

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<sup>78</sup> Freeland, Cynthia “Aristotle on Perception, Appetition, and Self Motion” in *Self-Motion: From Aristotle to Newton* eds. Mary Louise Gill & James G. Lennox (Princeton, 1994) p 49

to sense is an evolutionary extension or expansion of the power to live, feed, and reproduce that we find in plants and I add that, for Aristotle, the power of sensation of the lower animals ultimately culminates in the additional human power to think and also to actively create<sup>79</sup>. We therefore see that Aristotle's "man" and his "reason" are embedded in nature whilst being evolutionarily elevated phenomena of it.

I note that Aristotle's reflections upon "impulse" seem to fit well with Karl Popper's conjecture regarding the evolutionary principle of "active Darwinism" which is that:

"...a new kind of animal behaviour – what Darwin and even Sir Alister Hardy here describe as a new "habit" – may be much better described as a new invention; a new discovery...[and with] an example [being], the evolutionary emergence of limbs from fins. What is more likely: that the "habit" of *trying* to walk on the land – or, let us say it, the wish – came first, and the evolution of limbs came afterwards (of course, in many slow stages, and with feedback), or that it all started with an anatomical change of the fins? Of course, we do not know, and we shall never know: the question cannot be answered by science. Yet I regard it far more likely that a small change of "habit" produced a new kind of environment which in turn produced a new selection pressure which led to an anatomic change that was used at once because it suited the preferences or wishes of the animal, rather than that a small anatomic change occurred *and persisted unused* until some of the animals found out how it could be used, changing their preferences and "habits" accordingly<sup>80</sup>"

and I note that Popper correctly notes that: "my hypothesis is not a scientific conjecture: since it cannot be tested, it should be described as a metaphysical conjecture<sup>81</sup>" but does not draw the (Aristotelian) conclusions (which I would recommend) regarding the limitation of science and the (Aristotelian) need for metaphysics to represent such matters as "life".

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<sup>79</sup> Cf. "...all things that go through the process of becoming acquire locomotion last. It is this that accounts for the fact that some living things, e.g. plants and many kinds of animals, owing to their lack of the requisite organ, are entirely without motion, whereas others acquire it in the course of their being perfected ...the degree in which things possess locomotion corresponds to the degree in which they have realised their natural development (*Phys.* VIII 261a 13-18)"

<sup>80</sup> Popper, Karl "The Place of Mind in Nature" in *Mind in Nature: Nobel Conference XVII* (San Francisco, 1982) p 43

<sup>81</sup> Popper, Karl *Ibid.* p 43 (and see also the article by Ragnar Granit "Reflections on the Evolution of the Mind and Its Environment" in the same volume)

In respect to Aristotle's metaphysical account Russell Winslow comments on the nature of and role of "impulse" in Aristotle's account of organic being as a form of *imitatio Dei*, as follows:

"...*threptikē psychē* [i.e. the "nutritive soul"] strives and yearns for *what always is*. The activity of consuming food enables the preservation of our individual embodied form through time. Through the consumption of other life (vegetative or otherwise), we are able to sustain ourselves in a very limited sense, reaching out towards *what always is and is divine* by attempting to sustain and ensure the persistence of the work that belongs to our individual form. With regard to *genesis*, entities ensure the persistence of their form through time as well. Forms are not created in Aristotle's conception of generation but are rather preserved through subsequent generations; they are passed on *in kind* to the next generation and as such participate in *what always is, or what is divine, in a certain respect*...the primary characteristic that animates the nutritive soul is a yearning for divinity, or, rather, the yearning of life to secure and preserve its being through the maintenance and reproduction of its form (*eidōs*)<sup>82</sup>"

and I follow A.N. Whitehead in observing that we are here considering the fundamentals of being, as follows:

"Even in sight, we enjoy our vision because there is no eyestrain. Also we enjoy our general state of life because we have no stomachache. I am insisting that the enjoyment of health, good or bad, is a positive feeling only casually associated with particular *sensa*. For example, you can enjoy the ease with which your eyes are functioning even when you are looking at a bad picture or a vulgar building<sup>83</sup>"

and Whitehead adds that *by considering these fundamentals we are engaging in a form of philosophy* on the basis that: "The organic permanences survive by their own momentum: our hearts beat, our lungs absorb air, our blood circulates, our stomachs digest. It requires advanced thought to fix attention on such fundamental operations<sup>84</sup>".

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<sup>82</sup> Winslow, Russell "On the Life of Thinking in Aristotle's *De Anima*" in *Epoché* (2009) p 302-3

<sup>83</sup> Whitehead, A.N. "Nature Alive" in *Modes of Thought* (New York, 1938) p 159

<sup>84</sup> Whitehead, A.N. "Expression" in *Modes of Thought* (New York, 1938) p 29

I add that contrary to the “advanced thought” of A.N. Whitehead’s philosophical approach we find B.F. Skinner’s descriptive “scientific” approach to these fundamentals which is as follows:

“Like other activities of the organism, such as digestion, respiration, or reproduction, some behaviour with respect to the environment is acquired through natural selection because of its consequences in preserving the species<sup>85</sup>”

and I add that Whitehead comments upon the “high-grade intellectuality” of the empirical approach, as follows: “...exclusive reliance on sense-perception promotes a false metaphysics. This error is the result of high-grade intellectuality<sup>86</sup>”. As regards these approaches I suggest that we see a real conflict of approach between a conceptual and philosophical worldview and a descriptive and scientific worldview and that this conflict is between two forms of philosophical thinking, one of which seeks to hold on to the fundamentals of the world and the other of which dismisses them and with Whitehead also explaining this dismissal well, as follows: “The first principle of epistemology should be that the changeable, shifting aspects of our relations to nature are the primary topics for conscious observation. This is only common sense; for something can be done about them<sup>87</sup>”.

This is, however, our main dispute and I comment, finally, that we have seen above that Aristotle’s account of “desire” is intimately intertwined with his accounts of “reason” (and “choice”), “activity” (and “pleasure”), and also “human development” and maturation (and also with “imagination”, “sensation”, “memory”, “thought” etc) and we will therefore treat these subjects below<sup>88</sup>.

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<sup>85</sup> Skinner, B.F. “The Verbal Community” in *Verbal Behaviour* (New York, 1957) p 462)

<sup>86</sup> Whitehead, A.N. *Adventures of Ideas* (Harmondsworth, 1933) p 254-255

<sup>87</sup> Whitehead, A.N. “Expression” in *Modes of Thought* (New York, 1938) p 29

<sup>88</sup> For a detailed discussion of desire see Giles Pearson’s *Aristotle on Desire* (Cambridge, 2012) and Hendrik Lorenz’s *The Brute Within: Appetitive Desire in Plato and Aristotle* (Oxford, 2006); for sympathetic accounts of Aristotle’s desire see Julia Annas’ “Aristotle on Pleasure and Goodness” in Amélie O. Rorty (ed.) *Essays on Aristotle’s Ethics* (Berkeley, 1980) and David Charles’ “Desire in Action: Aristotle’s Move” in Michael Pakaluk & Giles Pearson’s (eds.) *Moral Psychology and Human Action in Aristotle* (Oxford, 2012); and for critiques of the modern “propositional” account of desire see Giles Pearson’s essay “Aristotle and Scanlon on Desire and Motivation” in Michael Pakaluk & Giles Pearson (eds.) *Moral Psychology and Human Action in Aristotle* (Oxford, 2012) and Talbot Brewer’s “Three Dogmas of Desire” in Timothy Chappell (ed.) *Values and Virtues: Aristotelianism in Contemporary Ethics* (Oxford, 2006).

## 4 Aristotle on Choice

Having considered the drive of “desire” which *flows* through time and being(s), let us consider human “choice” which is, I suggest, something which (as also “action”) clearly oversteps and falls outside of time and is both an outcome of “habit” and conditioning and also an expression of formed “value” or “good” in the sense explained by Iris Murdoch, as follows:

“...if we consider what the work of attention is like, how continuously it goes on, and how imperceptibly it builds up structures of value round about us, we shall not be surprised that at crucial moments of choice most of the business of choosing is already over. This does not imply that we are not free, certainly not. But it implies that the exercise of our freedom is a small piecemeal business which goes on all the time and not a grandiose leaping about unimpeded at important moments. The moral life, on this view, is something that goes on continually, not something that is switched off in between the occurrence of explicit moral choices<sup>89</sup>”

and we find that Aristotle argues similarly regarding “choice” (a) that choice is itself a complex phenomenon and hence: “Choice is neither simply wish nor opinion, but opinion *and* desire, whenever these follow as a conclusion out of deliberation (ὅταν ἐκ τοῦ βουλευσασθαι συμπερανθῶσιν) (E.E. II 1227a3-5)”, (b) that choice is not a sudden act of movement but a considered disposition to act and hence: “...no one makes a deliberate choice suddenly, but men do suddenly think they ought to act and wish to act (ἐξαίφνης γὰρ προαιρεῖται μὲν οὐθείς, δοκεῖ δὲ πράττειν καὶ βούλονται) (E.E. II 1226b3-4)” (c) that human choice is a deliberate act of self and individuality rather than being a generic act of will, mind, accident, or necessity and hence: “...choice seems to relate to the things that are in our own power (ὅλως γὰρ ἔοικεν ἢ προαίρεσις περὶ τὰ ἐφ’ ἡμῖν εἶναι) (N.E. III 1111b29-30)” and (d) that choice as a human decision point necessarily represents an expression of an active and informed *guiding or moving principle* regarding which we see (i) that: “Virtue (ἡ ἀρετὴ) makes choice free from

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<sup>89</sup> Murdoch, Iris “The Idea of Perfection” in *The Sovereignty of Good* (London, 1970) p 37. I note that Murdoch also comments that: “Man is not a combination of an impersonal rational thinker and a personal will. He is a unified being who sees, and who has some continual slight control over the direction and focus of his vision (*Ibid.* p 40).”

error and the end correct (τέλος ὀρθόν) in such a way that one chooses with a view to the things that one should (E.E. II 1227b13-14)” (ii) that: “...it is possible for the goal to be right (σκοπὸν ὀρθόν), but for error to occur in what lies on the way to that goal (E.E. II 1227b20-21)” and (iii) that: “...vice corrupts the starting point (ἔστι γὰρ ἡ κακία φθαρτικὴ ἀρχὴς) (N.E. 1140b19-20)”.

We find additionally (e) that we should differentiate the *voluntary action* of animals (and of human children) from the *choice* of adult human beings on the basis that:

“...both children and the lower animals share in voluntary action (τοῦ μὲν γὰρ ἐκούσιου καὶ παῖδες καὶ τᾶλλα ζῷα κοινωνεῖ), but not in choice (προαίρεσεως δ’ οὐ), and acts done on the spur of the moment we describe as voluntary, but not as chosen (καὶ τὰ ἐξαίφνης ἐκούσια μὲν λέγομεν, κατὰ προαίρεσιν δ’ οὐ) (N.E. III 1111b8-10)”

and on the basis, as Charles Chamberlain explains, that choice must be seen *an active and mature expression of human thought*, as follows: “...we can agree that children and animals do not in fact share in commitment, and for the same reason that Aristotle would give. In children the rational part of the soul is undeveloped; therefore the function of *dianoia* is lacking, and a *prohairesis* cannot technically begin... According to Aristotle, we may say, a child is capable of saying whether he or she wants peas or beans (choice), but not of deciding to become a vegetarian (commitment)<sup>90</sup>” and (f) that human choice *is transcendent* both in the sense that it is *teleological or end-directed*, as follows: “...every choice is *of* something and *for the sake of* something (ἔστι γὰρ πᾶσα προαίρεσις τινὸς καὶ ἔνεκα τινός) (E.E. II 1227b37)” and also, as Deborah Achtenberg explains, in the sense that it is an *expression of value*, as follows: “...according to Aristotle, the cognitive component of ethical value and of emotion is not just perception of particulars, but also perception of something about particulars, namely, perception of their value, that is, perception of them as good or beautiful...The virtuous person, for Aristotle, sees particulars in the light of the wholes they could compose<sup>91</sup>”.

We also find (g) that human choice represents a real act of *original* creation on the basis that a man is: “...a starting point and begetter of *praxeis* just as he is of

<sup>90</sup> Chamberlain, Charles “The Meaning of Prohairesis in Aristotle’s Ethics” in *Transactions of the American Philological Association* (1984) p 156

<sup>91</sup> Achtenberg, Deborah *Cognition of Value in Aristotle’s Ethics* (New York, 2002) p 5 & 9



children (*N.E.* III 1113b18-19)” and I add that Aristotle’s generative example should be taken semi-literally, i.e. that our actions exist in a similar context as our children do as natural possibilities which are consequent to our own existence and naturally flow, or do not flow, from it and with Aristotle expanding upon this example as follows: “...there is no necessity, because your father came-to-be, that you should come-to-be; but if you are to come-to-be, he must have done so (*GC* II 338b10-11)” and (h) that the power of creation that we find in respect to biological reproduction is paralleled by the mental reproduction that we find in respect to the human mind in the sense that:

“...even in the case of external *praxeis*, the one who above all does them in the full sense is the architectonic craftsman who directs them by his thoughts (μάλιστα δὲ καὶ πράττειν λέγομεν κυρίως καὶ τῶν ἐξωτερικῶν πράξεων τοὺς ταῖς διανοίαις ἀρχιτέκτονας) (*Pol.* VII 1325b21-23)”

which is a power for original acts of creation that Joseph Owens explains (and relates to human character, choice, and virtue) as follows:

“The choice is an intellectual action and accordingly is fully aware of itself. It knows that it is doing the deciding and that it consequently is the cause of what follows. It cannot help but be aware of its responsibility...To be an originator in so profound a sense, to be master of a new series of events in the universe, to be responsible for what happens in a way that brings either credit or blame, are aspects that present themselves spontaneously to one’s reflection. That seems to be the meaning of doing a thing as one ought<sup>92</sup>”

and with this paradigm suggesting that our actions and other productions flow both from our human maturity (i.e. from our “*akmē*”) and from our own formed character or self (as an “architectonic craftsman”).

I also note in respect to this philosophical pathway Nicolas Berdyaev’s argument that: “Personality is like nothing else in the world, there is nothing with which it can be compared, nothing which can be placed on a level with it. When a person enters the world, a unique and unrepeatable personality, then the world process is broken into and compelled to change its course, in spite of the fact that outwardly there is no sign of

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<sup>92</sup> Owens, Joseph “The Grounds of Ethical Universality in Aristotle” in *Aristotle: The Collected Papers of Joseph Owens* (New York, [orig. 1969] 1981) p 160

this. Personality finds no place in the continuous complex process of world life, it cannot be a moment or an element in the evolution of the world. The existence of personality presupposes interruption; it is inexplicable by any sort of un-interruption; it is inexplicable by any sort of uninterrupted continuity<sup>93</sup>.” I add regarding “choice” Søren Kierkegaard’s stress that we need to be “...fighting ...for the future, for either / or<sup>94</sup>” on the basis that: “...when a man is merely a moment he has his teleology not in himself but outside himself<sup>95</sup>”, i.e. we see that Kierkegaard defends the the projection of human self as “choice” and as “ends” on the basis that he is thereby defending the personhood and free will of man.

Having worked through the various dimensions of “choice” from its being the product of a disposition to its being a form of transcendent expression of personality and of creation in the world, let us restate our argument again to clarify on various point. First, (1) let us consider that the possibility for the transcendence of choice arises from out of the biological stability of human maturity and hence:

“...the possession of understanding and knowledge is produced by the soul’s settling down out of the restlessness natural to it. Hence, too, in learning and in forming judgements on matters relating to their sense-perceptions children are inferior to adults owing to the great amount of restlessness and motion in their souls. Nature itself causes the soul to settle down and come to a state of rest for the performance of some of its functions, while for the performance of others other things [i.e. education, experience, etc.] do so (*Phys.* VII 247b18–248a3)”

which shows us that Aristotle regards human being as a biological and worldly phenomenon which needs to be considered on a holistic and developmental basis, i.e. as something becoming someone, if we are to fully represent and appreciate it. Although not stated explicitly here I add that Aristotle makes clear elsewhere that this human self exists in a contingent world in which it *may* be able to express itself, to develop, to become educated etc. in order to be able to “choose” or it may find itself impeded from

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<sup>93</sup> Berdyaev, Nicolas *Slavery and Freedom* (London, 1943) p 21

<sup>94</sup> Kierkegaard, Søren *Either / Or* II (Princeton, [orig. 1843] 1944) p 180

<sup>95</sup> Kierkegaard, Søren *Ibid.* II p 278 (Cf. “For me the instance of choice is very serious...The personality is already interested in the choice before one chooses, and when the choice is postponed the personality chooses unconsciously, or the choice is made by obscure powers within it (*Ibid.* II p 168)”).

doing so. We therefore see the full implications of Aristotle's insistence that a (human) being must be seen as something *in the world* and not as an abstraction.

Second, (2) let us consider that "choice" arises from the flow of human life but also implies a certain "finality" or "teleology" in the broad sense that it is the "origin" of man to produce the "good action" of "choice", as follows:

"...good action is an end, and desire aims at this (ἡ γὰρ εὐπραξία τέλος, ἡ δ' ὄρεξις τούτου). Hence choice is either desiderative reason or ratiocinative desire, and such an origin is a man (διὸ ἡ ὀρεκτικὸς νοῦς ἡ προαίρεσις ἡ ὄρεξις διανοητική, καὶ ἡ τοιαύτη ἀρχὴ ἄνθρωπος) (*N.E.* VI 1139b4-5)"

and with Aristotle adding regarding these "ends" that: "...purposive choice is deliberative appetite of things within one's power (ἡ προαίρεσις μὲν ἐστὶν ὄρεξις τῶν ἐφ' αὐτῷ βουλευτική) (*E.E.* II 1226b17-18)" and also that:

"...everyone able to live according to his own purposive choice should set before him some object for noble living to aim at (ἅπαντα τὸν δυνάμενον ζῆν κατὰ τὴν αὐτοῦ προαίρεσιν θέσθαι τινὰ σκοπὸν τοῦ καλῶς ζῆν) (*E.E.* I 1214b7-8)"

but also adding the important caveat that: "...purposive choice is not of Ends (προαίρεσις δ' οὐκ ἔστιν [i.e. τοῦ τέλους]) (*E.E.* II 1226a17)" which shows us that Aristotle insists that we are shaped by our ends but that these "ends" stand beyond our conscious choices and that we only choose the means in order to achieve or fulfil those ends.

Third, (3) let us consider how our "choice" is derived from "deliberation" as a form of the awareness outlined by A.N. Whitehead as follows: "The growth of consciousness is the uprise of abstractions. It is the growth of emphasis. The totality is characterised by a selection from its details. That selection claims attention, enjoyment, action, and purpose, all relative to itself. This concentration evokes an energy of self-realisation. It is a step towards unification with that drive towards realisation which dislocates the unity of aim in the historic process<sup>96</sup>". We find that Aristotle describes this "awareness" of being which allows "deliberation", as follows:

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<sup>96</sup> Whitehead, A.N. "Civilised Universe" in *Modes of Thought* (New York, 1938) p 123

“Now of things that can both be and not be (ἔστι δὴ τῶν δυνατῶν καὶ εἶναι καὶ μὴ), some are such that it is possible to deliberate about them, but about others it is not possible. Some things can either be or not be but their coming into being does not rest with us (ἐφ’ ἡμῖν), but in some cases is due to the operation of nature and in others to other causes; and about these things nobody would deliberate unless in ignorance of the facts. But with some things not only their existence or non-existence is possible, but also for human beings to deliberate about them; and these are all the things that it rests with us to do or not to do...Now nobody deliberates about his End (περὶ μὲν δὴ τοῦ τέλους οὐδεὶς βουλευέται) – this everybody has fixed; but men deliberate about the means leading to their End – does *this* contribute to it, or does *this*? or when a means has been decided on, how will it be procured? and this deliberation as to means we all pursue until we have carried the starting-point in the process of producing the End back to ourselves (ἕως ἂν εἰς ἡμᾶς ἀναγάγωμεν τῆς γενέσεως τὴν ἀρχήν) (E.E. II 1226a20–1226b14)”

and with the circularity of our engagement with the world – i.e. “...this deliberation as to means we all pursue until we have carried the starting-point in the process of producing the End back to ourselves” – being resolved through the explicitly *human* power of “choice” in the sense that:

“...generally, one who makes a choice always makes it clear both what his choice is and what its object is, “object” meaning that for the sake of which he chooses something else (οὗ ἕνεκα προαιρεῖται ἄλλο) and “choice” meaning that which he chooses for the sake of something else (τὸ δὲ τί, ὃ προαιρεῖται ἕνεκα ἄλλου) (E.E. II 1226a12-14)”

but with Aristotle’s exceedingly subtle account suggesting that although we “choose” and “create” we are still bound to a certain circularity of nature in the sense that we do not formally choose our ends but are habituated to them and merely choose as a means to achieve the ends which are open to us as individual human beings.

Fourth, (4) we see how the “means” and “choices” a man takes shows us his “ends” and hence Aristotle suggests that a man’s choices *show us and express the man* in the sense that: “...a thing purposively chosen must necessarily be something that rests with oneself (ἀνάγκη τὸ προαιρετὸν τῶν ἐφ’ αὐτῷ τι εἶναι) (E.E. II 1225b37-38)” and also in the sense that:

“...it is by a man’s purposive choice that we judge his character – that is, not by what he does but what he does it for (καὶ διὰ τοῦτο ἐκ τῆς προαιρέσεως κρίνομεν ποῖός τις: τοῦτο δ’ ἐστὶ τὸ τίνοος ἕνεκα πράττει, ἀλλ’ οὐ τί πράττει) (E.E. II 1228a3-4)”

with the fundamental quality of choice as a *projection of self* being explained by C.D.C. Reeve as a fundamental quality of “action” itself, as follows:

“...*energeiai* and *kinēseis* are types of being, not types of verbs. A *poiēsis* or *kinēsis* is something that takes time to complete and, like the time it takes, is infinitely divisible (Phys. III 207b21-25; Met. Δ 1020a26-32). It has a definite termination point or limit, before which it is incomplete and after which it cannot continue (N.E. X 1174b12-13). A *praxis*, by contrast, does not take time to complete, and so does not really occur “in time” (Phys. VIII 262b20-21) but is temporally point-like (N.E. Λ 1174b12-130). Having no definite termination, while it may stop, it need never finish (Met. Θ 1048b25-27). As an *energeia*, then, a *praxis* is an end, and so is complete at every moment. As the result of deliberate choice, it presupposes a state of character, such as virtue or vice (N.E. VI 1139a33-34)<sup>97</sup>”

and with Claudia Baracchi also explaining “choice” as “action” along these lines, as follows: “In its highest manifestation...the end is not an outcome separate from the activity leading to it (we should especially avoid a naïve temporal understanding of finality here), but, rather, the activity itself. The end is manifest in and as the action, from the start. It already informs the unfolding of the activity, of a certain way of living<sup>98</sup>” and adding that we can extrapolate from the projection of self through action and choice to the projection of self through life, as follows: “The word *bios* designates precisely the manner and shape of one’s living, a definite mode of *zēn*, of metabolic or physiological life...One’s task is actualising, realising oneself. It is the movement from potentiality to actuality, from one’s potentiality to one’s self-realisation<sup>99</sup>”.

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<sup>97</sup> Reeve, C.D.C. *Action, Contemplation, and Happiness: An Essay on Aristotle* (Cambridge, Mass., 2012) p 141

<sup>98</sup> Baracchi, Claudia *Aristotle’s Ethics as First Philosophy* (Cambridge, 2008) p 97-8 (and for existential time see Erwin W. Straus’ “An Existential Approach to Time” in *Annals New York Academy of Sciences* (1967))

<sup>99</sup> Baracchi, Claudia *Ibid.* p 87 & 91

Fifth (5) we see that Aristotle's "choice" shows us that not only does man have the power for choice but that the exercise of this power of human creativity is actually *unavoidable* in the sense that:

"...artefacts like houses and statues which arise "from thought" *never* arise from necessity (*Post. An.* II 95a4-5)"<sup>100</sup>

and, as is often the case, we find a parallel with the thought of A.N. Whitehead who argues, as follows:

"What we have to explain is the trend towards order which is the overwhelming deliverance of experience. What we have also to explain is the frustration of order, and the absence of necessity in any particular form of order"<sup>101</sup>

and with this "frustration of order" being significant for Whitehead, as for Aristotle, not because it shows that the machine of nature can encounter a glitch but that it shows that nature is *not* determinate and mechanical but is, rather, creative and expressive and with Whitehead's conclusion being:

"The nature of any type of existence can only be explained by reference to its implication in creative activity, essentially involving three factors: namely, data, process with its form relevant to these data, and issue into datum for further process – data, process, issue. The alternative is the reduction of the universe to a barren tautological absolute, with a dream of life and motion. The discovery of mathematics, like all discoveries, both advanced human understanding, and also produced novel modes of error. Its error was the introduction of the doctrine of form, devoid of life and motion"<sup>102</sup>

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<sup>100</sup> I note that William Charlton comments on this passage that: "A skill is an ability to cause whichever of two opposed changes you like. You cannot exercise a skill without exercising – or, as it might be, refraining from exercising – causal power...Rather than causal powers, then, skill and desire should be reckoned precisely as non-causal sources of change ("Aristotelian Powers" in *Phronesis* (1987) p 280)" (and see also Gavin Lawrence's "Acquiring Character: Becoming Grown Up" in Michael Pakaluk and Giles Pearson (eds.) *Moral Psychology and Human Action in Aristotle* (Oxford, 2012)).

<sup>101</sup> Whitehead, A.N. "Forms of Process" in *Modes of Thought* (New York, 1938) p 88

<sup>102</sup> Whitehead, A.N. *Ibid.* p 93

and I add that Whitehead comes to such “Aristotelian” conclusions as in respect to “individuality” that: “...every individual thing infects any process in which it is involved, and thus any process cannot be considered in abstraction from particular things involved. Also the converse holds<sup>103</sup>” and in respect to the limitation of our human logic that: “Science can find no creativity in nature; it finds mere rules of succession<sup>104</sup>” and that: “...rationalisation is the partial fulfilment of the ideal to recover concrete reality within the disjunction of abstraction<sup>105</sup>”.

I add, finally, (6) that we find that the duality of “choice” *in human nature* (of doing or not doing) is premised upon the prior existence of a duality of “being” *in nature itself* (of being and not being) which is such that:

“...this coat may be cut in two halves; yet it may not be cut in two halves. It may wear out before that can happen: then it may not be cut in two. For, unless that were really the case, then its wearing out first were not possible. The same with all other events which in any such sense are potential (ὥστε καὶ ἐπὶ τῶν ἄλλων γενέσεων, ὅσαι κατὰ δύναμιν λέγονται τὴν τοιαύτην). Thus it is clear that not everything is or takes place of necessity (φανερὸν ἄρα ὅτι οὐχ ἅπαντα ἐξ ἀνάγκης οὐτ' ἔστιν οὔτε γίγνεται). Cases there are of contingency (ἀλλὰ τὰ μὲν ὅποτερ' ἔτυχε)... Some cases, moreover, we find that, at least, for the most part and commonly, tend in a certain direction (τὰ δὲ μᾶλλον μὲν καὶ ὡς ἐπὶ τὸ πολὺ θάτερον), and yet they may issue at times in the other or rarer direction (οὐ μὴν ἀλλ' ἐνδέχεται γενέσθαι καὶ θάτερον, θάτερον δὲ μὴ) (*De Int.* 19a14-23)”

and I add that Aristotle elsewhere discusses this order of nature which may “issue at times in the other or rarer direction”, as follows:

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<sup>103</sup> Whitehead, A.N. *Ibid.* p 97-8 (cf. “The laws of nature are large average effects which reign impersonally. Whereas, there is nothing average about expression. It is essentially individual. In so far as an average dominates, expression fades. Expression is the diffusion, in the environment, of something initially entertained in the experience of the expressor. No conscious determination is necessarily involved; only the impulse to diffuse. This urge is one of the simplest characteristics of animal nature (“Expression” in *Modes of Thought* (New York, 1938) p 21)”).

<sup>104</sup> Whitehead, A.N. “Nature Alive” in *Modes of Thought* (New York, 1938) p 154

<sup>105</sup> Whitehead, A.N. “Civilised Universe” in *Modes of Thought* (New York, 1938) p 124 (and for a useful study of Whitehead’s conceptualisation of creativity see Sydney E. Hooper’s “Whitehead’s Philosophy: The World as Process” in *Philosophy* (1948)).

“...if coming-to-be and passing-away are always to be continuous (εἴ γε ἀεὶ ἔσται συνεχῆς γένεσις καὶ φθορά), there must be some body always being moved (ἀεὶ μὲν τι κινεῖσθαι) (in order that these changes may not fail) and moved with a duality (δύο δ') of movements (in order that both changes, not only one, may result) (ὅπως μὴ θάτερον συμβαίνει μόνον) (GC II 336b1-4)”

from which we clearly see the fundamentality of Aristotle’s “principle of non-contradiction” – which is the fundamental switch underlying his account of the physical world, of truth and logic, and also of human “choice” – on the basis that it is the “gap” of possibility for beings which reveals the real internal impulse of beings and their free will for moving themselves independently within a quasi-determinate world<sup>106</sup>. In other words, then, we see that the elemental potentiality of the world – of being or not being – is first transformed into the possibility for self-movement in animals – of moving one way or another – and then into the “choice” of human beings – of choosing one thing or another – and with this “choice” arising from an ability to pause and then to harness nature through this ability to constrain oneself and reflect.

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<sup>106</sup> On the principle of non-contradiction see Alessandro de Cesaris’ “Aristotle on non-contradiction” in *Megalogicon* (2011).



## 5 Aristotle on the Activity of Pleasure

Having considered how “states” of character and “choices” (or “commitments”) arise in human beings, let us consider the nature of “pleasure”. Aristotle’s basic position on pleasure is (a) that it is an “activity” and hence: “It is not right to say that pleasure is perceptible process (διὸ καὶ οὐ καλῶς ἔχει τὸ αἰσθητὴν γένεσιν φάναι εἶναι τὴν ἡδονήν), but it should rather be called activity of the natural state (ἀλλὰ μᾶλλον λεκτέον ἐνέργειαν τῆς κατὰ φύσιν ἕξεως), and instead of “perceptible” “unimpeded” (ἀντὶ δὲ τοῦ αἰσθητὴν ἀνεμπόδιστον) (*N.E.* VIII 1153a12-15)” (b) that it is a “completion” and hence “happiness” is produced when:

“...pleasure (ἡ ἡδονή) completes the activities (τελειοῖ τὰς ἐνεργείας), and therefore life (καὶ τὸ ζῆν δὴ), which they [i.e. people] desire (οἷ ὁρέγονται) (*N.E.* X. 1175a15-16)”

and “imagination” is fuelled by this desire for “pleasure” and for “happiness”, as follows:

“...if pleasure consists in the sensation of a certain emotion (ἐστὶν τὸ ἡδεσθαι ἐν τῷ αἰσθάνεσθαι τινος πάθους), and imagination is a weakened sensation (ἡ δὲ φαντασία ἐστὶν αἰσθησίς τις ἀσθενής), then both the man who remembers and the man who hopes will be attended by an imagination of what he remembers or hopes. This being so, it is evident that there is pleasure both for those who remember and for those who hope, since there is sensation. Therefore all pleasant things must either be present in sensation (ὥστ’ ἀνάγκη πάντα τὰ ἡδέα ἢ ἐν τῷ αἰσθάνεσθαι εἶναι παρόντα), or past in recollection, or future in hope; for one senses the present, recollects the past, and hopes for the future (αἰσθάνονται μὲν γὰρ τὰ παρόντα, μέμνηνται δὲ τὰ γεγενημένα, ἐλπίζουσι δὲ τὰ μέλλοντα) (*Rhet.* I 1370a27–1370b1)”

and we also find (c) that “pleasure” arises when we are unimpeded in our being and also that there is both “internal” and “external” pleasure in the sense that:

“Neither practical wisdom nor any state of being is impeded by the pleasure arising from it (ἐμποδίζει δὲ οὔτε φρονήσῃ οὔθ’ ἕξει οὐδεμιᾷ ἢ ἀφ’ ἐκάστης ἡδονῇ); it is foreign pleasures that impede (ἀλλ’ αἱ ἀλλότριαι) (*N.E.* VIII 1153a21-22)”

and Aristotle adds that: “In most things the error seems to be due to [presumably “external”] pleasure (*N.E.* III 1113a33-4)”.

We ultimately find (d) that Aristotle’s basic position on “pleasure” is that it is a regulator of the “natural state” and hence: “Let it be assumed that pleasure is a certain movement of the soul, a sudden and perceptible settling down into its natural state (εἰς τὴν ὑπάρχουσαν φύσιν), and pain the opposite (*Rhet.* I 1369b33-35)” and I add that Aristotle suggests that our “natural state” is a conflict between the “irrational” or animal desires which Aristotle explains, as follows:

“I call irrational...all those [desires] which are called natural; for instance, those which come into existence through the body – such as the desire of food, thirst, hunger, the desire of such and such food in particular; the desires connected with taste, sexual pleasures, in a word, with touch, smell, hearing, and sight (*Rhet.* I 1370a20-25)”

and “rational” and peculiarly human desires which Aristotle explains, as follows: “I call those desires rational which are due to our being convinced (*Rhet.* I 1370a25)”. I add, however, (e) that this “natural state” for man is that he is a strange creature who seems to be peculiarly conflicted and handicapped, as follows:

“...appetites may conflict, and this happens wherever reason and desire are opposed, and this occurs in creatures which have a sense of time (γίνεται δ' ἐν τοῖς χρόνου αἰσθησιν ἔχουσιν) (for the mind advises us to resist with a view to the future, while desire only looks to the present (ἢ δ' ἐπιθυμία διὰ τὸ ἤδη); for what is momentarily pleasant seems to be absolutely pleasant and absolutely good, because desire cannot look to the future) (*De An.* III 433b5-8)”

and with my conclusion here being that Aristotle’s “pleasure” is the crest of human being (as it is for all animals) which is complex, conflicted, and nuanced simply because human being itself is such. I also note that Aristotle assumes that we will derive a pleasure from the active expression of our worldly nature and that our human pleasure is rooted in a peculiar sense in the human power for rationality – and a sense of time – which underpins our human functioning<sup>107</sup>.

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<sup>107</sup> Aristotle asserts regarding the *simple* pleasure of animals that: “...all animals have one sense (μίαν γε τῶν αἰσθήσεων) at least, viz. touch (ἅφῃ), and whatever has a sense (ὃ δ' αἰσθησις ὑπάρχει) has the capacity for pleasure and pain (τούτῳ ἡδονή τε καὶ λύπη) and therefore has pleasant and painful objects present to it (καὶ τὸ ἡδύ τε καὶ λυπηρόν), and wherever these are

As regards how Aristotle moves forward from our animality to our humanity we find (a) that our animality is an essential element of our humanity and hence:

“...pleasure ...is thought to be most intimately connected with our human [or generic] nature (μάλιστα γὰρ δοκεῖ συνφκειῶσθαι τῷ γένει ἡμῶν), which is why in educating the young we steer them by the rudders of pleasure and pain (ἡδονῇ καὶ λύπῃ) (*N.E. X 1172a19-21*)”<sup>108</sup> and (b) that man is peculiar in the sense that his life can take on many possible activities and hence:

“...life is an activity (ἡ δὲ ζωὴ ἐνέργειά τις ἐστὶ), and each man is active about those things and with those faculties that he loves most (καὶ ἕκαστος περὶ ταῦτα καὶ τούτοις ἐνεργεῖ ἃ καὶ μάλιστ’ ἀγαπᾷ); e.g. the musician is active with his hearing in reference to tunes, the student with his mind in reference to theoretical questions, and so on in each case; now pleasure completes the activities, and therefore life, which they desire (ἡ δ’ ἡδονὴ τελειοῖ τὰς ἐνεργείας, καὶ τὸ ζῆν δὴ, οὗ ὀρέγονται). It is with good reason, then, that they aim at pleasure too, since for every one it completes life, which is desirable (*N.E. X 1175a12-17*)”

and with Aristotle both stressing (i) that the different activities of man through the exercise of different organs (ears, mind etc.) cause a conflict of possibilities and of focus within him<sup>109</sup> and (ii) that each of these permutations of possibility is in some sense meaningful and “divine” on the basis that: “...no one nature or state either is or is thought the best for all (ἐπεὶ οὐχ ἡ αὐτὴ οὔτε φύσις οὔθ’ ἕξις ἡ ἀρίστη οὔτ’ ἔστιν οὔτε δοκεῖ), neither do all pursue the same pleasure (οὐδ’ ἡδονὴν διώκουσι τὴν αὐτὴν πάντες)...for all things have by nature something divine in them (πάντα γὰρ φύσει ἔχει τι θεῖον) (*N.E. VII 1153b29-32*)”.

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present, there is desire, for desire (ἐπιθυμία) is just appetite (ὄρεξις) of what is pleasant (τοῦ ἡδέος) (*De An. II 414b3-7*)” and more aporetically argues regarding the *complex* pleasure of man (which could run contrary to nature itself), as follows: “Are there not desires in the soul, some from reason, but others from irrational drives and which are prior? For if the drive arising from desire for pleasure exists by nature, then by nature everything would march to the good (*E.E. VIII 1247b18-21*)”

<sup>108</sup> Cf. “...pleasure...is common to the animals, and also accompanies all objects of choice (περὶ τὴν ἡδονήν: κοινὴ τε γὰρ αὕτη τοῖς ζῴοις, καὶ πᾶσι τοῖς ὑπὸ τὴν αἴρεσιν παρακολουθεῖ) (*N.E. II 1104b34-35*)”

<sup>109</sup> Hence the akratic man is (unhealthily) focussed upon his organs or “parts” as follows: “...the contact characteristic of the self-indulgent man does not affect the whole body but only certain parts (*N.E. III 1118b7-8*)”

I add (c) as regards the peculiarity of the human situation and of human “pleasure” that Aristotle argues that:

“...to feel that a thing is one’s private property makes an inexpressibly great difference in one’s pleasure (πρὸς ἡδονὴν ἀμύθητον ὅσον διαφέρει τὸ νομίζειν ἰδίον τι); for the universal feeling of love for oneself is surely not purposeless but is a natural instinct (μὴ γὰρ οὐ μάτην τὴν πρὸς αὐτὸν αὐτὸς ἔχει φιλίαν ἕκαστος, ἀλλ’ ἔστι τοῦτο φυσικόν). Selfishness on the other hand is justly blamed (τὸ δὲ φίλαντον εἶναι ψέγεται δικαίως) (*Pol.* II 1263a41–1263b2)”

from which we see in outline how a human being *transforms* animal instinct through his thought and individual self-awareness<sup>110</sup>. I add that Aristotle explains the *individuality* (and typology, plasticity, and creativity) of human being further as that: “...pleasure is a state of *soul*, and to each man what he is said to be a lover of is pleasant (τὸ μὲν γὰρ ἡδεσθαι τῶν ψυχικῶν, ἕκαστῳ δ’ ἐστὶν ἡδὺ πρὸς ὃ λέγεται φιλοτιοῦτος) (*N.E.* I 1099a10-11)” and that: “We must take as an indication of people’s states of character the pleasure and pain that supervenes on their deeds (σημεῖον δὲ δεῖ ποιεῖσθαι τῶν ἔξεων τὴν ἐπιγινομένην ἡδονὴν ἢ λύπην τοῖς ἔργοις) (*N.E.* II 1104b4-5)”<sup>111</sup>. As regards our human ability to *transcend* the pleasure principle Aristotle argues that:

“...there are many things we should be keen about even if they brought no pleasure, e.g. seeing, remembering, knowing, possessing the virtues (οἶον ὁρᾶν, μνημονεύειν, εἰδέναι, τὰς ἀρετὰς ἔχειν). If pleasures necessarily do accompany these, that makes no odds; we should choose these even if no pleasure resulted (*N.E.* X 1174a4-7)”<sup>112</sup>

and I comment that this transcendence should perhaps be understood as being a basic requirement of our human being in a complex and conflicted world. I suggest, then, in

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<sup>110</sup> On the development of “self” through the pleasure of association see especially April Flakne’s “Embodied and Embedded: Friendship and the Sunaesthetic Self” in *Epoché* (2005)

<sup>111</sup> Cf. “...one cannot get the pleasure of the just man without being just, nor that of the musical man without being musical and so on (*N.E.* X 1173b29-31)”

<sup>112</sup> Cf. “...those who love for the sake of utility love for the sake of what is good for *themselves* (οἱ τε δὴ διὰ τὸ χρήσιμον φιλοῦντες διὰ τὸ αὐτοῖς ἀγαθὸν στέργουσι), and those who love for the sake of pleasure do so for the sake of what is pleasant to *themselves* (καὶ οἱ δι’ ἡδονὴν διὰ τὸ αὐτοῖς ἡδύ), and not in so far as the other is the person loved but in so far as he is useful or pleasant (καὶ οὐχ ἥ ὃ φιλούμενός ἐστιν, ἀλλ’ ἥ χρήσιμος ἢ ἡδύς) (*N.E.* VIII 1156a14-16)”

outline conclusion (i) that for Aristotle pleasure is a manifestation of awareness or “*nous*” and also of fulfilled desire since it arises from out of the struggle for realisation and fulfilment which each animal being experiences<sup>113</sup>, (ii) that Aristotle takes “man” to be a microcosm of nature in the sense that *he* can take on a range of different types in himself as animals do in nature generically, and (iii) that man is a peculiarly conflicted animal who possesses a touch of the “divine” within himself and whose pleasure reflects this human situation in its conflicted nature and also in its transcendent and self-aware quality.

I add that we also find the interesting peculiarity of humanity – and of its “activity” or “actuality” – expressed in the fact that we not only have a peculiarly individual expression of pleasure but that our human individuality comes about *through communal activity* in the sense that:

“...it falls to one to share bodily pleasure, to another artistic study, to another philosophy; and so it is pleasanter to be with one’s friend (*E.E.* VII 1245a22-23)”

and we also find that the pleasures of our common human life *lead us* to explore and develop our individual “self” by reflection, imitation, and sympathy, as follows: “To perceive and to know a friend...is necessarily in a manner to perceive and in a manner to know oneself (τὸ οὖν τοῦ φίλου αἰσθάνεσθαι τὸ αὐτοῦ πως ἀνάγκη αἰσθάνεσθαι εἶναι, καὶ τὸ τὸν φίλον γνωρίζειν τὸ αὐτόν πως γνωρίζειν) (*E.E.* VII 1245a35-37)”. In other words, we find that we only seem to become human and to become a person through our engagement with, imitation of, and rejection of the human possibilities offered by or transmitted by other persons and Mary Margaret McCabe explains regarding this engagement that it is not (only) an intellectual engagement with other people (i.e. a conversation) but also a perceptual one (i.e. a living together), as follows:

“I may see that grey wagtail over there just because we have practised bird-recognition on our ornithological expeditions; and my doing so is itself a part of our joint reflective

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<sup>113</sup> Cf. “...“Each animal is thought to have a proper pleasure, as it has a proper function (δοκεῖ δ’ εἶναι ἐκάστῳ ζῷον καὶ ἡδονὴ οἰκεία)”; viz. that which corresponds to its activity (ἢ γὰρ κατὰ τὴν ἐνέργειαν). If we survey them species by species, too, this will be evident; horse, dog, and man have different pleasures (*N.E.* X 1176a3-6)”

perception...Why should we not be able to think of a rich perceptual life together, just as we might have rich shared intellectual life?<sup>114</sup>”

and I add that we even find that we must have, draw upon, and generate a *communal* “world” or “society” in order to even possess a corresponding *individual* “world” or “mind” or sense of “self”<sup>115</sup>. Ultimately, then, I suggest that we find (i) that a man in some sense channels the “activity” of nature and of animality as his own “activity”, (ii) that a man must *transcend himself* and *reshape himself* in order to *unify himself* as an individual and with this self-transformation also affecting his engagement with nature, and (iii) that a man exhibits an “activity” in himself which is also shaped by his engagement with the wider human “world” of his society.

Returning to basics, however, we find that although we do create a human world we also find that the “impulses” that we *find* in nature and which we can *reflect* upon and build upon actually ultimately themselves depend upon the “possible” and / or the “good” of nature itself, as follows:

“...action follows unless there is some hindrance or compulsion...I ought to create a good, and a house is good, I immediately create a house. Again, I need a covering, and a cloak is a covering, I need a cloak. I ought to make a cloak. And the conclusion “I ought to make a cloak” is an action. The action results from the beginning of the train of thought (πράττει δ' ἀπ' ἀρχῆς). If there is to be a cloak, such and such a thing is necessary, if this thing then something else; and one immediately acts accordingly. That the action is the conclusion is quite clear; but the premises which lead to the doing of something are of two kinds, through the good and through the possible (ὅτι μὲν οὖν ἡ πρᾶξις τὸ συμπέρασμα, φανερόν· αἱ δὲ προτάσεις αἱ ποιητικαὶ διὰ τε τοῦ ἀγαθοῦ καὶ διὰ τοῦ δυνατοῦ) (MA 701a15-25)”

and with the relationship between “action” and “pleasure” being that living, living well, thinking, being (and also presumably being pleased) are the fullest expressions of an organism which are high states of “actuality” in the sense that: “Pleasure does not occur

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<sup>114</sup> McCabe, Mary Margaret “With Mirrors or Without? Self-Perception in *Eudemian Ethics* VII.12” in Fiona Leigh (ed.) *The Eudemian Ethics on the Voluntary, Friendship, and Luck* (Leiden, 2012) p 71-72

<sup>115</sup> See John von Heyking’s “‘Sunaesthetic’ Friendship and the Foundations of Political Anthropology” in *International Political Anthropology* (2008) and April Flakne’s “Embodied and Embedded: Friendship and the Sunaesthetic Self” in *Epoché* (2005)

except in action (οὐ γίνεται δὲ ἡδονὴ μὴ ἐν πράξει) (*E.E.* VIII 1249a19)” and are also *beyond or above* the soul / body complex of that organism in the sense that: “Pleasure completes the activity...as an end which supervenes as the bloom of youth does on those in the flower of their age (*N.E.* X 1174b31-33)”<sup>116</sup>. As regards our relationship with nature I add that Jonathan Beere summarises Aristotle as that: “Sight is for the sake of seeing; the art of house-building is for the sake of building houses; contemplative knowledge is for the sake of contemplating. In each case, the capacity is for the sake of the *energeia*<sup>117</sup>” and I add that Aristotle concludes that *human* pleasure is a satisfaction of *human* desire and also of *human* nature both in individual and generic terms and it is hence that: “Happiness...is activity of soul (τὴν εὐδαιμονίαν δὲ ψυχῆς ἐνέργειαν) (*N.E.* I 1102a17-18)” and that: “...happiness is assumed to be acting well (τὴν εὐδαιμονίαν εὐπραγίαν θετέον) (*Pol.* VII 1325b14-15)”.

I suggest, then, that the problem we are now left with is as regards where our human capacity for activity, fulfilment, and pleasure *comes from* (for want of a better term) and how it relates to a potentiality expressed in nature generally. I suggest that we find that Aristotle moves to solve this problem by considering “*nous*” and the pleasure involved in its activity on the basis that:

“...the activities of thought differ from those of the senses, and both differ among themselves in kind; so, therefore, do the pleasures that complete them (*N.E.* X 1175a26-28)”

and with Aristotle arguing that: “...happiness is a kind of contemplation (ἡ εὐδαιμονία θεωρία τις) (*N.E.* X 1178b32)” which suggests, I argue, that the higher “activity” of human “*nous*” (and its pleasure) is in some way a purer “resting” and internal “activity”

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<sup>116</sup> See Robert Heinaman’s “Rationality, Eudaimonia and Kakodaimonia in Aristotle” in *Phronesis* (1993)

<sup>117</sup> Beere, Jonathan “The Priority of Being in *Energeia*” in Michel Crubellier *et al.* *Dunamis: Autour de la Puissance chez Aristote* (Paris, 2008) p 441 (cf. “...the object of a thing is its principle; and generation has as its object the *end* (ἀρχὴ γὰρ τὸ οὗ ἕνεκα, τοῦ τέλους δὲ ἕνεκα ἡ γένεσις). And the actuality is the end, and it is for the sake of this that the potentiality is acquired (τέλος δ’ ἡ ἐνέργεια, καὶ τούτου χάριν ἡ δύναμις λαμβάνεται); for animals do not see in order that they may have sight, but have sight in order that they may see (οὐ γὰρ ἵνα ὄψιν ἔχωσιν ὁρῶσι τὰ ζῷα ἀλλ’ ὅπως ὁρῶσιν ὄψιν ἔχουσιν). Similarly men possess the art of building in order that they may build, and the power of speculation that they may speculate; they do not speculate in order that they may have the power of speculation – except those who are learning by practice; and they do not really speculate, but only in a limited sense, or about a subject about which they have no desire to speculate (*Met.* Θ 1050a8-15)”

whereas “desire” or “*orexis*” (and desiring thought) gives rise to a less pure “moving” and (more) external “activity”. I add that it is upon this basis that we approach “God” (and the pleasure of grounded and knowing activity) on the basis that:

“...the activity of this (sc. the unmoved mover) is also pleasure (ἡδονὴ ἢ ἐνέργεια τούτου). And on account of this, waking and perceiving and thinking are most pleasant, and hopes and memories (are pleasant) on account of these (*Met.* Λ 1072b17-18)”<sup>118</sup>

from which we see that it is purely in the sense that we find “good” in our own thought and in our “activity” that we do in Aristotelian terms encounter or, at least, divine the “divine” and I suggest that this is a perfectly reasonable assessment of our cosmic situation.

I therefore suggest that it is by seeing “activity” as a generic realisation of nature that we can understand how “pleasure” counts as an “activity” and also see (A) that Aristotle regards “pleasure” as being a generic expression of worldly being which is derived from both “internal” and “external” stimuli – or, using Aristotle’s term, “*hormai*” or impulses – which *flows through* nature and hence can be impeded or can “rest” in a realisation (B) that Aristotle generically argues that the “external” can hinder the “internal” potentiality of an *ousia* at *Met.* Θ 1049a (“a thing is potentially all those things which it will be of itself if nothing external hinders it”) which suggests that the “end” and its satisfaction are the result of unimpeded activity or work<sup>119</sup> and (C) that human pleasure is both a natural generic expression of animal existence whilst also being an adjunct of the peculiarly human ability to transcend reality. I add regarding this human power for transcendence (D) that the transcendence of knowing is based upon the “wonder” regarding which Aristotle writes:

“All [people] begin, as we have said, by wondering that things should be as they are, e.g. in regard to marionettes, or the solstices, or the incommensurability of the diagonal

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<sup>118</sup> Jonathan Beere comments on this point as follows: “As [*Met.*] Λ.7 said, our own activity of thinking gives us an inkling of what god does. God’s activity counts as thinking in that we understand god’s activity, to the extent that we understand it at all, in the following way: starting with human thinking, or at least a certain view of it, we solve certain problems and clarify certain confusions to arrive at a clearer view of god’s activity (“Thinking Thinking Thinking: On God’s Self-thinking in Aristotle’s *Metaphysics* Λ.9” (online, 2010) p 27)”

<sup>119</sup> For an interesting discussion of “external” and “internal” see Susan Sauvé Meyer’s “Self-Movement and External Causation” in Mary Gill & James Lennox (*eds.*) *Self-Motion from Aristotle to Newton* (Princeton, 1994)



of a square; because it seems wonderful to everyone who has not yet perceived the cause that a thing should not be measurable by the smallest unit (*Met.* A 983a13-17)”

and we find that Aristotle also argues that: “Imitation is natural to man from childhood, one of his advantages over the lower animals being this, that he is the most imitative creature in the world, and learns at first by imitation (τὰς μαθήσεις ποιεῖται διὰ μιμήσεως τὰς πρώτας)...[and there is] the further fact: to be learning something is the greatest of pleasures not only to the philosopher but also to the rest of mankind, however small their capacity for it (*Poet.* 1448b 6-15)”. I note that the desire to know and imitate and also the development of “care” which is a transcendent form of desire are aspects of human development which are connected by the learning through friendship which is such that: “...they [i.e. friends] correct each other’s faults for each takes on the impress from the other of those traits that give him pleasure (*N.E.* X 1172a12-14)”.

## 6 Aristotle on Human Development

Let us, then, place the above analysis of desire, choice, and pleasure into a human framework / context and consider Aristotle's overall assessment of human development which is that:

“Children live (ζῶσι τὰ παῖδια) in accordance with bodily desire (κατ’ ἐπιθυμίαν), and the appetite for pleasure is particularly strong in them (καὶ μάλιστα ἐν τούτοις ἢ τοῦ ἡδέος ὀρεξίς); so if it is not made submissive and subject to some control (ὑπὸ τὸ ἄρχον), it will grow to a large extent. The appetite for pleasure is insatiable and attacks the thoughtless person (ἄπληστος) from all sides, and the actual occurrence of bodily desires increases that aspect of our nature (ἢ τῆς ἐπιθυμίας ἐνέργεια αὖξει τὸ συγγενές), especially if they are strong and intense, and if they drive out rational thought (τὸν λογισμὸν ἐκκρούουσιν) (*N.E.* III 1119b5-10)”

and let us also consider his conclusion that we must engage with the *fact* of pleasure which:

“...has grown up with us from our infancy; this is why it is difficult to rub off this passion (τὸ πάθος), engrained as it is in our life. And we measure even our actions, some of us more and others less, by the rule of pleasure and pain (ἡδονῇ καὶ λύπῃ). For this reason, then, our whole inquiry must be about these (διὰ τοῦτ’ οὖν ἀναγκαῖον εἶναι περὶ ταῦτα τὴν πᾶσαν πραγματείαν); for to feel delight and pain rightly or wrongly has no small effect on our actions (*N.E.* II 1105a1-7)”

in order to thereby be able to control and manage it within ourselves on the basis that:

“...by abstaining from pleasures we become temperate, and it is when we have become so that we are most able to abstain from them (ἐκ τε γὰρ τοῦ ἀπέχεσθαι τῶν ἡδονῶν γινόμεθα σώφρονες, καὶ γενόμενοι μάλιστα δυνάμεθα ἀπέχεσθαι αὐτῶν) (*N.E.* II 1104a33-35)” and I note the circularity of the emphasis upon habit and character which, we see, *are formed by and then form* our response to the world<sup>120</sup>.

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<sup>120</sup> Cf. “...good action is an end, and desire aims at this (ἢ γὰρ εὐπραξία τέλος, ἢ δ’ ὀρεξίς τούτου). Hence choice is either desiderative reason or ratiocinative desire, and such an origin is a man (διὸ ἢ ὀρεκτικὸς νοῦς ἢ προαίρεσις ἢ ὀρεξίς διανοητική, καὶ ἢ τοιαύτη ἀρχὴ ἄνθρωπος) (*N.E.* VI 1139b4-5)”

As regards how we shape, channel, and to some extent overcome our innate desire we should, I suggest, begin by considering the *mimēsis* which is consequent to a child's interaction with his elders which is described by Aristotle as that:

“Imitation is natural to man from childhood, one of his advantages over the lower animals being this, that he is the most imitative creature in the world, and learns at first by imitation (τὰς μαθήσεις ποιεῖται διὰ μιμήσεως τὰς πρώτας)...[and there is] the further fact: to be learning something is the greatest of pleasures not only to the philosopher but also to the rest of mankind, however small their capacity for it (*Poet.* 1448b6-15)”

and with Socrates being the perfect example of a intellectual “midwife” who helps a youth to explore and develop himself through imitation of role models, instruction by teachers, and challenges by peers (and seniors)<sup>121</sup>. I add in respect to the peculiar nature of human development that the theory of “neoteny” provides us with an interesting biological hypothesis regarding the *need* of human beings to develop through imitation as they do and that rather than just being a biological hypothesis this is also a hypothesis about nature which suggests a dynamic relationship in which a regression back into nature can lead to a heightened and compensating engagement with nature. We could perhaps employ Leibniz's dictum that “one draws back to leap higher” to explain this relationship.

We also find that our engagement with nature – and the remediation we need to take if we are to achieve stable thought and human fulfilment – can perhaps be seen as leading to the fact that “man” can in some sense act as a substitute for “nature” himself through his ability to hold on to and to reflect upon the “*nous*” of the world which, as Gavin Lawrence explains, is a *human development* which takes place as follows:

“...“the appetitive and generally desiderative part (*N.E.* I 1102b30)”...is the sole source of action and emotion in beasts and young children. But in humans this part is, *of its nature, reason-apt*, capable of being brought, or moulded, into a condition where it *listens to* and obeys the voice of reason – first the *external* voice of one's father and mother, tutor or paidagogos, and so on (*N.E.* X 1180b3-7; *Protag.* 325C-E; *N.E.* III

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<sup>121</sup> I follow Karl Popper's thought that: “I know how little I know; and even this I have not discovered: I have learnt it from someone else – from Socrates (“The Place of Mind in Nature” in *Mind in Nature: Nobel Conference XVII* (San Francisco, 1982) p 31).”

1119b13-15 *etc*), and then the *internalised* “fatherly” voice of one’s own reason (*N.E.* I 1102b13-03a3; *E.E.* II 1220a10-11; *Pol.* VII 1333a16-18)<sup>122</sup>,

and I add that our heightened engagement with nature can also be seen in the poet (and the maker more generally) regarding whom Aristotle argues that:

“...existence (τὸ εἶναι) is to all men a thing to be chosen and loved (αἰρετὸν καὶ φιλητόν), and...we exist by virtue of activity (ἔσμεν ἐνεργεῖα) (i.e. by living (ζῆν) and acting (πράττειν)), and... the handicraft (ἔργον) *is* in a sense, the producer in activity; he loves his handicraft, therefore, because he loves existence (διότι καὶ τὸ εἶναι). And this is rooted in the nature of things (τοῦτο δὲ φυσικόν); for what he is in potentiality (ὃ γὰρ ἐστὶ δυνάμει), his handiwork manifests in activity (τοῦτο ἐνεργεῖα τὸ ἔργον μὴνύει) (*N.E.* IX 1168a 5-9)”

which should suggest to us that our nature allows us to take the world and its “principles” into ourselves and then to express ourselves through our own products, e.g. our poems, and with this engagement also being an observable principle in respect to the scientist and the “master craftsman” etc. I comment that how we move from childhood imitation to independent expression, mastery, and understanding is clearly a consideration which occupies Aristotle throughout all his work.

We generally see, then, that Aristotle assumes that human development should be understood as an essential process which leads to the stabilisation and revealing of self through human experience and the development of the care and mind required to live in the world. I add here that the critical feature of Aristotle’s account of human being and of human excellence / virtue is that man has the ability to *pause* and reflect upon (and contemplate) something – and note this typically Greek conceptual nexus of resting in space, pausing in time, and completing an action by *revealing* the truth – which Gavin Lawrence explains as that:

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<sup>122</sup> Lawrence, Gavin “Acquiring Character: Becoming Grown Up” in Michael Pakaluk and Giles Pearson (eds.) *Moral Psychology and Human Action in Aristotle* (Oxford, 2012) p 243 (for an interesting discussion of “private speech” see Hope May’s *Aristotle’s Ethics: Moral Development and Human Nature* (London, 2010) p 126-8) and for a detailed discussion of Aristotle’s “mimesis” see Francis Wolff’s “The Three Pleasures of Mimēsis According to Aristotle’s Poetics” in Bernadette Bensusan-Vincent & William R. Newman (eds.) *The Artificial and the Natural: An Evolving Polarity* (Cambridge Mass., 2007))

“...‘*Episteme*’ is a coming to a stop, a *stand-still*: *eph-istemai* (an etymology Aristotle explicitly plays with in *Post. An.* II 100a3-b5). Taking *episteme* here to be a matter of understanding, of having *the why* as well as *the that* (for example *Meta.* A.1), the idea is that when one understands, one has come to a stop: enquiry is now ended, and the soul is stilled and settled, properly stable – not (so) capable of being misled or overturned by a false theory as when someone only has *the thats*<sup>123</sup>”

which shows us the critical role that *intellectual reflection* plays in human (but not animal) being and, in more detail, the critical roles that both ethical maturation – i.e. the ethical development and controlling of self – and also educational instruction – i.e. the training and instruction which informs a child’s mind – play in human development towards a good human “equilibrical state”. As regards the value of Aristotle’s perspective here I note that we can reasonably describe this power for stabilisation of self and ability to self-reflect with Howard Curzer as *honesty*, as follows: “Once a person acquires a disposition for truthful self-presentation, a disposition to avoid falsehood about all sorts of things in all sorts of situations follows more or less automatically<sup>124</sup>” or with Iris Murdoch as “humility”, or with Cheshire Calhoun as “integrity”, or with Voltaire as “humanity”, or with Whitehead as “peace”. Whichever term we choose, however, I suggest that we can see the powerful validity of Aristotle’s approach here and that the error of conflating “*nous*” with intellection should also be evident.

In conclusion, then, I comment that Aristotle’s positive understanding of human development is that as people we are shaped by nature, by society, and through our activities within society and that it is hence that we do not merely “choose” our own lives but are guided to achieve our ends. I suggest that this positive position is well explained by C.S. Lewis, as follows:

“Aristotle says that the aim of education is to make the pupil like and dislike what he ought. When the age for reflective thought comes, the pupil who has been thus trained in “ordinate affections” or “just sentiments” will easily find the first principles in

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<sup>123</sup> Lawrence, Gavin “Acquiring Character: Becoming Grown Up” in Michael Pakaluk and Giles Pearson (eds.) *Moral Psychology and Human Action in Aristotle* (Oxford, 2012) p 274

<sup>124</sup> Curzer, Howard *Aristotle and the Virtues* (Oxford, 2012) p 199

*Ethics*; but to the corrupt man they will never be visible at all and he can make no progress in that science [see *N.E.* I 1095b]. Plato before him had said the same<sup>125</sup>”

and I add regarding Aristotle’s negative understanding of human development that Aristotle’s “man” possesses an intrinsic nature which *if untempered by society and humanity* is such that he:

“...must be [that of] either a beast or a god (*Pol.* I 1253a29)”

and with this contingency leading Aristotle to posit a need for guidance or “force”, as follows: “...he who lives as passion directs will not hear argument that dissuades him, nor understand it if he does...in general passion seems to yield not to argument but to force (ὅλως τ’ οὐ δοκεῖ λόγῳ ὑπείκειν τὸ πάθος ἀλλὰ βίᾳ) (*N.E.* X 1179b28-29)”. I add that the idea that a person possesses an internal “voice” of reason which is derived from the external “voice” of his father moves us away from the modern liberal viewpoint that we simply form our *own* reason as an “individual”. Regarding the contrary significance of “community” and of “personhood” Robert Paul Wolff contends that:

“...liberalism has made the mistake of supposing that man is no more than a combination of the bestial and the angelic, the passionate and the rational. From such an assumption it follows naturally that man, like the beasts and angels, is essentially a lonely creature. But, Aristotle tells us, man has a mode of existence peculiar to his species, based on the specifically human faculty for communication. That mode of existence is society, which is a human community bound together by rational discourse and shared values<sup>126</sup>”

and we also find that Carl Jung also criticises our romantic Faustian or Promethean worldview as being a “...demonism of Nature, which man had apparently triumphed over, [and which] he has unwittingly swallowed into himself and so become the devil’s marionette<sup>127</sup>”. We ultimately find, then, that we are caught up in a battle of

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<sup>125</sup> Lewis, C.S. *The Abolition of Man* (Oxford, 1943) p 14

<sup>126</sup> Wolff, Robert Paul “Beyond Tolerance” in *A Critique of Pure Tolerance* (Boston, 1965) p 30

<sup>127</sup> Jung, Carl *The Earth Has a Soul: C.G. Jung on Nature, Technology & Modern Life* (Berkeley, 2002) p 132. See also Kurt von Fritz’s “Aristotle’s Anthropological Ethics and its Relevance to Modern Problems” in *Journal of the History of Ideas* (1981) and Deborah

worldviews regarding which I note that Aristotle's worldview and his critique of other worldviews is readily identifiable in many contemporary arguments.

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Achtenberg's "Human Being, Beast and God: The Place of Human Happiness According to Aristotle and Some Twentieth-Century Philosophers" in May Sim (ed.) *The Crossroads of Norm and Nature: Essays on Aristotle's Ethics and Metaphysics* (London, [orig. 1988] 1995).

## 7 Aristotle on Imagination

Having considered (good) “human development” as being a channelling of “desire” into “habits” and “choices” through the control provided by “reason” let us now step away the development of man to consider the underlying structures of human “imagination” (and then “memory”) which is a shared resource of animal “sensation” and of human “rationality” which arises from out of the human control over time. Regarding “imagination” we find in outline that:

“...imagination is a weakened sensation (ἡ δὲ φαντασία ἐστὶν αἰσθησίς τις ἁσθενής)...both the man who remembers and the man who hopes will be attended by an imagination of what he remembers or hopes (ἀεὶ ἐν τῷ μεμνημένῳ καὶ τῷ ἐλπίζοντι ἀκολουθοῖ ἂν φαντασία τις οὗ μὲμνηται ἢ ἐλπίζει) (*Rhet.* I 1370a28-30)”

and with our elemental task being to consider how this human “imagination” translates into the motivating activity of animals which act without reason as exemplified by the sponge which when it “...becomes aware that someone is attempting to pull it off, it contracts itself and is then difficult to detach (*HA* V 548a11-13)” (and Aristotle questions the veracity of this suggestion but this is not significant here). We will see below that Aristotle introduces “imagination” in order to explain the “instinct” of animals and also consider on what terms even mature human beings act when they are “sleeping or mad or drunk (*N.E.* VII 1147a13-14)” and to therefore reach an understanding of the world which contains all of its phenomena. I suggest here that we must be willing to think outside the box and consider, say, regarding the nature of a plant’s “life” that: “...plants seem to participate in [static and unconscious] life of that kind; and so do children too, inasmuch as at their first procreation in the motion, although alive, they stay asleep all the time (*E.E.* I 1216a6-8)” if we are to engage with Aristotle’s perspective. We will see below that Aristotle’s thorough assessment of “imagination” will show how man possesses an animal platform for his existence which he should embrace whilst seeking, as a human being, to go beyond.

I suggest that we find in outline regarding “imagination” that Aristotle seeks to explain animal nutrition, perception, desire, and movement which operates *without* reason on the basis that: “...because imaginations persist in us and resemble sensations (διὰ τὸ ἐμμένειν καὶ ὁμοίας εἶναι ταῖς αἰσθήσεσι), living creatures frequently act in



accordance with them, some, *viz.*, the brutes, because they have no mind, and some, *viz.*, men, because the mind is temporarily clouded over by emotion, or disease, or sleep (*De An.* III 429a5-8)” and on the basis that:

“...the animal is moved and walks from desire or purpose (ὁρέξει ἢ προαιρέσει), when some alteration has been caused as the result of sensation or imagination (κατὰ τὴν αἴσθησιν ἢ τὴν φαντασίαν) (*MA* 701a4-6)”

and on the basis that: “My appetite says (ἡ ἐπιθυμία λέγει), I must drink; this is drink, says sensation or imagination or thought (ἡ αἴσθησις εἶπεν ἢ ἡ φαντασία ἢ ὁ νοῦς), and one immediately drinks (*MA* 701a32-34)”<sup>128</sup>. Regarding “imagination” *per se* we also find that Aristotle notes that: “Since sight is the chief sense, the name *phantasia* (imagination) is derived from *phaos* (light), because without light it is impossible to see (*De An.* III 428b4)” which shows us that Aristotle is on one level at least (we will consider *other* levels later on) using the concept of “imagination” in order to represent how organic beings which are *not plants* can *see* and / or *move* in the world even if they lack human reason absolutely or, in the case of the drunk, insane, and asleep, contingently.

Building our account from this base, then, let us consider the clear and intimate relationship of “imagination” with “desire” regarding which Hendrik Lorenz observes that: “It is *phantasia*’s role, as Aristotle puts it, to “prepare desire accordingly (*MA* 702a17-19)”<sup>129</sup> and that:

“...“What pleases the lion”, he [i.e. Aristotle] insists, “is not the sight of “a stag or wild goat”, but that he is going to get a meal (*N.E.* III 1118a18-23).” The lion’s pleasure, Aristotle thinks, is a pleasure of anticipation, and so he must take it to involve apprehending the prospect of having a meal<sup>130</sup>”

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<sup>128</sup> I suggest that Aristotle uses this “drink” to suggest that the natural ideal for purely animal “pleasure” is nutritive “continuousness”, as follows: “...a drink fails to be pleasant not because of its result, but because its pleasantness is not continuous (τὸ μὴ συνεχές), although at first it quite takes one in (*E.E.* VII 1238a29-30)”

<sup>129</sup> Lorenz, Hendrik *The Brute Within: Appetitive Desire in Plato and Aristotle* (Oxford, 2006) p 206

<sup>130</sup> Lorenz, Hendrik *Ibid.* p 149

and with this relationship being evident in the situation that: "...“Each animal is thought to have a proper pleasure, as it has a proper function (δοκεῖ δ’ εἶναι ἐκάστῳ ζῷον καὶ ἡδονὴ οἰκεία)”; viz. that which corresponds to its activity (ἡ γὰρ κατὰ τὴν ἐνέργειαν). If we survey them species by species, too, this will be evident; horse, dog, and man have different pleasures (*N.E.* X 1176a3-6)” and, as Cynthia Freeland comments, that:

“A berry does not “cause” a bird to eat it by simply being there in the bird’s environment, or even by being seen by the bird. It can only enter into a causal story about the bird’s behaviour if the bird sees this round red shiny thing as food. For this, imagination is required<sup>131</sup>”

and with Malcolm Schofield adding that:

“By *phantasia* here Aristotle must have in mind something like visualisation...No longer is it a matter of: “I need a drink”, but instead: “I need *this* drink”. In other words, sense-perception or *phantasia* or thought shapes a desire that is on that account now determinate, ready to function at once as the *immediate* cause of movement<sup>132</sup>”

from which we clearly see the basic point here that there must be *some impulse and capacity* which enables an individual animal, however *primitive*, to be able to identify the objects in nature which it needs in order to satisfy its living needs. This evident natural capacity is explained by Aristotle through his concept of “imagination”.

Now, moving onwards and *upwards*, let us consider that Aristotle finds a *scala naturae* in nature regarding which the “basic” power of nutrition (which includes the power of reproduction) drives the “higher” power of sensation in living and self-moving beings, and with the power of sensation then informing the “higher” power of speculative thought in man<sup>133</sup>. Aristotle’s position regarding this last relationship is that:

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<sup>131</sup> Freeland, Cynthia “Aristotle on Perception, Appetition, and Self Motion” in *Self-Motion: From Aristotle to Newton* eds. Mary Louise Gill & James G. Lennox (Princeton, 1994) p 49

<sup>132</sup> Schofield, Malcolm “*Phantasia* in *De Motu Animalium*” in Michael Pakaluk & Giles Pearson (eds.) *Moral Psychology and Human Action in Aristotle* (Oxford, 2011) p 124-7

<sup>133</sup> Regarding the bodily nature of “imagination” – and therefore its focus upon nutrition and reproduction – we find that Aristotle responds to his thought that “*nous*” is not related to the body, as follows: “...possibly thinking is an exception (μάλιστα δ’ ἔοικεν ἰδίῳ τὸ νοεῖν)” by considering “imagination”, as follows: “But if this too is a kind of imagination, or at least is dependent upon imagination (εἰ δ’ ἐστὶ καὶ τοῦτο φαντασία τις ἢ μὴ ἄνευ φαντασίας), even this

“By nature animals are born with the faculty of sensation, and from sensation memory is produced in some of them, though not in others (φύσει μὲν οὖν αἴσθησιν ἔχοντα γίγνεται τὰ ζῷα, ἐκ δὲ ταύτης τοῖς μὲν αὐτῶν οὐκ ἐγγίγνεται μνήμη, τοῖς δ’ ἐγγίγνεται). And therefore the former are more intelligent and apt at learning than those which cannot remember; those which are incapable of hearing sounds are intelligent though they cannot be taught, e.g. the bee, and any other race of animals that may be like it; and those which besides memory have this sense of hearing, can be taught. The animals other than man live by appearances and memories, and have but little of connected experience; but the human race lives also by art and reasonings (τὰ μὲν οὖν ἄλλα ταῖς φαντασίαις ζῇ καὶ ταῖς μνήμαις, ἐμπειρίας δὲ μετέχει μικρόν: τὸ δὲ τῶν ἀνθρώπων γένος καὶ τέχνη καὶ λογισμοῖς). And from memory experience is produced in men; for many memories of the same thing produce finally the capacity for a single experience (γίγνεται δ’ ἐκ τῆς μνήμης ἐμπειρία τοῖς ἀνθρώποις: αἱ γὰρ πολλαὶ μνήμαι τοῦ αὐτοῦ πράγματος μιᾶς ἐμπειρίας δύναμιν ἀποτελοῦσιν). Experience seems to be very similar to science and art, but really science and art come to men *though* experience; for “experience made art”, as Polus says, “but inexperience luck”. And art arises, when from many notions gained by experience one universal judgement about similar objects is produced (γίγνεται δὲ τέχνη ὅταν ἐκ πολλῶν τῆς ἐμπειρίας ἐννοημάτων μία καθόλου γένηται περὶ τῶν ὁμοίων ὑπόληψις) (*Met.* A 980a28-981a6)”

and Aristotle expands on the subject of “higher” and “lower” life further, as follows: “...a higher degree of sensation is a property of a higher degree of living thing, a lower degree of sensation would be a property of a lower degree of living thing (τοῦ μᾶλλον ζῶντος τὸ μᾶλλον αἰσθάνεσθαι ἐστὶν ἴδιον, καὶ τοῦ ἥττον ζῶντος τὸ ἥττον αἰσθάνεσθαι εἶη ἂν ἴδιον) (*Top.* V 137b24-26)” and also argues for the “evolutionary” principle that there is an “...aim of all things, or of all things that possess sensation or reason; or would be, if they could acquire the latter (εἰ λάβοι νοῦν) (*Rhet.* I 1362a23-24)” which is explained well by Aryeh Kosman, as follows: “...Aristotle’s hint at the end of *Posterior Analytics* that animals have a rudimentary form of νοῦς in the general capacity of discrimination that is αἴσθησις (*Posterior Analytics* 2 99b34-100a1)... must mean that

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cannot exist apart from [the] body (οὐκ ἐνδέχεται ἂν οὐδὲ τοῦτ’ ἀνευ σώματος εἶναι) (*De An.* I 403a8-10)”

νοῦς is only the purest form of that general power that is increasingly revealed in *scala naturae*<sup>134</sup>.”

We see, then, that Aristotle finds a development, refinement, and increase in the powers of living being when he considers plants, animals, and then man and also that he expects the “lower” powers to be built upon by the “higher” powers but also to be transformed thereby in a similar way as we have already seen that human movement becomes “choice” and human desire when matched with reason becomes prudence and “care”. I stress here that man should be seen in a worldly context and as a worldly object and also as a *whole* – as an organism, as an animal, and as a human being – and hence I suggest that it is important for us to see that all the dimensions of human being – his imagination, reason, desire, care, choice etc. – are all fused into a single picture of which Aristotle gives us an example, as follows:

“...why is it that thought sometimes results in action and sometimes does not, sometimes in movement and sometimes not? Apparently, the same kind of thing happens as when one thinks and forms an inference about immovable objects. But in the latter case, the end is speculation (for when you have conceived the two premises, you immediately conceive and infer the conclusion); but in the former case the conclusion drawn from the two premises becomes the action [and in respect to human thought Aristotle suggests that]...action follows unless there is some hindrance or compulsion...I ought to create a good, and a house is good, I immediately create a house. Again, I need a covering, and a cloak is a covering, I need a cloak. I ought to make a cloak. And the conclusion “I ought to make a cloak” is an action. The action results from the beginning of the train of thought (πράττει δ' ἀπ' ἀρχῆς). If there is to be a cloak, such and such a thing is necessary, if this thing then something else; and one immediately acts accordingly. That the action is the conclusion is quite clear; but the premises which lead to the doing of something are of two kinds, through the good and through the possible (ὅτι μὲν οὖν ἡ πρῶξις τὸ συμπέρασμα, φανερόν· αἱ δὲ προτάσεις αἱ ποιητικαὶ διὰ τε τοῦ ἀγαθοῦ καὶ διὰ τοῦ δυνατοῦ) [and Aristotle concludes that] Alteration is caused by imagination and sensations and thoughts (ἀλλοιοῦσι δ' αἱ φαντασίαι καὶ αἱ αἰσθήσεις καὶ αἱ ἔννοιαι) (MA 701a7–701b18)”

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<sup>134</sup> Kosman, Aryeh “What Does the Maker Mind Make?” in *Virtues of Thought: Essays on Plato and Aristotle* (Cambridge Mass., [orig. 1992] 2014) p 135-6). I note that Jonathan Beere also comments that: “...νοῦς is perception-like in that it is a faculty for cognition of objects (rather than propositions or states of affairs)” (“Thinking Thinking Thinking: On God’s Self-thinking in Aristotle’s *Metaphysics* Λ.9” (online, 2010) p 3)”

which shows us (i) the nature of human desire and thought (and imagination and memory) fusing into an action which is creative and projected in the sense man does not *immediately* create a house in a literal sense but is, rather, *immediately* set in motion through this image in wishing and then acting to create one, and (ii) the fact that worldly being is a *contingent reality* (and a complex reality) which requires the existence of a *suspended reality* of impulses which continue as trains of thought, desire, imagination, and action (and a hierarchy of ends) in order for a concrete action or product to ensue and with the “possible”, “need”, and “good” being possible spurs to action.

In summary so far, then, I suggest that we see above that Aristotle is able to find and to systematically draw out such structurings and parallelisms in nature as that between animal imagination and human thought, and between the physical being of something and its mental being and I add that Aristotle expands upon the distinction between animal and human “imagination” elsewhere as that:

“Sensitive imagination (αἰσθητικὴ φαντασία), as we have said, is found in all animals, deliberative imagination (βουλευτικὴ) only in those that are calculative (λογιστικοῖς): for whether this or that shall be enacted is already a task requiring calculation (λογισμοῦ ἤδη ἐστὶν ἔργον); and there must be a single standard to measure by, for that is pursued which is *greater* (καὶ ἀνάγκη ἐνὶ μετρεῖν· τὸ μείζον γὰρ διώκει). It follows that what acts in this way must be able to make a unity out of several images (ὥστε δύναται ἐν ἐκ πλειόνων φαντασμάτων ποιεῖν) (*De An.* III 434a8-10)”

from which we see that Aristotle (i) draws a clear and precise distinction between animal (sensitive) and human (deliberative / calculative) imagination (ii) reminds us that we are broadly speaking about images, anticipations, and wishes (as a stag being an intended dinner) and also memories regarding which: “...memory, even of the objects of thought, implies a mental picture (ἡ δὲ μνήμη καὶ ἡ τῶν νοητῶν οὐκ ἄνευ φαντάσματος ἐστὶν) (*Mem.* 450a12-13)” (iii) explains the peculiarity of “calculative” human thought as its ability to think objectively and hence to “make a unity out of several images” (and we also see that Aristotle argues that only man has the sophistication and hence possibility to actually be “incontinent”<sup>135</sup>) and (iv) implicitly

<sup>135</sup> Cf. “...lower animals are not incontinent, *viz.* because they have no universal judgement but only imagination and memory of particulars (τὰ θηρία οὐκ ἀκρατῆ, ὅτι οὐκ ἔχει καθόλου ὑπόληψιν ἀλλὰ τῶν καθ’ ἕκαστα φαντασίαν καὶ μνήμην) (*N.E.* VII 1147b4-5)”

suggests that it is our “calculative” part which enables us to contemplate what is “good” rather than just to follow our functional animal desires.

I add that Aristotle argues that “mental pictures” or “*phantasmata*” are even an essential part of our “higher” or explicitly “calculative” mental activities in the sense that:

“...no one could ever learn or understand anything without the exercise of perception, so even when we think speculatively, we must have some mental picture of what to think (ὅταν τε θεωρῇ, ἀνάγκη ἅμα φάντασμά τι θεωρεῖν); for mental images are similar to objects perceived except that they are without matter (τὰ γὰρ φαντάσματα ὥσπερ αἰσθήματά ἐστι, πλὴν ἄνευ ὕλης) (*De An.* III 432a7-11)”<sup>136</sup>

regarding which Ned O’Gorman correctly observes that: “...an Aristotelian cognitive “virtue” does not suppress or disregard *phantasia* in favour of higher modes of thought. Rather, higher modes of thought – for example, contemplative reason – incorporate and build on the mental images cultivated by *phantasia*<sup>137</sup>”. Regarding these “higher modes of thought” we find that Aristotle argues that we possess “universals” or “forms” which are “within the soul”, as follows:

“...a man can exercise his knowledge when he wishes (διὸ νοῆσαι μὲν ἐπ’ αὐτῷ)  
[because] what knowledge apprehends is universals (ἢ δ’ ἐπιστήμη τῶν καθόλου), and these are in a sense within the soul (ταῦτα δ’ ἐν αὐτῇ πῶς ἐστι τῇ ψυχῇ) (*De An.* II 417b23-24)”<sup>138</sup>

and with Aristotle adding further the parallelism between the human hand and the human soul, as follows: “...the soul is analogous to the hand (ὥστε ἡ ψυχὴ ὥσπερ ἡ χεὶρ ἐστίν); for as the hand is a tool of tools (καὶ γὰρ ἡ χεὶρ ὄργανόν ἐστιν ὀργάνων), so the mind is the form of forms (καὶ ὁ νοῦς εἶδος εἰδῶν) (*De An.* III 432a1-2)” from

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<sup>136</sup> Cf. “...it is impossible even to think without a mental picture (νοεῖν οὐκ ἔστιν ἄνευ φαντάσματος). The same affection is involved in thinking (συμβαίνει γὰρ τὸ αὐτὸ πάθος ἐν τῷ νοεῖν) as in drawing a diagram (ἐν τῷ διαγράφειν) (*Mem.* 450a1-2)”

<sup>137</sup> O’Gorman, Ned “Aristotle’s “Phantasia” in the “Rhetoric”: “Lexis”, Appearance, and the Epideictic Function of Discourse” in *Philosophy and Rhetoric* (2005) p 34

<sup>138</sup> Cf. “It has been well said that the soul is the place of forms (εἶναι τόπον εἰδῶν), except that this does not apply to the soul as a whole, but only its thinking capacity, and the forms occupy it not actually but only potentially (πλὴν ὅτι οὔτε ὅλη ἀλλ’ ἡ νοητικὴ, οὔτε ἐντελεχεῖα ἀλλὰ δυνάμει τὰ εἶδη) (*De An.* III 429a27-30)”

which we see that Aristotle insists (a) that we have the further power than animals to transform our experience of the world into “universals” and “forms” and (b) that this power gives us a power to *actively* engage with the world – and to have a sense of self and of time – rather than *passively* responding to its images and stimuli.

Now, I suggest that whereas the value of “reason” and of “mind” is, of course, a general preoccupation of our thinking about the world, the significance of imagination is not properly appreciated in our thought (and memory and perception are also left generally unexplored). In respect to “imagination” we see that Aristotle suggests that it is a important part of our “creative” world in the sense that:

“...mental pictures (φαντασμάτα) are like reflections in water (*Div.* 464b8-10)”

and with the positive value of “*phantasia*” as opposed to “*nous*” residing in the wealth of imagery which Erick R. Jiménez explains as follows:

“...every time I mean to think something, for Aristotle, I am always drawing an image that has *a few too many details*. “Think elephants,” says mind. “I’ll make it grey,” says imagination. Mind of course does not specify the colour, is not even concerned with the colour, but it must be of *some* colour. Inasmuch as mind involves these acts of *phantasia*, and these acts of *phantasia* are not possible except for *embodied* perceivers, mind is an act too that is embodied. Intelligible contents, Aristotle is claiming, are made out only *through* sensible ones<sup>139</sup>”

and I add that Eric Sanday also observes that: “Rather than assuming that mind can recognise images, it is my conclusion that body must first be able to experience itself imagistically, or in a way preparatory to the image, in order that the embodied soul can have an image in a way that would matter to it. The power to have an image is the very thing we should be trying to explain, not presuppose<sup>140</sup>” and I conclude (a) that imagination differs from sensation in being a space for or world of wish, memory, dreams, appearance, etc. (which can be true and false) which emanates from the bodily world but is not wholly limited to it, (b) that imagination differs from mind in being a world of experience and of images which affects us and makes us think whereas mind is

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<sup>139</sup> Jiménez, Erick R. “Mind and Body in Aristotle” in Claudia Baracchi (ed.) *The Bloomsbury Companion to Aristotle* (London, 2013) p 97

<sup>140</sup> Sanday, Eric “Phantasia in *De Anima*” in Claudia Baracchi (ed.) *The Bloomsbury Companion to Aristotle* (London, 2013) p 119

a more active and internal power to extract meaning from the world and then apply the self to the world and (c) that our creative human possibilities are actually opened up by our animal “imagination” in the sense Erick R. Jiménez explains, as follows: “...it is not just the “escape” or “fantasy” of phantasia that is an issue in thinking but the perception of a reality that is occasioned by an image<sup>141</sup>.”

I suggest, then, that our human thought or “*nous*” is always coloured by our human being and our “imagination” as Michael Wedin explains, as follows:

“At the centre [of Aristotle’s account] is the conviction that human thought is irrevocably representational and that the explanation of thinking must ultimately come to rest in representational structures that are peculiar to embodied persons<sup>142</sup>.”

and with this human being itself being, as Carl Jung rightly observes, a natural arc centred around an “*akmē*” of a rational and mature manhood which is bookended by dreams and phantasms, as follows: “Conscious problems fill out the second and third quarters [of a human life]...Childhood and extreme old age, to be sure, are utterly different, and yet they have one thing in common: submersion in unconscious psychic happenings<sup>143</sup>.” I add, finally, that we have an interesting case study for our human situation in the reflections of Patrick Suppes, as follows:

“Perhaps my memory [i.e. of his joint sessions with Dagfinn Føllesdal] is the most vivid of the seminars on Aristotle and Aquinas we gave over many years. It was in these seminars that I came to a much deeper understanding of Aristotle’s theory of perception. I value this experience above all, because it clarified once and for all that the simple slogan “same form, different matter” was a succinct but pregnant way of describing the fundamental distinction between form and matter in Aristotle’s philosophy. Many aspects of it are formulated by Plato, and to a lesser extent, by other Greek philosophers. But what was and is important is that I realised how fundamental this idea is in trying to face up to the nature of the accuracy and speed of human perception, and also of many animals as well. I reach into my pocket and hold up a key,

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<sup>141</sup> Jiménez, Erick R. “Mind and Body in Aristotle” in Claudia Baracchi (ed.) *The Bloomsbury Companion to Aristotle* (London, 2013) p 98

<sup>142</sup> Wedin, Michael “Aristotle on the Mechanics of Thought” in *Ancient Philosophy* (1989) p 85.

<sup>143</sup> Jung, Carl G. “The Stages of Life” in *Modern Man in Search of a Soul* (London, [orig. 1933] 1961) p 131



I ask you, “What is this?” In a matter of milliseconds really, your brain has computed the answer. How could such rapid and accurate answers be computed when the number of objects I could exhibit of this kind is so large? From a formal standpoint of systematic theory, especially of the kind of mathematical psychology that has interested me all my academic career, the depth and clarity of this discussion of how perceptual recognition of objects and processes is computed, that is, by recognising the form of the object, in the way that Aristotle so clearly explains, has been a model of qualitative psychology and philosophy. A beautiful concept of isomorphism is behind this fundamental explanation.<sup>144</sup>”

which surely shows us how hard it is – and how pointless it is – to seek to break down the obvious interrelation and unity between the images of instinct, memory, thought, imagination, and reflection in man.

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<sup>144</sup> Suppes, Patrick “[Commentary on] Dagfinn Føllesdal” in Crangle, Colleen E. *et al* (eds.) *Foundations and Methods from Mathematics to Neuroscience* (Stanford, 2014) p 266

## 8 Aristotle on Memory

After “imagination” let us consider “memory” before moving on to “rationality”. We find that the essential features of “memory” are (a) that memory allows us to move through “time” in the sense that it provides us with a *starting point* to begin our search and hence:

“...when a man wishes to recall anything, this will be his method; he will try to find a starting point for an impulse (ἀρχὴν κινήσεως) which will lead to the one he seeks (*Mem.* 451b30-32)”

and in the sense that it is a mechanism through which we can find answers for our searches on the basis that: “Memory, then, is neither sensation nor judgement (οὔτε αἴσθησις οὔτε ὑπόληψις), but is a state or affection (τινὸς ἕξις ἢ πάθος) of one of these, when time has elapsed (ὅταν γένηται χρόνος) (*Mem.* 449b24-26)” (b) that memory is *immediate*, i.e. is not mediated, in the sense that:

“The reason (αἴτιον) why the effort of recollection is not under the control of their will (ἐπ’ αὐτοῖς) is that, as those who throw a stone cannot stop it at their will when thrown, so he who tries to recollect and “hunts” [after an idea] sets up a process in a material part (σωματικόν τι κινεῖ), in which resides the affection (ἐν ᾧ τὸ πάθος) (*Mem.* 453a20-23)”

and (c) that memory is an element of our “habit forming” and “skill learning” capability in the sense that: “...we remember things quickly which are often in our thoughts (διὸ ἅ πολλάκις ἐννοοῦμεν, ταχὺ ἀναμνησκομέθα); for as in nature one thing follows another, so also in the actualisation of these stimuli; and the frequency has the effect of nature (ὥσπερ γὰρ φύσει τόδε μετὰ τόδε ἐστίν, οὕτω καὶ ἐνεργείᾳ· τὸ δὲ πολλάκις φύσιν ποιεῖ) (*Mem.* 452a28-31)” and with this leading to a situation in which “...custom now takes the place of nature (γὰρ φύσις ἤδη τὸ ἔθος) (*Mem.* 452a28)”<sup>145</sup>. In short, if

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<sup>145</sup> Cf. “...that which has become habitual becomes as it were natural (καὶ γὰρ τὸ εἰθισμένον ὥσπερ πεφυκὸς ἤδη γίγνεται); in fact, habit is something like nature (ὅμοιον γὰρ τι τὸ ἔθος τῇ φύσει) for the distance between “often” and “always” is not great, and nature belongs to the idea of “always”, “habit” to that of “often” (ἐγγὺς γὰρ καὶ τὸ πολλάκις τῷ ἀεί, ἔστιν δ’ ἡ μὲν φύσις τοῦ ἀεί, τὸ δὲ ἔθος τοῦ πολλάκις) (*Rhet.* I 1370a5-8)”

we reflect on what memory *is*, we see that it is a channelling of self through experience as well as being a psychic faculty which we practically employ.

We see, then, that “memory” is not something that we just happen to have but that it is a natural mechanism which channels our thoughts and to some extent channels our selves by forming us through “habits” or “customs” and we could even say that memory is a means for development in accordance with our environment which could be described as a mechanism for evolutionary learning. In respect to the nature of this mechanism of “memory” and its relationship with “sensation” and “thought” we find that Aristotle is very explicit, as follows:

“...out of sense-perception comes to be what we call memory (Ἐκ μὲν οὖν αἰσθήσεως γίνεται μνήμη, ὥσπερ λέγομεν), and out of frequently repeated memories of the same thing develops experience (ἐκ δὲ μνήμης πολλάκις τοῦ αὐτοῦ γινομένης ἐμπειρία); for a number of memories constitute a single experience (αἱ γὰρ πολλαὶ μνήμαι τῷ ἀριθμῷ ἐμπειρία μία ἐστίν). From experience again (ἐκ δ' ἐμπειρίας) – i.e. from the universal now stabilised in its entirety within the soul (ἡ ἐκ παντὸς ἡρεμήσαντος τοῦ καθόλου ἐν τῇ ψυχῇ), the one beside the many which is a single identity within them all (τοῦ ἐνὸς παρὰ τὰ πολλά, ὃ ἂν ἐν ἅπασιν ἐν ἐνῇ ἐκείνοις τὸ αὐτό) – originate the skill of the craftsman and the knowledge of the man of science (τέχνης ἀρχὴ καὶ ἐπιστήμης), skill in the sphere of coming to be and science in the sphere of being (ἐὰν μὲν περὶ γένεσιν, τέχνης, ἐὰν δὲ περὶ τὸ ὄν). We conclude that these states of knowledge are neither innate in a determinate form, nor developed from other higher states of knowledge (ἐπιστήμης. οὔτε δὲ ἐνυπάρχουσιν ἀφορισμέναι αἱ ἕξεις, οὔτ' ἀπ' ἄλλων ἕξεων γίνονται γνωστικωτέρων), but from sense perception (ἀλλ' ἀπὸ αἰσθήσεως)...The soul is so constituted as to be capable of this process (ἡ δὲ ψυχὴ ὑπάρχει τοιαύτη οὕσα οἷα δύνασθαι πάσχειν τοῦτο) (*Post. An.* II 100a3-14)”

though I suggest that it is important to add that the fact that we understand the world in general and its forms, genera etc. *through* sensation, *through* memory, *through* habit etc., derives ultimately from the fact that “The soul is so constituted as to be capable of

this process (ἡ δὲ ψυχὴ ὑπάρχει τοιαύτη οὕσα οἷα δύνασθαι πάσχειν τοῦτο)”<sup>146</sup> and does not allow us to *reduce* the world or our knowledge *to* sense data<sup>147</sup>.

I add that it is also interesting to consider that Aristotle is concerned with how and why we mis-remember as well as why we remember (and also with why our understanding of the facts of experience can be correct or wrong or misguided) and with his assessment on this point being that:

“...since in purely natural phenomena some things occur contrary to nature, and owing to chance, (ἐπεὶ δ’ ὥσπερ ἐν τοῖς φύσει γίγνεται καὶ παρὰ φύσιν καὶ ἀπὸ τύχης) so still more in matters of habit, to which the term “natural” does not belong in the same sense (ἔτι μᾶλλον ἐν τοῖς δι’ ἔθος, οἷς ἡ φύσις γε μὴ ὁμοίως ὑπάρχει); so that the mind is sometimes impelled not only in the required direction but also otherwise, especially when something diverts it from that direction, and turns it towards itself. This is why when we want to remember a name, we remember one rather like it, but fail to enunciate the one we want (*Mem.* 452b1-6)”

and with this point in principle being that:

“...in the realm of nature (φύσει) occurrences take place which are even contrary to nature (παρὰ φύσιν), or fortuitous (ἀπὸ τύχης), [and] the same happens *a fortiori* in the sphere swayed by custom (δι’ ἔθος) (*Mem.* 452b1-2)”

which shows us (i) that the “slips” of our memory are one manifestation of the slips of nature itself (ii) that Aristotle assumes that *we* are a natural product which simply exhibits the nature of Nature in *our* nature (*cf.* “The soul is so constituted as to be

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<sup>146</sup> John von Heyking comments that: “The intellect, like the tablet, is suited to receive the form of the intelligible (thereby indicating that Aristotle’s version of the blank slate emphasises it is a slate, and not simply its blankness, which seems emphasised in modern accounts (“Sunaesthetic” Friendship and Political Anthropology” in *International Political Anthropology* (2008) p 185).”

<sup>147</sup> *Cf.* “When one of a number of logically indiscernible particulars has made a stand, the earliest universal is present in the soul (στάντος γὰρ τῶν ἀδιαφόρων ἐνός, πρῶτον μὲν ἐν τῇ ψυχῇ καθόλου): for though the act of sense-perception is of the particular, its content is universal – is man, for example, not the man Callias (καὶ γὰρ αἰσθάνεται μὲν τὸ καθ’ ἕκαστον, ἡ δ’ αἴσθησις τοῦ καθόλου ἐστίν, οἷον ἀνθρώπου, ἀλλ’ οὐ Καλλίου ἀνθρώπου). A fresh stand is made among these rudimentary universals, and the process does not cease until the indivisible concepts, the true universals, are established (πάλιν ἐν τούτοις ἵσταται, ἕως ἂν τὰ ἀμερῇ στῇ καὶ τὰ καθόλου), e.g. such and such a species of animal is a step towards the genus animal, which by the same process is a step towards a further generalisation (οἷον τοιονδὶ ζῷον, ἕως ζῷον, καὶ ἐν τούτῳ ὡσαύτως) (*Post. An.* II 100a15-100b2)”

capable of this process (ἡ δὲ ψυχὴ ὑπάρχει τοιαύτη οὕσα οἷα δύνασθαι πάσχειν τοῦτο)) and (iii) that Aristotle’s conceptualisation of nature calmly identifies and incorporates the existence of these “slips” and irregularities in respect to the circumstances in which they are observable and appropriate (see also *Phys.* II 199a33 f.). I suggest in conclusion (A) that Aristotle represents nature *as we actually encounter it*, (B) that Aristotle assumes that there is some guiding mechanism behind this irregular but structured reality of our acquaintance, and this may, I suggest, be what he is referring to when he comments that: “...nature is only one particular genus of being (ἐν γάρ τι γένος τοῦ ὄντος ἡ φύσις) (*Met.* Γ 1005a34)” (this presumably meaning that there is a supersensible realm which is in some sense distinct from worldly “nature”) and (C) that Aristotle argues on the basis of observed reality that there is structure and form in nature from which we can draw abstractions but that evidence of this structuring does not allow us to *reduce* the world *to* abstractions.

As regards how our modern viewpoint on “memory” agrees or disagrees with Aristotle’s I would suggest that modern scientific research supports and is to some degree *the same as* Aristotle’s position (as stated above) but with its approach often being purely descriptive and localised (for either practical *or* positivistic reasons<sup>148</sup>). First, we find that memory *is not just data storage* (whatever “just” means in this context) but that it is a structured engagement with time in the sense that our working short-term memory is a necessary enabler of a moving human self in the world<sup>149</sup> – which can go wrong as amnesia or as an inability to regulate data<sup>150</sup> – as is attention,

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<sup>148</sup> I suggest, for instance, that we see “positivism” behind Richard Rorty’s position that: “...we can content ourselves with saying that the nature of a mental state is to be the sort of state of the human organism which psychologists study (“Mind as Ineffable” in Richard Q. Elvee (*ed.*) *Mind in Nature; Nobel Conference XVII* (San Francisco, 1982) p 76)” on the basis that his position is held primarily for ideological / philosophical rather than for practical / scientific reasons.

<sup>149</sup> We find that Alan Baddeley explains that human “memory” contains both a “long term memory” and also a “working memory” which is an “episodic buffer” which is a: “...temporary store” which is: “...assumed to be controlled by the central executive, which is capable of retrieving information from the store in the form of conscious awareness, of reflecting on that information and, where necessary, manipulating and modifying it. The buffer is episodic in the sense that it holds episodes whereby information is integrated across space and potentially extended across time (“The episodic buffer: a new component of working memory?” in *Trends in Cognitive Sciences* (2000) p 421)” (and Jeffrey M. Ellenbogen *et al* notes that memory needs to be “consolidated” through “sleep consolidation” (“Interfering with Theories of Sleep and Memory: Sleep, Declarative Memory, and Associative Inference” in *Current Biology* (2006)).

<sup>150</sup> For the inability to forget or put aside information – this being the reverse of amnesia – see the example of Jill Price in Sven Bernecker’s *Memory: A Philosophical Study* (Oxford, 2010) p 2.

attention span, and the ability to intellectually focus on an object / task. Second, we find that human “memory” is connected both with our animal “perception” and also with our human “self” and hence that human beings possess not only *explicit* “declarative” memory which allows us to consciously retrieve facts, arguments, and opinions but also *implicit* “non-declarative” memory which represents the un-conscious and non-verbal storage of emotions and habits<sup>151</sup>. As regards scientists willing (for whatever reason) to engage with philosophy, however, we find such arguments as those of David Bohm that:

“What is the process of thought? Thought is, in essence, the active response of memory in every phase of life. We include in thought the intellectual, emotional, sensuous, muscular and physical responses to memory...It is clear, however, that the *whole meaning* of such a memory is just the conjunction of the image with its feeling<sup>152</sup>”

and I note that quantum physics seems to suggest that there is “memory” in elemental nature in the sense of the “entanglement” outlined for instance by Bernard d’Espagnat in his “The Quantum Physics and Reality” in *Scientific American* (1979) and I suggest that this “new” approach to the world is actually quintessentially Aristotelian (and see also the work of Werner Heisenberg, Henry P. Stapp, Walter Elsasser, David Bohm, Hans Primas, Rupert Sheldrake among others).

I add as regards philosophers willing to treat memory *philosophically* that we find (for instance) Michel Foucault arguing that:

“It seems to me that these are the three major forms (memory, meditation, and method) which in the West have successively dominated the practice and exercise of philosophy or, if you like, the practice of life as philosophy<sup>153</sup>”

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<sup>151</sup> We find that, as Grey Walter explains, “memory” for all animals includes *implicit learning* from environmental influence and hence that “habituation” is actually “the reverse of habit-forming” and is found in such (non-cognitive) natural facts as that: “When an animal is subjected to monotonous stimuli there is usually a progressive reduction in the response in the central nervous system (discussion on W. Ross Ashby’s paper “The Mechanism of Habituation” in *The Mechanization of Thought Processes* (London, 1960) p 115)”.

<sup>152</sup> Bohm, David *Wholeness and the Implicate Order* (London, 1980) p 50

<sup>153</sup> Foucault, Michel *The Hermeneutics of the Subject* (New York, [orig. 1981-2] 2005) p 460

and with (on Foucault's account) (a) memory reaching its apogee in Platonic recollection, (b) meditation reaching its apogee in Stoic philosophy and Christian religion and (c) method reaching its apogee in Cartesian rationalism and Baconian empiricism. I add that Foucault's further important thoughts on "memory" (which are, I note, fully compatible with Aristotle's) are that it is an important and, importantly, *integrated* aspect of "man" in the sense that:

"One is a philosopher even in one's everyday actions, and the practice of philosophy is translated into three abilities, three forms of attitude and aptitude: one is *eumathēs*, which is to say one can learn easily; one is *mnēmōn*, which is to say one has a good memory and permanently retains everything one has learned in a lively, present, and active way, since one was *eumathēs*. So, one is *eumathēs*, one is *mnēmōn* (one retains what one has learned), and finally one is *logizesthai dunatos* (one can reason, that is to say, in a given situation and conjecture one knows how to use reasoning and apply it to make the right decision). So you see, there is a first set of indications marking what the philosophical choice consists in, in its principle, permanence, and interrupted effort, and, on the other hand, a set of indications showing how this philosophical choice links up with and immediately and continually engages with everyday activity<sup>154</sup>."

and I suggest that Foucault is absolutely correct in his identification of modern thought with "method" and with its desire to standardise, intellectualise, and mathematicise the world even if we must reject not only reality but also our own personality in order to do so.

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<sup>154</sup> Foucault, Michel *The Government of Self and Others* (Basingstoke, [orig. 1982-3] 2010) p 240

## 9 Aristotle on Rationality

Let us move on to consider “reason” with the fact in mind that human rationality has infused all areas of our study up to this point. Let us also consider that Aristotle’s idea of “reason” or “*nous*” radically diverges from *our* idea of “rationalism” as the application of our thought and self to the world on the basis of “...the Newtonian System of Nature...[according to which] Where we formerly obeyed, we now direct<sup>155</sup>”. As regards Aristotle’s “reason” in outline I suggest (1) that Aristotle understands “reason” as being something which is generally present in nature but which is somehow *channelled by man* in a particular way in the sense that:

“...reason in each of its possessors chooses what is best for itself, and the good man obeys his reason (πᾶς γὰρ νοῦς αἰρεῖται τὸ βέλτιστον ἑαυτῷ, ὁ δ’ ἐπιεικῆς πειθαρχεῖ τῷ νῷ) (N.E. IX 1169a17-18)”

(2) that this reason is something which allows us to *see* the things of nature in the right way rather than merely being a capacity to be logically or factually *right* about something and with there being a disjunction between this “logical” and “scientific” understanding of something and a “true” and “full” understanding of that something on the basis that:

“...it is not merely the state in accordance with the right rule, but the state that implies the *presence* of the right rule, that is virtue (ἔστι γὰρ οὐ μόνον ἡ κατὰ τὸν ὀρθὸν λόγον, ἀλλ’ ἡ μετὰ τοῦ ὀρθοῦ λόγου ἔξις ἀρετῆς ἐστίν)...Socrates...thought the virtues were

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<sup>155</sup> Whitehead, A.N. *Adventures of Ideas* (Harmondsworth, 1933) p 185. I note that F. A. Hayek expands on this point as that: “Since for Descartes reason was defined as logical deduction from explicit premises, rational action also came to mean only such action as was determined entirely by known and demonstrable truth. It is almost an inevitable step from this to the conclusion that only what is true in this sense can lead to successful action, and that therefore everything to which man owes his achievements is a product of his reasoning thus conceived. Institutions and practices which have not been designed in this manner can be beneficial only by accident. Such became the characteristic attitude of Cartesian constructivism with its contempt for tradition, custom, and history in general. Man’s reason should enable him to construct society anew. This “rationalist” approach, however, meant in effect a relapse into earlier, anthropomorphic modes of thinking. It produced a renewed propensity to ascribe the origin of all institutions to invention or design. Morals, religion and law, language and writing, money and the market, were thought of as having been deliberately constructed by somebody, or at least as owing whatever perfection they possessed to such design (*Law, Legislation and Liberty: A new statement of the liberal principles of justice and political economy* (London, 1993) p 10)”



rules or rational principles (for he thought they were, all of them, forms of scientific knowledge (ἐπιστήμας γὰρ εἶναι πάσας)), while we think they *involve* a rational principle (ἡμεῖς δὲ μετὰ λόγου) (N.E. VI 1144b26-30)”

and (3) that Aristotle argues that “science” and “knowledge” are not “products” or “facts” but are rather a “habit of being” (and a having a feel for the subject matter) and so we find that Aristotle separates out (a) the *end product* of “science” or “*epistēmē*” (and also “*apodeixis*” or “scientific demonstration”; see *Post. An.* II 71b16-19) and (b) our *faculty* to understand the facts of the world or “*epistēmonikon*” but also argues (c) that science is produced by the activation and development of the faculty for science and by the formation of a *habit* which has become a fixed part of our character (i.e. the “demonstrative habit” or “*hexis apodeiktike*” (N.E. VI 1139b31-2)) by means of which we can “see” the world through a scientific lens (see *De An.* III 429b6-10).

Expanding upon Aristotle’s realism and upon his insistence upon groundedness and rejection of abstraction and idealism, we find that he insists upon the principle that: “A habit is a habit *of* something, knowledge is knowledge *of* something, position position *of* something (*Cat.* 6b4-6)”, that our “knowing” is *of something* in the sense that:

“...there is knowledge of something that it is something (ἐπιστήμη τοῦ τινὸς ὄντος ὅτι τὸ ὄν)...for *ex hypothesi* the expression “that which is something” refers to the thing’s particular form of being (τὸ τὸ ὄν τῆς ἰδίου σημείου οὐσίας) (*Pr. An.* I 49a33-37)”

and that our knowing is based upon our perceiving and also, ultimately, *upon the world itself* on the basis that: “The object...would appear to be prior to the act of perception. Suppose that you cancel the perceptible, you cancel the perception as well (*Cat.* 7b36-38)” and on the basis that: “We gain knowledge, commonly speaking, of things that already exist, for in very few cases or none can our knowledge have come into being along with its own proper object. Should the object of knowledge be removed, then the knowledge itself will be cancelled (*Cat.* 7b24-29)”. I add that Aristotle also makes the observation along these “realist” lines that:

“...every disposition and every affection naturally comes into being in that of which it is a disposition or affection (πᾶσα γὰρ διάθεσις καὶ πᾶν πάθος ἐν ἐκείνῳ πεφυκε γίνεσθαι οὗ ἔστι διάθεσις ἢ πάθος), for example, knowledge in the soul, since it is a

disposition of soul (καθάπερ καὶ ἡ ἐπιστήμη ἐν ψυχῇ διάθεσις οὕσα ψυχῆς) (*Top.* VI 145a35-37)”

and I add that the relationship of “*nous*” with “sensation” is explained by Jonathan Beere as that: “...νοῦς is perception-like in that it is a faculty for cognition of objects (rather than propositions or states of affairs)<sup>156</sup>”, i.e. we see that human “reason” is an expansion or extension of animal “sensation” (and is a movement towards the “*Nous*” of “God” itself).

We can also unravel Aristotle’s complex thought and see its remarkable consistency and profundity by considering that Aristotle divides human reason or, rather, the rational “part” of the soul, into two “parts” (i) the “*logistikon*” or the faculty of *deliberating* (*N.E.* VI 1139a12) regarding which we see that:

“The end...[is] what we wish for (ὄντος δὲ βουλευτοῦ μὲν τοῦ τέλους)...[and] the means [are] what we deliberate about (βουλευτῶν δὲ καὶ προαιρετῶν τῶν πρὸς τὸ τέλος) (*N.E.* III 1113b3-4)”

and (ii) the “*epistēmonikon*” which is essentially a “seeing through” of the “*phantasmata*” of worldly being in order to detect its underlying “forms” and hence: “The faculty of thinking...thinks the forms in the images (τὰ μὲν οὖν εἶδη τὸ νοητικὸν ἐν τοῖς φαντάσμασι νοεῖ) (*De An.* III 431b2-3)” and with it being: “...through the sensation connected with sight that we recognise the form which is in each thing (διὰ γὰρ περὶ τὴν ὄψιν αἰσθήσεως τὴν ἐν ἐκάστῳ μορφήν γνωρίζομεν) (*Top.* II 113a2-3)”. We also find that Aristotle explains our seeing through images (intermittently), as follows:

“It is clear that demonstration and knowledge of intermittent events, such as an eclipse of the moon, are eternal in so far as they refer to events of a specific kind; but in so far as they are not eternal, they are particular. Attributes may apply intermittently to other subjects just as an eclipse does to the moon (*Post. An.* I 75b33-36)”

and he explains our ability to “see” the “forms” because we are able to “make a unity out of several images” as follows: “...when we are able to render an account in

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<sup>156</sup> Beere, Jonathan “Thinking Thinking Thinking: On God’s Self-thinking in Aristotle’s *Metaphysics* Λ.9” (online, 2010) p 3

accordance with the appearance (ἐπειδὴν γὰρ ἔχουμεν ἀποδιδόναι κατὰ τὴν φαντασίαν) of the consequent attributes (περὶ τῶν συμβεβηκότων), either all or some of them, then we shall also be able to speak excellently about the substance (περὶ τῆς οὐσίας) (*De An.* I 402<sup>b</sup>21-25)". I suggest that we see here to some extent the relationship between “*nous*” and “*phantasia*” in the difference between our engagement with the *formal* intellectual world and the *material* practical world.

In respect to the detailed structuring of Aristotle’s “reason” we see that he breaks down human rationality into five forms, i.e. craft (*technē*), practical wisdom (*phronēsis*), scientific knowledge (*epistēmē*), philosophical wisdom (*sophia*), and intuitive reason (*nous*), and that he defines “scientific knowledge” as follows:

“Scientific knowledge (ἐπιστήμη) is judgement (ὑπόληψις) about things (ὄντων) that are universal (καθόλου) and necessary (ἐξ ἀνάγκης), and the conclusions of demonstration (τῶν ἀποδεικτῶν), and of all scientific knowledge, follow from first principles (ἀρχαί) (for scientific knowledge involves apprehension of a rational ground (μετὰ λόγου)) ...[but] the wise man (τὸ σοφὸν) must not only know what follows from the first principles (μὴ μόνον τὰ ἐκ τῶν ἀρχῶν εἰδέναι), but must also possess truth about the first principles (ἀλλὰ καὶ περὶ τὰς ἀρχὰς ἀληθεύει). Therefore wisdom (ἡ σοφία) must be intuitive reason (νοῦς) combined with scientific knowledge (ἐπιστήμη) – scientific knowledge of the highest objects (τιμιωτάτων) which has received as it were its proper contemplation (*N.E.* VI 1140b31-1141a20)”

and that he adds both that: “...no other kind of knowledge except intuition (νοῦς) is more accurate than scientific knowledge (*Post. An.* II 100b8-9)” and that: “...we hold not only that scientific knowledge is possible, but that there is a definite first principle of knowledge [i.e. “*nous*”] by which we recognise ultimate truths (ταῦτά τ' οὖν οὕτω λέγομεν, καὶ οὐ μόνον ἐπιστήμην ἀλλὰ καὶ ἀρχὴν ἐπιστήμης εἶναι τινά φαμεν, ἥ τοὺς ὅρους γνωρίζομεν) (*Post. An.* I 72b23-25)”.

Now, we see that Aristotle’s main conclusion above is that “philosophical wisdom” (*sophia*) is “reason” (*nous*) and “scientific knowledge” (*epistēmē*) in respect to “the highest objects” and I add regarding “practical wisdom” (*phronēsis*) and “craft” (*technē*) that Aristotle argues that:

“...intuitive reason (νοῦς) is of the limiting premises (τῶν ὁρῶν), for which no reason (λόγος) can be given, while practical wisdom (ἡ φρόνησις) is concerned with the

ultimate particular (τοῦ ἐσχάτου), which is the object not of scientific knowledge (ἐπιστήμη) but of perception (αἴσθησις) (N.E. VI 1142a25-27)”

and also that: “Practical wisdom is a virtue of reason, which enables men to come to a wise decision in regard to good and evil things, which have been mentioned in connection with happiness (φρόνησις δ’ ἐστὶν ἀρετὴ διανοίας καθ’ ἣν εὖ βουλευέσθαι δύνανται περὶ ἀγαθῶν καὶ κακῶν τῶν εἰρημένων εἰς εὐδαιμονίαν) (Rhet. I 1366b20-22)” which shows us that *phronēsis* is a *virtue* for good decision making in respect to merely human affairs. Regarding “*technē*” we find that Aristotle argues that: “...virtue is more exact and better than any art, as nature also is (ἡ δ’ ἀρετὴ πάσης τέχνης ἀκριβεστέρα καὶ ἀμείνων ἐστὶν ὥσπερ καὶ ἡ φύσις) (N.E. II 1106b14-15)” which shows us that “good” and “truth” flows from the man to his products whereas I suggest that the modern position tends to see the wealth of science and of art as being greater than the human individual (and I note that “*technē*” is a weaker subsidiary of “*phronēsis*” in a parallel sense as “*epistēmē*” is an applied subsidiary of “*sophia*”). A further point of emphasis is the distinction between practical and intellectual thinking regarding which Aristotle declares that:

“It is hard...to see how a weaver or a carpenter will be benefited in regard to his own craft by knowing this “good itself”, or how the man who has viewed the Idea will be a better doctor or general thereby (N.E. I 1097a8-11)”

which stresses the important point that there are literally *two radically different directions and dimensions of our thinking* – i.e. practical and intellectual – within us and Malcolm F. Lowe explains this distinction from a further interesting angle as follows: “Aristotle distinguishes between two basic kinds of thinking: *apprehensive* thinking about things having matter by means of sensation, which is also the process by which the mind first learns, and *autonomous* thinking about things without matter by means of the imagination, which includes *both* the contemplative thinking of mathematics and natural philosophy and *also* thinking about concrete objects in their absence<sup>157</sup>”.

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<sup>157</sup> Lowe, Malcolm F. “Aristotle on Kinds of Thinking” in *Phronesis* (1983) p 27. I note for the sake of completeness that Aristotle explains his position on “opinion” as being that: “...the only things that are true are intuition, knowledge, and opinion (νοῦς καὶ ἐπιστήμη καὶ δόξα), and the discourse resulting from these. Therefore we are left with the conclusion that it is opinion that is concerned with that which is true or false (ὥστε λείπεται δόξαν εἶναι περὶ τὸ ἀληθὲς μὲν ἢ ψεῦδος) and which may be otherwise (ἐνδεχόμενον δὲ καὶ ἄλλως εἶναι). In other words opinion

I summarise our conclusions, then, as being (A) that we are capable of going beyond the “images” we encounter in our everyday life and of seeing the scientific “forms” which lie beneath, (B) that we must recognise that various “objects” of the world differ in themselves and in their relationship with us and we are hence capable both of “deliberating” about human affairs and also of “contemplating” upon divine matters, and (C) that we gather that the world possesses “ends” and “goods” and “God” by contemplating the “eternal” structuring of nature and that we understand that we must apply the right “means” to achieve our ends by considering how we live our everyday lives in the sense that: “...the one determines the end (τὸ τέλος) and the other makes us do (ποιεῖ πράττειν) the things that lead to the end (τὰ πρὸς τὸ τέλος) (N.E. VI 1145a5-6)”<sup>158</sup>. I add further (D) that Aristotle never ignores the fact that it is always an individual person who possesses reason and (E) that Aristotle maintains that we must accept that the scientist, say, acquires and has a distinct perspective on the world and disposition within himself (as is the case with all other *types* of person) and with Aristotle’s virtue here being that he is able and willing to make distinctions and also to preserve them, and hence he does *not* take the artist, philosopher, scientist, mother, poet etc. as representing some sort of absolute truth but does, rather, regard *all* of these perspectives as true perspectives capturing various aspects of reality. We find, then, that Aristotle both avoids anthropocentrism and also recognises the specialness of man which is the creativity and power of thought which arises as a corrective for the alienation of the human condition. For Aristotle, then, the importance of man is his peculiarity which is, A.N. Whitehead observes, that: “Mankind is that factor *in* Nature which exhibits in its most intense form the plasticity of nature<sup>159</sup>”.

As regards the provenance of Aristotle’s position on “reason” I note that Plato outlines in his *Meno* the basic problem regarding (A) how knowledge *arises* and / or (B) where knowledge *comes from* and also posits solutions (a) through his story of Socrates’ *drawing out* of (geometrical) knowledge from a slave and (b) through his own doctrine

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is the assumption (ἐστὶν ὑπόληψις) of a premise which is neither mediated nor necessary (τῆς ἀμέσου προτάσεως καὶ μὴ ἀναγκαΐας) (*Post. An.* I 89a1-5)”

<sup>158</sup> I note that Aristotle’s position on this point is in more detail that: “The work (τὸ ἔργον) of both the intellectual parts (τῶν νοητικῶν μορίων) [i.e. the deliberative and calculative]...is truth (ἀλήθεια) (N.E. VI 1139b12)” but that generally “...choice will not be right (ὀρθή) without practical wisdom (ἄνευ φρονήσεως) (N.E. VI 1145a4-5)” which shows us Aristotle’s emphatic rejection of a purely *a priori* approach to the world (and it is this, I stress, which is the key emphasis of Aristotle’s disagreement with Plato and not whether “forms” appear in nature).

<sup>159</sup> Whitehead, A.N. *Adventures of Ideas* (Harmondsworth, 1933) p 98

that knowledge is in Nature as Ideas which we must *recollect* which Aristotle explains and criticises as follows:

“...with the theory in the *Meno* that learning is recollection (ὅτι ἡ μάθησις ἀνάμνησις) ...in no case do we find that we have previous knowledge of the individual, but we do find that in the process of induction we acquire knowledge of particular things just as though we could remember them (οὐδαμου γὰρ συμβαίνει προεπίστασθαι τὸ καθ' ἕκαστον, ἀλλ' ἅμα τῇ ἐπαγωγῇ λαμβάνειν τὴν τῶν κατὰ μέρος ἐπιστήμην ὥσπερ ἀναγνωρίζοντας); for there are some things which we know immediately (ἐνια γὰρ εὐθὺς ἴσμεν); for e.g. if we know that X is a triangle we know that the sum of its angles is equal to two right angles. Similarly too in all other cases. Thus whereas we observe particular things by universal knowledge, we do not know them by the knowledge peculiar to them. Hence it is possible to be mistaken about them, not because we have contrary knowledge about them, but because, although we have universal knowledge of them, we are mistaken in our particular knowledge (*Pr. An.* II 67a22-30)”

(and see also *Post. An.* II 99b25-30) which reveals the provenance of certain typical aspects of Aristotle's position which we have already touched upon, namely (a) his emphasis upon *immediacy* and upon how we know some things *immediately* (i.e. by deduction) and other things *mediately* (i.e. by induction) which is largely Aristotle's distinction between “divine” (abstract) and “sublunary” (material) being and (b) his consideration of the importance and nature of our “memory” and of our collective memory or culture regarding which it is reasonable to say, I suggest, that our “culture” is essentially a form of common “imagination” rather than being merely common “experience” or “memory”<sup>160</sup>.

As regards Aristotle's opposition to Plato and to his idealism I suggest that Aristotle provides us with an excellent account of the reasons for his rejection of a reality based upon “ideas” and *consequently* upon “flux”, as follows:

“The supporters of the ideal theory (περὶ τῶν εἰδῶν δόξα) were led to it because on the question of the truth of things they accepted the Heraclitean sayings which describe all sensible things as ever passing away (ὥς πάντων τῶν αἰσθητῶν ἀεὶ ῥεόντων), so that if knowledge or thought is to have an object (ὥστ' εἴπερ ἐπιστήμη τινὸς ἔσται καὶ φρόνησις), there must be some other and permanent entities, apart from those which are

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<sup>160</sup> See Ned O'Gorman's “Aristotle's “Phantasia” in the “Rhetoric”: “Lexis”, Appearance, and the Epideictic Function of Discourse” in *Philosophy and Rhetoric* (2005)

sensible (ἐτέρας δεῖν τινὰς φύσεις εἶναι παρὰ τὰς αἰσθητὰς μενούσας); for there could be no knowledge of things which were in a state of flux (οὐ γὰρ εἶναι τῶν ῥεόντων ἐπιστήμην) (*Met.* M 1078b12-17)”

which shows us in clear relief Aristotle’s critique of Plato which is that we must over-emphasise the ideals of the mind if we do not recognise the values inherent in the world itself. In more detail, we find that Aristotle concludes *contra* Plato that we actually develop knowledge through the substantiation of hypotheses (*cf.* “...we go on packing the space between until the intervals are indivisible or unitary (*Post. An.* I 84b35-36)”) and through an increase in our experience (*cf.* “...experience, that is the universal when established as a whole in the soul...provides the starting-point of art and science: art in the world of process and science in the world of facts (ἐὰν μὲν περὶ γένεσιν, τέχνης, ἐὰν δὲ περὶ τὸ ὄν, ἐπιστήμης) (*Post. An.* II 100a6-9)”) in *this* world rather than through the “recollection” of the Ideas of another and / or previous world (and see also *Post. An.* I 71a29-30: “Unless we make this distinction, we shall be faced with the dilemma reached in the *Meno*: either one can learn nothing, or one can only learn what is already known”). I add finally that the *Meno* raises the further point that knowledge must somehow be replicable and “tied down”, as Michael Ferejohn explains, as follows:

“...the central insight that drives the entire project of Aristotle’s *Analytics* is the Platonic idea, briefly floated in the *Meno* 98 A, that what distinguishes knowledge from other types of true belief is that it is somehow “tied down” by the possession of an explanatory account, which I interpreted earlier to mean an account that explains the *truth* of what is known<sup>161</sup>”

and, generally, that we find that the *Meno* leaves us (as it left Aristotle) with the problems (i) regarding the sense in which the Truth is *innate in us*<sup>162</sup> (ii) regarding the sense in which the Truth is *learned* by the individual (iii) regarding the sense in which the Truth is *learned* from or transmitted from other people / teachers (iv) regarding how

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<sup>161</sup> Ferejohn, Michael *Formal Causes: Definition, Explanation, and Primacy in Socratic and Aristotelian Thought* (Oxford, 2013) p 66

<sup>162</sup> I note that the *Meno* was the object of significant interest in the early modern period with René Descartes, for instance, arguing that: “...according to Plato, Socrates asks the slave boy about the elements of his geometry and thereby makes the boy able to dig out certain truths from his own mind which he had not previously recognised were there, thus attempting to establish the doctrine of reminiscence. Our knowledge of God is of this sort (“*Letter to Voetius May 1643*”, *CSM* III §167, p. 222-3)”.

the Truth *is* in Nature and how we actually *come to know* the Truth and (v) regarding how we “tie down” the Truth through our formulations of it.

As regards how *we* stand *vis-à-vis* Aristotle I comment that our standard “modern” position is often taken to be (in my opinion illegitimately) the “analytic” position of Richard Rorty that: “We no more know “the nature of mind” by introspecting mental events than we know “the nature of matter” by perceiving tables. To know the nature of something is not a matter of having it before the mind, of intuiting it, but of being able to utter a large number of true propositions about it<sup>163</sup>” and that:

“It may seem weird to say that there might turn out to be no living bodies, or that there might turn out to be no minds. It was of course weird to say it turned out that the earth was not at rest. It seems to be that what we need to explain is not the truth of a proposition, but the inclination of human beings to assert the proposition<sup>164</sup>”

which strikes me as a sort of special pleading for nothingness and for a cold, deadly, “practical” nihilism which represents a perversity that could only, I think, be entertained and defended by people seeking to push its underlying message, i.e. that if nothing really matters then *everything goes*. As regards the problem with this position I put forward A.N. Whitehead’s argument that our intellect *is* limited in the sense that: “A moment’s introspection assures one of the feebleness of human intellectual operations, and of the dim massive complexity of our feelings of derivation. The point for discussion is how in animal experience this simplification is effected<sup>165</sup>” but that our

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<sup>163</sup> Rorty, Richard “Mind as Ineffable” in *ed.* Richard Q. Elvee’s *Mind in Nature; Nobel Conference XVII* (San Francisco, 1982) p 69 (*cf.* “...we do not start with visual images. We do not “start” with *anything*. We are just trained to make reports – some perceptual, some introspective – as part of our general training in uttering true sentences, our learning of the language. There is no more or less mystery and paradox in our species having learned to manipulate sentences than in bower-birds having learned to manipulate plant stems and vines. Huxley and Darwin thus turn out to have told us all we need to know about our place in nature – for what needs to be explained is simply our *behaviour* (*Ibid.* p 71)”).

<sup>164</sup> Rorty, Richard *Ibid.* p 90 (*cf.* “What we need to explain is the popularity of our present speech habits, which classify things as living, non-living, cognitive, noncognitive, morally relevant, morally irrelevant. Our explanation may or may not preserve those propositions; but, in my view, a phenomenon is merely our inclination to assert to certain propositions. That inclination, if you like, is the phenomenon that has to be explained (*Ibid.* p 90)”).

<sup>165</sup> Whitehead, A.N. *Adventures of Ideas* (Harmondsworth, 1933) p 247



intellect is clearly limited not in the sense that *it may not exist* but, rather, in the sense that *it may delude itself into believing or saying that it does not exist* on the basis of the error that: "...the substratum [of the world] with its complex of inherent qualities is wrongly conceived as bare realisation, devoid of self-enjoyment, that is to say, devoid of intrinsic worth. In this way, the exclusive reliance on sense-perception promotes a false metaphysics. This error is the result of high-grade intellectuality. The instinctive interpretations which govern human life and animal life presuppose a contemporary world throbbing with energetic values. It requires considerable ability to make the disastrous abstraction of our bare sense-perceptions from the massive insistency of our total experiences. Of course, whatever we can do in the way of abstraction is for some purposes useful – provided that we know what we are about<sup>166</sup>”.

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<sup>166</sup> Whitehead, A.N. *Adventures of Ideas* (Harmondsworth, 1933) p 254-255. I also recommend on Aristotle’s “reason” David Wiggins’ “Deliberation and Practical Reason” in *ed. Amélie O. Rorty Essays on Aristotle’s Ethics* (Berkeley, 1980), Gaëlle Fiasse’s “Aristotle’s *Phronēsis*: A True Grasp of Ends as Well as Means?” in *Review of Metaphysics* (2001), Robert Heinaman’s “Rationality, Eudaimonia and Kakodaimonia in Aristotle” in *Phronesis* (1993), Terence Irwin’s “Vice and Reason” in *The Journal of Ethics* (2001), and C.D.C. Reeve’s *Action, Contemplation, and Happiness: An Essay on Aristotle* (Cambridge Mass., 2012). On reason generally I particularly recommend Aldous Huxley’s “Varieties of Intelligence” in *Proper Studies* (London, 1927), F. A. Hayek’s “Types of Mind” in *Men & Ideas* (1975), and Edmund Husserl’s “The Vienna Lecture” in *The Crisis of European Sciences and Transcendental Philosophy: An Introduction to Phenomenological Philosophy* (Evanston, [orig. 1935] 1970).

## 10 Aristotle on Limits, Boundedness, and Determinateness

Having generally considered how Aristotle approaches the various aspects or “parts” of the human psyche let us step back and consider some wider metaphysical (and temporal or spatial) structures below – i.e. boundedness, priority, symmetry, the “mean”, and proportion – before returning to consider Aristotle’s conceptualisation of integrated human being or “soul”. In respect to “boundedness” we find (1) that there is a “bounded being” which possesses a “boundedness” on the basis that: “...there must be something, the shape or form, apart from the concrete whole (ἀνάγκη τι εἶναι παρὰ τὸ σύνολον, τὴν μορφήν καὶ τὸ εἶδος) (*Met.* B 999b24)” and with its “boundedness” (or, perhaps, being-ness) underlying and enabling its states and attributes in the sense that:

“...it is that which walks or sits or is healthy that is an existent thing. Now these [i.e. the attributes of human being] are seen to be more real because there is something definite which underlies them (διότι ἔστι τι τὸ ὑποκείμενον αὐτοῖς ὁρισμένον) (i.e. the substance or individual) which is implied in such a predicate (*Met.* Z 1028a24-28)”

and (2) that this boundary or “*peras*” is definite in place, i.e. *is something determinate* in the sense that:

“...“the place” means the boundary of that which encloses it (ὁ τόπος ἐστὶ τὸ τοῦ περιέχοντος πέρας) (*De Cael.* IV 310b8)”

and with this “place” signifying physicality in the sense that: “...its parts must be perceptible; for they cannot consist of mathematical abstractions (ἀλλ’ ἀναγκαῖον· οὐ γὰρ δὴ ἔκ γε τῶν μαθηματικῶν) (*Sens.* 445b14-15)” and also “body” in the negative sense that: “...the mathematician... treats of these things [but] does not treat of them as the limits of a physical body (ἀλλ’ οὐχ ἢ φυσικοῦ σώματος πέρας ἕκαστον); nor does he consider the attributes indicated as attributes of such bodies. That is why he separates them; for in thought [*viz.* though not the world itself] they are separable from motion (χωριστὰ γὰρ τῇ νοήσει κινήσεώς ἐστι) (*Phys.* II 193b)”.

I add (3) that definiteness also suggests that something is “formed” and that it is in a sense a “product” or “end” and hence:

“...complete difference implies an end (τέλος γὰρ ἔχει ἡ τελεία διαφορά), just as all other things are called complete because they imply an end. And there is nothing beyond the end (τοῦ δὲ τέλους οὐθὲν ἔξω); for in everything the end is the last thing, and forms the boundary (ἔσχατον γὰρ ἐν παντὶ καὶ περιέχει). There is nothing beyond the end, and that which is complete lacks nothing (διὸ οὐδὲν ἔξω τοῦ τέλους, οὐδὲ προσδεῖται οὐδενὸς τὸ τέλειον) (*Met.* I 1055a13-17)”

and with this “complete difference” or “*teleia diaphora*” not merely representing the determinateness, autonomy, or “self” of an individual substance but also the determinateness of its genus and of its species on the basis of the principle that:

“...everything which is different differs either in genus or in species – in genus, such things as have not common matter and cannot be generated into or out of each other, e.g. things which belong to different categories (πᾶν γὰρ τὸ διαφέρον διαφέρει ἢ γένει ἢ εἴδει, γένει μὲν ὧν μὴ ἔστι κοινὴ ἡ ὕλη μηδὲ γένεσις εἰς ἄλληλα, οἷον ὅσων ἄλλο σχῆμα τῆς κατηγορίας) (*Met.* I 1054b28-30)”<sup>167</sup>

and with “art” being used as an example of this situation, as follows: “...after going through many changes tragedy ceased to evolve, since it had achieved its own nature (ἐπαύσατο, ἐπεὶ ἔσχε τὴν αὐτῆς φύσιν) (*Poet.* 1449a13-15)” and also an “idea”, as follows: “Nor, indeed, can any Idea be defined; for the Idea is an individual, as they say, and separable (τῶν γὰρ καθ’ ἕκαστον ἡ ἰδέα, ὡς φασί, καὶ χωριστή) (*Met.* Z 1040a8-9)”, i.e. we see that even an idea has an individual “definition” or “being”. We see generally that Aristotle argues that the value and nature of things is exhibited by their “appearances” and by their “boundary conditions” generally, as follows: “...that which produces the part of health, is the limiting-point (ἔσχατόν), - and so too with a house (the stones are the limiting-point here) and in all other cases (*Met.* Z 1032b28-29)” and as expressed in human affairs, as follows: “...no one would try to do anything if he were not going to come to a limit (ἐπὶ πέρας); nor would there be reason in the world (οὐδ’ ἂν εἴη νοῦς ἐν τοῖς οὕσιν)); the reasonable man, at least, always acts for a purpose, and this is a limit; for the end is a limit (ἐνεκα γὰρ τινος αἰεὶ πράττει ὃ γε νοῦν ἔχων, τοῦτο δὲ ἐστὶ πέρας) (*Met.* α 994b13-16)”.

<sup>167</sup> Cf: “...one science treats of one class of things, in which complete difference is the greatest (καὶ γὰρ ἡ ἐπιστήμη περὶ ἓν γένος ἡ μία: ἐν οἷς ἡ τελεία διαφορά μεγίστη) (*Met.* I 1055a33-34)”

I add (4) that Aristotle puts forward a principle of “being” or “body” as: “...that which surrounds is on the side of the form, that which is surrounded is on the side of matter (τὸ μὲν περιέχον τοῦ εἶδους εἶναι, τὸ δὲ περιεχόμενον τῆς ὕλης) (*De Cael.* IV 312a12-13)” which Leslie Jaye Kavanaugh explains as that:

“No gap in the material continuum, no vacancy in place is accepted in Aristotle’s account of the continuum. The notion of the limit, *peras*, in [*Phys.* IV] 211b14 – 212a7 is exceedingly complex and subtle. Specifically at [*Phys.* IV] 211b12, he says: “...for the limiting surfaces of the embracing and the embraced coincide (ἐν ταύτῳ γὰρ τὰ ἔσχατα τοῦ περιέχοντος καὶ τοῦ περιεχομένου)” ... “Place” is the surrounding limit, *perichomenon*, of the limited body itself, *periechontos*. Place is the surrounding, the limit encircling. The final definition of place that Aristotle gives is: “...place is “the innermost motionless boundary of what contains it” ([*Phys.* IV] 212a21-2)”<sup>168</sup>”

and which clearly shows us that the “limit” is, for Aristotle, “form” enclosing “matter” and with the matter being a limiting factor as well as being a *channel* through which form is transmitted. As regards how Aristotle distinguishes his position here from that of Plato and his “receptacle” we find in Aristotle’s own words that:

“...they [i.e. Empedocles and Democritus] speak of each element “inhering” and “being separated out,” as if generation were emergence from a receptacle instead of from a material, and did not involve change in anything (ἐνυπάρχον γὰρ ἕκαστον ἐκκρίνεσθαι φασιν, ὥσπερ ἐξ ἀγγείου τῆς γενέσεως οὔσης, ἀλλ’ οὐκ ἐκ τινος ὕλης, οὐδὲ γίγνεσθαι μεταβάλλοντος) (*De Cael.* III 305b3-6)”

and with Hendrik Lorenz explaining that Aristotle distinguishes his position, as follows:

“I mean to capture a certain Aristotelian notion of being τὸ δεκτικόν (“what is receptive”) of something or other. This is the notion of being the bearer of some attribute, form, or actuality. Examples include bronze as the receptacle of statue-form, the body as that of health or disease (1023a12-13), the intellect as the receptacle of knowledge, and, I shall presently suggest, the senses as the receptacles of perceptual

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<sup>168</sup> Kavanaugh, Leslie Jaye *The Architectonic of Philosophy: Plato, Aristotle, Leibniz* (Amsterdam, 2007) p 121

operation. Being in something as in a receptacle is a way of being in (ἐν) something that is recognised in Aristotle's philosophical lexicon at *Met. Δ* 1023a11-13<sup>169</sup>

and I suggest from a wider perspective that A.N. Whitehead very correctly summarises our overall situation as being that: "Centuries ago Plato divined the seven main factors interwoven in fact: The Ideas, The Physical Elements, The Psyche, The Eros, The Harmony, The Mathematical Relations, The Receptacle. All philosophical systems are endeavours to express the interweaving of these components<sup>170</sup>." In short, then, I comment that how we see the world, bounded beings, and bounded beings in the world is an age-old conversation which is both extremely subtle and extremely well defined even if our conclusions will always be subject to challenge and controversy<sup>171</sup>.

As regards the nature of being and (its) boundaries I add that Aristotle puts forward the detailed example of "colour" to explain his position on "limit" or "boundary" as (a) that colour only exists *in things* in the sense that: "...all colour implies some such basis as what we intend by a body (ἅπαν γὰρ χρῶμα ἐν σώματι) (*Cat.* 1a29)", that "...colour always inheres in the bounding surface (φαίνεται χρῶμα ἴδιον ὑπάρχειν, κατὰ τὸ ἔσχατον) (*Sens.* 439b13-14)" and that:

"Colour, again, is in body; so also in this or that body (πάλιν τὸ χρῶμα ἐν σώματι· οὐκοῦν καὶ ἐν τινὶ σώματι). For were there no bodies existing wherein it could also exist, it could not be in body at all (εἰ γὰρ μὴ ἐν τινὶ τῶν καθ' ἕκαστα, οὐδὲ ἐν σώματι ὄλως). In fine, then, all things whatsoever, save what we call primary substances, are predicates of primary substances or present in such as their subjects (ὥστε τὰ ἄλλα πάντα ἤτοι καθ' ὑποκειμένων λέγεται τῶν πρώτων οὐσιῶν ἢ ἐν ὑποκειμέναις αὐταῖς ἐστίν). And were there no primary substances, nought else could so much as exist (μὴ οὐσῶν οὖν τῶν πρώτων οὐσιῶν ἀδύνατον τῶν ἄλλων τι εἶναι) (*Cat.* 2b2-7)"

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<sup>169</sup> Lorenz, Hendrik "Aristotle's Assimilation of Sense to Sense-Object" in *Oxford Studies in Ancient Philosophy* XXXIII (2007) p 203

<sup>170</sup> Whitehead, A.N. *Adventures of Ideas* (Harmondsworth, 1933) p 188

<sup>171</sup> I note that Martin Heidegger argues contra Immanuel Kant that: "In the negative form, Kant's thesis about Being as "merely position" means: Being is neither a real predicate with content nor any predicate at all of any thing or object whatever... What was without question for Kant is for us worthy of question: the *essential* origin of "position" in terms of letting what is present lie present in its presence ("Sketches for a History of Being as Metaphysics" in *The End of Philosophy* (New York, [orig. 1961] 1973) p 65)."

and (b) that the structuring of the world *which we actually encounter* in respect to colour, light, and sight is such that:

“...the faculty of sight informs us of many differences of all kinds, because all bodies have a share of colour (τὸ πάντα τὰ σώματα μετέχειν χρώματος), so that it is chiefly by this medium that we perceive the common sensibles (ὥστε καὶ τὰ κοινὰ διὰ ταύτης αἰσθάνεσθαι μάλιστα). (By these I mean shape (σχῆμα), magnitude (μέγεθος), movement (κίνησιν) and number (ἀριθμόν)) (*Sens.* 437a6-9)”

and I note that Eric Sanday argues regarding these “common sensibles” generally that: “Aristotle’s account of the common sensibles would allow us to say that a particular shape (e.g. round or square) speaks of motion and rest, for instance, as a square shape implies stability and a round shape implies instability<sup>172</sup>”, i.e. that they enable us to dimly but clearly see the underlying structuring of our world.

Regarding the example of colour I suggest that we see (a) that object, medium, and sense are in some sense compatible and complementary and I note that not only is “colour” a medium but also “light” as follows: “...light...is, indirectly, the colour of the transparent (ὅτι ἐστὶ χρῶμα τοῦ διαφανοῦς κατὰ συμβεβηκός) (*Sens.* 439a18-20)” (b) that colours are part of a “scale” that we find in nature generally and which is a part of its innate structuring as follows: “...colours are determined like musical intervals (*Sens.* 439b31-32)” and (c) that we understand the world and “see” it through its “boundaries” and this is a fundamental determination we find in nature not as an abstract form but in the sense that: “...a thing that is white for many days is not more white than a thing that is white for one day, so that the good is no more good by being eternal (*E.E.* I 1218a13-14)” and Sydney Hooper explains further (following Whitehead), as follows: “A colour is something that transcends physical events. It “ingresses” into nature to lend its quality to any event that may require it for a period, but when its function for the time being is over, it disappears, to return when its presence is again relevant. But, when it returns, it is the *same* colour<sup>173</sup>”. I suggest that it is notable that this question regarding

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<sup>172</sup> Sanday, Eric “*Phantasia in De Anima*” in Claudia Baracchi (ed.) *The Bloomsbury Companion to Aristotle* (London, 2013) p 109

<sup>173</sup> Hooper, Sydney E. “Whitehead’s Philosophy: The World as *Process*” in *Philosophy* (1948) p 150. I note, however, that Hooper explains Whitehead’s Platonism and disagreement with Aristotle, as follows: “...the things that are temporal arise by their participation in the things which are eternal (*Ibid.* p 149)”.

what colour *tells us about nature* is an *ontological* question that only *some* philosophers such as Aristotle and A.N. Whitehead are willing to tackle<sup>174</sup>.

With this overall context in mind, then, let us consider how Aristotle regards the principle of “determinateness” in the context of living and human being as (i) that “...life is among the things that are good and pleasant in themselves, since it is determinate and the determinate is of the nature of the good (τὸ δ’ ὁρισμένον τῆς τἀγαθοῦ φύσεως) (N.E. IX 1170a19-21)” (ii) that “...a [wicked] life is indeterminate, as are its attributes (ἀόριστος γὰρ ἡ τοιαύτη, καθάπερ τὰ ὑπάρχοντα αὐτῇ) (N.E. IX 1170a24)” (iii) that:

“...the good is determinate, while pleasure is indeterminate (τὸ μὲν ἀγαθὸν ὁρίσθαι, τὴν δ’ ἡδονὴν ἀόριστον εἶναι) (N.E. X 1173a16)”

and (iv) that: “In all the states of character we have mentioned (ἐν πάσαις γὰρ ταῖς εἰρημέναις ἔξεσι), as in all other matters (καθάπερ καὶ ἐπὶ τῶν ἄλλων), there is a mark to which the man who has the rule looks (ἔστι τις σκοπὸς πρὸς ὃν ἀποβλέπων ὁ τὸν λόγον ἔχων), and heightens or relaxes his activity accordingly, and there is a standard which determines the mean states (καὶ τις ἔστιν ὅρος τῶν μεσοτήτων) which we say are intermediate between excess and defect, being in accordance with the right rule (κατὰ τὸν ὀρθὸν λόγον) (N.E. VI 1138b21-25)” which shows us that the “mean” can be seen as a centring or channelling which naturally expresses the right “proportion” of a determinate body which Eric Sanday correctly explains as that: “...the soul demands a certain bodily ratio (*logos*), capable of supporting a mean, in order to perform its functions<sup>175</sup>.” I add, finally, that the rule or “measure” or “mean” of physical life maps onto the psychic mean and proportion discussed above on the basis that:

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<sup>174</sup> On “colour” see Richard Sorabji’s “Aristotle, Mathematics, and Colour” in *The Classical Quarterly* (1972) and Alan Code’s “Aristotelian Colours as Causes” in D. Follesdall & J. Woods (eds.) *Festschrift for Julius Moravcsik* (London, 2008) and for a further discussion of Aristotle on colour and for a general discussion of colour see Werner Heisenberg’s “Goethe and Newton on Colour” in *Philosophical Problems of Modern Physics* (Woodbridge, [orig. 1941] 1979), Stephen Yablo’s “Singling out Properties” in *Philosophical Perspectives* (1995), and also (noting that my view is that Levine should consider the *ontological* nature of his ripe red tomato further) Joseph Levine’s “Secondary Qualities: Where Consciousness and Intentionality Meet” in *The Monist* (2008)).

<sup>175</sup> Sanday, Eric “*Phantasia* in *De Anima*” in Claudia Baracchi (ed.) *The Bloomsbury Companion to Aristotle* (London, 2013) p 111 (cf. “...as long as the determining proportion holds a thing’s nature is maintained (ἔως γὰρ ἂν ἐν αὐτῇ ὁ λόγος, φύσις τοῦτ ἐστίν) (*Mete.* IV 380a 1)”)

“...it is clear in perceptible objects, too, that it is impossible for there to be movement if nothing is at rest – and, above all, in animals, our present concern. For if one of the parts moves, there must be some part at rest; and it is for this reason that animals have joints. For they use their joints like a centre, and the whole section containing the joint becomes both one and two, both straight and bent, potentially and actually by reason of the joint (MA 698114-21)”

which Sanday explains as that: “One part holds itself in place impassively so that the other part can express this impassivity in and through motion. For example, it is possible for a foot to be lifted forward for the purposes of walking as long as the other foot is fixed in place. The determinate impassivity of the part at rest is in some sense expressed by the determinate freedom of the part in motion... This process works because the animal is tacitly aware of itself as a limit, that is, as one and two: at one moment pulling itself forward, and in this moment it is “two”, self-opposed.... This awareness of self as limit expresses itself as locomotion<sup>176</sup>.” I suggest that we see that the “centre” or “mean” can itself be a “limit” and I note that we will flesh out this picture when we come to discuss the duality of symmetry, the proportionality of being, and the guiding and limiting centrality of the “mean” in respect to organic being.

I add as regards the underlying principles of our human situation (v) that human “being” possesses a determinateness which gives it its own formal limit in the sense that:

“...every disposition and every affection naturally comes into being in that of which it is a disposition or affection, for example, knowledge in the soul, since it is a disposition of soul (πᾶσα γὰρ διάθεσις καὶ πᾶν πάθος ἐν ἐκείνῳ πέφυκε γίνεσθαι οὗ ἐστὶ διάθεσις ἢ πάθος, καθάπερ καὶ ἡ ἐπιστήμη ἐν ψυχῇ διάθεσις οὖσα ψυχῆς) (Top. VI 145a35-37)”

and (vi) that our “*nous*” is in a sense a structuring and framing and a defining and centering of being which is itself a “limit” in the sense that:

“...intuitive reason (νοῦς) is of the limiting premises (τῶν ὁρῶν), for which no reason (λόγος) can be given, while practical wisdom (ἡ φρόνησις) is concerned with the

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<sup>176</sup> Sanday, Eric *Ibid.* p 113-114



ultimate particular (τοῦ ἐσχάτου), which is the object not of scientific knowledge (ἐπιστήμη) but of perception (αἴσθησις) (*N.E.* VI 1142a25-27)”<sup>177</sup>

and I suggest, in conclusion, that we see that there is an impulse for “good” or “determinateness” in nature which is somehow *also* our intuition of that “good” or possibility for “determinateness”, i.e. the “*nous*” of nature is also *our* “intuitive reason” or “*nous*”.

Moving away from the example of “man” I suggest that Aristotle is clearly interested in *how any “something” determinately comes-to-be* in the world, that Aristotle argues that we should not forget or deny that substance has priority, and that “determinateness” is identified (by Aristotle) with “being” and “completion” (i.e. with “wholeness” or attained substantiveness) and with “good”. I add that “determinateness” shows Aristotle that we must pass *through and beyond* the abstraction of “*logos*” in order to understand the (to some extent unknowable<sup>178</sup>) being beneath and beyond and hence:

“...it is impossible (ἀδύνατον) for it [i.e. the “being” of something] to be so *numerically* (ἀριθμῶ), since the “being” of things (ἡ οὐσία τῶν ὄντων) is to be found in the particular (ἐν τῷ καθ' ἑκάστων) (*GA* II 731b33-34)”

i.e. we must pass through seeing something numerically or abstractly or “*arithmōi*” to the deeper and more engaged seeing of that something in itself and both as a form and as an individual or “*eidei*” (and Aristotle insists in his *Metaphysics Z* that our engagement with “*ousia*” or “substance” is such that we both generically see *something* and also particularly, and with a human example in mind, see *someone*). In other words, we find that individuality (which is also to some extent unknowable) is itself a form of “determinateness” or “limit” for Aristotle.

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<sup>177</sup> Cf. “...intuitive reason (ὁ νοῦς) is concerned with the ultimates (τῶν ἐσχάτων) in both directions (ἐπ’ ἀμφοτέρα); for both the first terms (πρώτων ὄρων) and the last (ἐσχάτων) are objects of intuitive reason (νοῦς) and not of argument (λόγος), and the intuitive reason which is presupposed by demonstration (κατὰ τὰς ἀποδείξεις) grasps the unchangeable first terms (ἀκινήτων ὄρων καὶ πρώτων), while the intuitive reason involved in practical reasonings (ὁ δ’ ἐν ταῖς πρακτικαῖς) grasps the last and variable fact (τοῦ ἐσχάτου καὶ ἐνδεχομένου) (*N.E.* VI 1143a35-1143b3)”

<sup>178</sup> Cf. “...it is right to say that we cannot undertake to try to discover a starting-point (a first principle) (ἀρχή) in all things and everything...for of course the first principle (ἀρχή) does not admit of demonstration (ἀπόδειξις), but is apprehended by another mode of cognition (ἄλλη γνῶσις) [i.e. “*nous*”] (*GA* II 742b30-34)”

I add in respect to the determinateness and limits of “substance” generally that Aristotle argues that “form” is clearly necessary from the outset of generation in order to bring something to completion and also that the process of becoming is a “limit” in the sense that it is a projection of a completion, as follows:

“...that which cannot be completely generated cannot begin to be generated, and that which has been generated must *be* as soon as it has been generated (γίγνεσθαι τε οὐχ οἷόν τε τὸ ἀδύνατον γενέσθαι: τὸ δὲ γεγονὸς ἀνάγκη εἶναι ὅτε πρῶτον γέγονεν) (*Met.* B999b11-13)”

and with Aristotle adding that (substantive) “becoming” is due to a chain effect of discrete and ordered (natural) processes and completions rather than being mere material interaction and cause-and-effect, as follows:

“It is surely obvious that a present process is not contiguous with a past completion; no more than one completed process is with another (ἢ δῆλον ὅτι οὐκ ἔστιν ἐχόμενον γεγονότος γινόμενον; οὐδὲ γὰρ γενόμενον γενομένου). Such completions are limits and indivisible (πέρατα γὰρ καὶ ἄτομα) (*Post. An.* II 95b4-5)”

and with Aristotle’s explicit conclusion on this matter being stated as that: “...of all things naturally composed there is a limit or proportion of size and growth; this is due to soul, not to fire, and to the essential formula rather than to matter (τῶν δὲ φύσει συνισταμένων πάντων ἔστι πέρας καὶ λόγος μεγέθους τε καὶ αὐξήσεως· ταῦτα δὲ ψυχῆς, ἀλλ’ οὐ πυρός, καὶ λόγου μᾶλλον ἢ ὕλης) (*De An.* II 416a17-18)” which shows us that Aristotle stresses (a) that natural processes are grounded in being and in beings and are structured by nature (b) that the world cannot *be reduced* to *material* cause-and-effect or to *material* processes because it also exhibits *formal* structuring, ordering, and finality (and hence is quasi-determinate<sup>179</sup>) and (c) that both the possibilities open to beings

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<sup>179</sup> Cf. “...that which is probable is that which generally happens (τὸ μὲν γὰρ εἰκός ἐστιν ὡς ἐπὶ τὸ πολὺ γινόμενον), not however unreservedly, as some define it, but that which is concerned with things that may be other than they are (ἀλλὰ τὸ περὶ ἐνδεχόμενα ἄλλως ἔχειν), being so related to that in regard to which it is probable as the universal to the particular. As to signs, some are related as the particular to the universal, others as the universal to the particular (τῶν δὲ σημείων τὸ μὲν οὕτως ἔχει ὡς τῶν καθ’ ἑκαστὸν τι πρὸς τὸ καθόλου, τὸ δὲ ὡς τῶν καθόλου τι πρὸς τὸ κατὰ μέρος). Necessary signs are called *tekmeria*; those which are not necessary have no distinguishing name. I call those necessary signs from which a logical system can be constructed, wherefore such a sign is called *tekmerion*; for when people think that their arguments are irrefutable, they think that they are bringing forward a *tekmerion*, something as it

are “limits” and that the being itself is a determinate “limit” in respect to what it *is* and can *become*<sup>180</sup>.

As regards what Aristotle’s position is *not*, we find that W.V. Quine argues that: “To be assumed as an entity is, purely and simply, to be reckoned as the value of a variable<sup>181</sup>” which *removes the being and reduces the world to our abstractions* (in Aristotelian terminology it is “forgetting that substance...is prior (*Met.* Γ 1004b9)”) and it essentially brings us back to Aristotle’s criticism of his predecessors that:

“...although they studied the truth about reality (περὶ τῶν ὄντων μὲν τὴν ἀλήθειαν ἐσκόπουν), they supposed that reality is confined to sensible things (τὰ δ’ ὄντα ὑπέλαβον εἶναι τὰ αἰσθητὰ μόνον), in which the nature of the Indeterminate, i.e. of Being in the sense which we have explained, is abundantly present (ἐν δὲ τούτοις πολλὴ ἡ τοῦ ἀορίστου φύσις ἐνυπάρχει καὶ ἡ τοῦ ὄντος οὕτως ὥσπερ εἵπομεν) (*Met.* Γ 1010a1-4)”

and with Aristotle’s general position on the “relative” being that: “...it is not true that the beholder sees, and the object is seen, in virtue of some merely abstract relationship between them, such as between equals (οὐ γὰρ δὴ τῷ πως ἔχειν τὸ μὲν ὅρῳ τὸ δ’ ὀρᾶται, ὥσπερ ἴσα ἐστίν). For if it were so, there would be no need [as there is] that either [the beholder or the thing beheld] should occupy some particular place; since to the equalisation of things their being near to, or far from, one another makes no difference (*Sens.* 446b10-13)”, that: “...that which can heat is called relative to that which can be heated, because it *can* heat; and again the thing heating is called relative to the thing heated, and the thing cutting to the thing cut, because their potentialities are actualised (*Met.* Δ 1021a17-19)” and that: “...medicine is reckoned as relative because its genus, science, is thought to be a relative thing (*Met.* Δ 1021b6-8)”.

In respect to “determinateness”, then, I suggest that the conflict that we clearly find is between Aristotle regarding whom Aryeh Kosman explains that:

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were proved and concluded; for in the old language *tekmar* and *peras* have the same meaning (limit, conclusion) (*Rhet.* I 1357a35-1357b11)”

<sup>180</sup> Cf. “...he who assigns “able to affect, or be affected by, something” (τὸ δυνατόν παθεῖν ἢ ποιῆσαι) as a property of “being” (ἴδιον τοῦ ὄντος), by assigning the property potentially, has assigned it in relation to what exists (πρὸς ὄν) (*Top.* V 139a5-7)”

<sup>181</sup> Quine, W.V. “On What There Is” in *From a Logical Point of View* (Cambridge, Mass., 1953) p 13

“A basic ingredient of Aristotle’s ontology is the relation between determinacy and openness to determination. It is because and only because substances are the determinate beings they are that they are capable of exhibiting that most characteristic feature of substance identified early in the *Categories* as the ability to take on further determination without being overwhelmed by it, the ability to remain one and the same individual while undergoing accidental affection (*Cat.* 4a10ff). For human beings, this openness to further determination is centred in perception and thought, but it is a general feature of human psychic powers as set forth in *De Anima*. The nutritive capacity – the capacity to eat – is a capacity to take in other matter (the power of digestion); thus *De Anima* begins its discussion of psychic powers with an account of nutrition, and specifically of nutriment, that is, of food. In the same way, the capacity to perceive is a power to take in the sensible forms of the world and transform them into consciousness...Such transformations are grounded in the bodily nature of the nutritional and perceptive powers. A significantly different story will therefore have to be told about knowing, and particularly about *nous*, which is the *archē* of the perceptive and knowing powers in general, the highest form of consciousness<sup>182</sup>”

and the “scientific” viewpoint which David Chalmers explains as that: “Physics requires information states but cares only about their relation, not their intrinsic nature; phenomenology requires information states but cares only about the intrinsic nature<sup>183</sup>”.

I add here that Ernst Cassirer describes this conflict as a conflict over the nature and acceptance of “limits”, as follows:

“They [i.e. modern philosophical systems] strive, so to speak, to turn the apparent curse of the new cosmology into a blessing. Giordano Bruno was the first thinker to enter upon this path, which in a sense became the path of all modern metaphysics...In Bruno’s doctrine infinity no longer means a mere negation or limitation. On the contrary, it means the immeasurable and inexhaustible abundance of reality and the unrestricted power of the human intellect<sup>184</sup>”

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<sup>182</sup> Kosman, Aryeh “What Does the Maker Mind Make?” in *Virtues of Thought: Essays on Plato and Aristotle* (Cambridge Mass., [orig. 1992] 2014) p 136

<sup>183</sup> Chalmers, David *The Conscious Mind: In Search of a Fundamental Theory* (Oxford, 1996) p 305

<sup>184</sup> Cassirer, Ernst *An Essay on Man* (New York, [orig. 1944] 1970) p 16-17

and I conclude that we ultimately find that Aristotle finds intrinsic significance in respect to *the limits (and hence being) of beings in nature* whereas the modern approach, as Ernst Cassirer argues, finds its meaning in infinity and abstractions. We find, then, that our real argument is between the “idealism” regarding which Cassirer explains: “Mathematical reason is the bond between man and the universe; it permits us to pass freely from the one to the other<sup>185</sup>” and Aristotle’s “realist” objection that: “Philosophy has become mathematics for modern thinkers, although they profess that mathematics is only to be studied as a means to some other end (*Met.* A 992a33-992b2)”<sup>186</sup>.

I add that although this dispute seems to be one between “science” and “philosophy” (and this is how it is often represented) it is actually a *philosophical dispute* between “idealism” and “realism” and that we even see that “science” itself does not make the philosophical assertion that the world can be reduced to mathematics or process etc. Hence we easily find that Aristotle’s insistence upon the structuring of being is reflected in the “systems biology” understanding of organic nature which William B. Hurlblut explains as follows:

“The new perspective of systems biology forms the intellectual grounding for appreciating the physical and moral difference between an embryo and an entity such as a teratoma. A teratoma is an inadequately constituted biochemical system, a partial trajectory of development with an inherent potential for only incomplete and unorganized growth. According to systems biology, the important distinguishing characteristic of an entity having only partial developmental potential is not the visible appearance of its temporary development, however ‘normal’ it may initially seem; rather it is the lack, at the molecular level, of the structure and organization necessary for an integrated system. With the full complement of coordinated parts, an organismal system subsumes and sustains the parts; it exerts a downward causation that binds and balances the parts into a patterned program of integrated growth and development. Incompletely constituted or separated from the whole, the parts, as subsystems of growth (cells, tissues and organs), may temporarily proceed forward in partial

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<sup>185</sup> Cassirer, Ernst *Ibid.* p 18.

<sup>186</sup> Cf. “In a way these thinkers [physiologoi] too [i.e. along with the Pythagoreans /Platonists] are saying that everything that exists is numbers, or evolved from numbers (Τρόπον γάρ τινα καὶ οὗτοι πάντα τὰ ὄντα ποιοῦσιν ἀριθμοὺς καὶ ἐξ ἀριθμῶν); they may not show it clearly, but nevertheless that is what they mean (καὶ γὰρ εἰ μὴ σαφῶς δηλοῦσιν, ὅμως τοῦτο βούλονται λέγειν) (*De Cael.* III 303a8-11)”.

development, but without the self-regulating powers of the organismal system they will ultimately become merely disorganized cellular growth<sup>187</sup>

and also in the “general systems theory” representation of the universe as explained by Francis Heylighen *et al.*, as follows:

“The idea of open system immediately suggests a number of fundamental concepts that help us to give holism a more precise foundation. First, each system has an *environment*, from which it is separated by a *boundary*. This boundary gives the system its own *identity* separating it from other systems. Matter, energy and information are exchanged across that boundary. Incoming streams determine the system’s *input*, outgoing streams its *output*. This provides us with a simple way to connect or *couple* different systems: it suffices that the output of one system be used as input by another system. A group of systems coupled via different input-output relations forms a *network*. If this network functions in a sufficiently coherent manner, we will consider it as a system in its own right, a *supersystem*, that contains the initial systems as its *subsystems*<sup>188</sup>”

regarding which Aristotle’s “*ousia*” from the *Metaphysics* could be seen as an “open system” and his “*kosmos*” from the *De Caelo* could be seen as a “supersystem” (see *De Cael.* II 284a2-9). I note that Aristotle’s term for “boundary” is “*peras*” and for “environment” it is “*periechōn*”.

I add that it is an accepted and obvious part of science that the “boundary conditions” of something are essential to our understanding of that something and of the world itself, as Robert B. Laughlin explains, as follows:

“Water and steam seem so different that it is hard to imagine that they would be different to tell apart, but they sometimes are...The emergent phenomena distinguishing the liquid and vapour phases is thus not the development of order but the development of a surface. Like the lattice of a crystalline solid or the laws of hydrodynamics in the fluid, this surface and the rules for its motion become increasingly well defined at large

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<sup>187</sup> Hurlblut, William B. “Framing the Future: Embryonic Stem Cells, Ethics and the Emerging Era of Developmental Biology” in *Pediatric Research* (2006) p 10

<sup>188</sup> Heylighen, Francis *et al.* “Complexity and Philosophy” in Jan Bogg & Robert Geyer (*eds.*) *Complexity, Science and Society* (Oxford, 2007)

distance and time scales but lose their meaning in the opposite limit. This is the effect that brings us clouds, rain, and the magnificent violence of the sea<sup>189</sup>”

and as Michael Polanyi explains, as follows:

“Mechanisms, whether man-made or morphological, are boundary conditions harnessing the laws of inanimate nature, being themselves irreducible to those laws. The pattern of organic bases in DNA which functions as a genetic code is a boundary condition irreducible to physics and chemistry. Further controlling principles of life may be represented as a hierarchy of boundary conditions extending, in the case of man, to consciousness and responsibility<sup>190</sup>”

and I add regarding biological “evolution” that Ernst Cassirer explains that: “The theory of evolution in a general philosophical sense was by no means a recent achievement. It had received its classical expression in Aristotle’s psychology and in his general view of organic life. The characteristic and fundamental distinction between the Aristotelian and the modern version of evolution consisted in the fact that Aristotle gave a formal interpretation whereas the moderns attempted a material interpretation<sup>191</sup>” and I suggest that Dennis Des Chene clearly shows us the philosophical implications of the distinction between Aristotle’s “realism” and modern “materialism” – centred around the inclusion / exclusion of “form” – as follows: “What in the twentieth century appeared as the “problem of emergence” has its parallel in the Aristotelian tradition as the problem of the education of forms: if the forms of plants and animals do not exist potentially in matter, where do they come from? The standard answer, for higher animals and humans at least, is that they come from the heavens or from God. Descartes did not solve the problem of education. He gets rid of it. There are no souls in animals or plants, and

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<sup>189</sup> Laughlin, Robert B. *A Different Universe (Reinventing physics from the bottom down)* (New York, 2005) p 41-2

<sup>190</sup> Polanyi, Michael “Life’s Irreducible Structure” in *Science* (1968) p 1312. On Aristotle’s relevance to “general system theory” see Ludwig von Bertalanffy’s “The History and Development of General System Theory” in *Perspectives on General System Theory: Scientific-Philosophical Studies* (New York, [orig. 1972] 1975), on “boundary conditions” see Andrew Newman’s “On the Constitution of Solid Objects out of Atoms” in *The Monist* (2013) and on homeostatic systems see Mae-Wan Ho’s “Circular Thermodynamics of Organisms and Sustainable Systems” in *Systems* (2013).

<sup>191</sup> Cassirer, Ernst *An Essay on Man* (New York, [orig. 1944] 1970) p 20.

thus no education of forms. In the vocabulary of the present day: there are no emergent properties in the world of Descartes<sup>192</sup>”.

As regards the significance of this matter I finally make note of Albert Camus’ *political* comments bearing upon the meaning of “determinateness” as an expression of human “self”, as follows:

“In order to exist, man must rebel, but rebellion must respect the limits that it discovers in itself – limits where minds meet and, in meeting, begin to exist. Revolutionary thought, therefore, cannot dispense with memory: it is in a perpetual state of tension<sup>193</sup>”

and Camus adds that:

“Rebellion, though apparently negative since it creates nothing, is profoundly positive in that it reveals the part of man which must always be defended<sup>194</sup>”

and on “limits” he argues explicitly that the “rebel” is occupied with “demanding a justifiable limit<sup>195</sup>” and also that: “...his “no” affirms the existence of a borderline<sup>196</sup>”. In respect to human being and its limits, then, I suggest that we ultimately end up with a battle regarding how we conceptualise existence, identity, personhood, and freedom and with our critical difference being between (a) an Aristotelian position which accepts that we exist and grow within and by means of “limits” and (b) a modern position that we exist in order to explore “infinity” and with the world and man being in some sense “plastic” and subordinate to these infinite abstractions. I add, however, that we should also recognise that there is something tragic about the limitedness and temporality of man, and hence of Aristotle’s picturing of man, which Lawrence J. Hatab explains as that: “...the very activity of living is striving toward the impossibility of sheer

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<sup>192</sup> Des Chene, Dennis *Spirits and Clocks: Machines and Organism in Descartes* (Ithaca, 2001) p 154-5

<sup>193</sup> Camus, Albert *The Rebel* (London, 1953) p 27

<sup>194</sup> Camus, Albert *Ibid.* p 25

<sup>195</sup> Camus, Albert *Ibid.* p 248

<sup>196</sup> Camus, Albert *Ibid.* p 19



actuality<sup>197</sup>” which revises our difference as being between (a) an Aristotelian position of philosophical and paradoxical striving for knowledge about immortality and (b) a modern position which describes the world scientifically and descriptively, which does not recognise limits or tragedy, and which has infinity as its aim.

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<sup>197</sup> Hatab, Lawrence J., “A Story of Unrequited Love: The Tragic Character of Aristotle’s Philosophy” in *Epoché* (2015) p 295

## 11 Aristotle on Priority and Posteriority

Having considered that something *must be a determinate something* which occupies a “place” and exists in some relationship with its “ends” and its determinate “limits” and possibilities we will consider below how this being should have its own “symmetry” and “proportion” in order to express itself and also that it should have a “mean” which is a *channel* through which this being expresses itself. Here, though, let us consider the temporal aspect of the expression of organic being which reflects the fact that beings have their own “history” or “life” in the world (which does in some sense reflect the structured process that we find generally in nature) and we find a paradigmatic example of this, as follows:

“...the growing thing changes its place like a metal that is being beaten (τὸ δ' αὖξανόμενον ὥσπερ τὸ ἐλαυνόμενον), retaining its position as a whole while its parts change their places (τούτου γὰρ μένοντος τὰ μέρη μεταβάλλει κατὰ τόπον) (GC I 320a21-23)”

with my general emphasis here being that the development of beings *in time* is critical to Aristotle’s thinking due to his focus on *becoming* or *coming-to-be*<sup>198</sup>. I comment on Aristotle’s underlying motivation that he is not merely concerned with defending “form” as a “Theory of Forms” but that he is, rather, concerned with how nature engages in the “education of forms”. I suggest that Aristotle’s “realism” is concerned with the temporal phenomena of this world and does not see them as being mere reflections of some eternal – religious, scientific, or mathematical – realm.

Whilst noting that “priority” and “posteriority” are most obviously concepts used in respect to how we corporeally and logically engage with the world and *educate ourselves* in the *Prior and Posterior Analytics* let us first consider these concepts in outline by considering the role that they play in Aristotle’s ontology (a) in the biology

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<sup>198</sup> Aristotle argues regarding the philosophical importance of “becoming” or “coming-to-be” as follows: “Plato, it is true, investigated coming-to-be and passing-away, but only as to the manner in which passing-away is inherent in things, and as regards coming-to-be he did not deal with it in general but only that of the elements; he never inquired how flesh or bones or any other similar things come-to-be, and, further, he did not discuss how “alteration” and “growth” are present in things. In fact no one at all has applied himself to any of these subjects, except in a superficial manner, with the single exception of Democritus (GC I 315a29-35)”.

of his *Parts of Animals* which argues that organic being is evidently *formal* in the sense that:

“...the best way of putting the matter would be to see that *because* the essence of man is what it is, *therefore* a man has such and such parts, since there cannot be a man without them (PA I 640a33-36)”

and (b) in the philosophy of the *Metaphysics* which argues that there is a *transmission* of forms in the sense that:

“...the actually existent is always generated from the potentially existent *by* something which is actually existent (ἀεὶ γὰρ ἐκ τοῦ δυνάμει ὄντος γίγνεται τὸ ἐνεργείᾳ ὄν ὑπὸ ἐνεργείᾳ ὄντος) – e.g. man by man, cultured by cultured – there is always some prime mover; and that which initiates motion exists already in actuality (*Met.* Θ 1049b24-27)”

and with this transmission of being being realised *through and in individuals* on the basis that: “...nature also is in the same genus as potency; for it is the principle of movement – not, however, in something else but in the thing itself *qua* itself (καὶ γὰρ ἡ φύσις ἐν ταῦτῳ γίγνεται: ἐν ταῦτῳ γὰρ γένει τῇ δυνάμει: ἀρχὴ γὰρ κινητικὴ, ἀλλ’ οὐκ ἐν ἄλλῳ ἀλλ’ ἐν αὐτῷ ἢ αὐτό) (*Met.* Θ 1049b8-10)” from which we see that Aristotle’s principle of movement remains “in the thing itself *qua* itself” whereas the modern Newtonian approach to motion abstracts the motion from a thing and treats it only in the sense that it is “mass”<sup>199</sup>.

In outline, then, we see that Aristotle is concerned with the *cycles* of life and with the *history* of organic being by observing that there is *reproduction* of being in time and place on the basis of the principle that: “...adult is prior to child, and man to

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<sup>199</sup> I note that A.N. Whitehead explains the (Aristotelian) argument against Newton, as follows: “There is a rhythm of process whereby creation produces natural pulsation, each pulsation forming a natural unit of historic fact. In this way, amid the infinitude of the connected universe, we can discern vaguely finite units of fact. If process be fundamental to actuality, then each ultimate individual fact must be describable as process. The Newtonian description of matter abstracts matter from time. It conceives matter “at an instant.” So does Descartes’ description. If process be fundamental such abstraction is erroneous (“Forms of Process” in *Modes of Thought* (New York, 1938) p 88-89)” and Whitehead critically asserts that: “None of these laws of nature gives the slightest evidence of necessity (“Nature Alive” in *Modes of Thought* (New York, 1938) p 154-5)” and positively asserts that: “...the modern evolutionary view of the physical universe should conceive of the laws of nature as evolving concurrently with the things constituting the environment. Thus the conception of the Universe as evolving subject to fixed, eternal laws regulating all behaviour should be abandoned (*Adventures of Ideas* (Harmondsworth, 1933) p 134)”

semen, because the one already possesses the form, but the other does not (τὸ μὲν γὰρ ἤδη ἔχει τὸ εἶδος τὸ δ' οὐ) (*Met.* Θ 1050a5-7)” and with Aristotle stressing that this principle moves through natural processes unidirectionally in the sense that: “...a child cannot come from man (*Met.* α 994a32)”. I suggest in broad brush, then, that Aristotle is seeking to explore the *real lived experience of being and of living*, i.e. what it means to be something and to *be aware* of being something, and that he is not merely seeking to document or formularise forms and processes and theories regarding this being and living – or regarding motion *per se* – but is, rather, tracking through the *meaning of life* in philosophical terms. Life is evidently an individual and temporal phenomenon and this is, of course, the reason why Aristotle insists upon including temporal concepts into his study of the phenomenon of life. As regards why such facts are often avoided I note that Aristotle draws the conclusion that there is an element of finality and of direction in the structuring and cycling of living beings on the basis that: “...everything which is generated moves towards a principle, i.e. its *end* (καὶ ὅτι ἅπαν ἐπ’ ἀρχὴν βαδίζει τὸ γηγόμενον καὶ τέλος) (*Met.* Θ 1050a7-8)” whereas neither Descartes nor Newton can account for living being in their accounts of worldly being, this being, of course, an evidently significant omission. I add that Aristotle is not only concerned about life for life’s sake but is also considering what the existence of life suggests regarding the nature of the world which could and did produce that phenomenon and I note that this ontological approach and the belief that there is a structuring in nature and / or that man is a part of “nature” are both (for various reasons) controversial.

I suggest, then, that we see that “prior” and “posterior” are essential concepts for Aristotle’s *ontology* and I note that the foundation of Aristotle’s position here is the basic principle of “continuity” which shows us that Aristotle is concerned with how form *passes through* matter and with the critical concept here being that something becomes something and expresses itself as something by possessing a “continuous” movement defined as follows:

““Continuous” means that whose motion is essentially one, and cannot be otherwise; and motion is one when it is indivisible, i.e. indivisible in *time* (συνεχὲς δὲ λέγεται οὗ κίνησις μία καθ’ αὐτὸ καὶ μὴ οἷόν τε ἄλλως: μία δ’ οὗ ἀδιαίρετος, ἀδιαίρετος δὲ κατὰ χρόνον) (*Met.* Δ 1016a5-7)”

and with this “continuity” ultimately *achieving* “determinateness”, “autonomy”, and “being” (and hence losing its “middle” and its “becoming”) as follows:

“...“to be one” means “to be indivisible” (being essentially a particular thing, distinct and separate in place or form or thought), or “to be whole and indivisible” (διὸ καὶ τὸ ἐνὶ εἶναι τὸ ἀδιαίρετόν ἐστιν εἶναι, ὅπερ τόδε ὄντι καὶ ἰδίᾳ χωριστῷ ἢ τόπῳ ἢ εἶδει ἢ διανοίᾳ, ἢ καὶ τὸ ὅλῳ καὶ ἀδιαίρετόν) (*Met.* I 1052b16-18)”

from which we see Aristotle’s position that to be “one” is to be “something” determinate and eternally “active” or “actual” which does not change and hence has no “prior” and “posterior” in (for Aristotle) any meaningful sense.

I suggest, then, that the “prior” and “posterior” only become significant concepts when we are dealing with the *ousiology* and *aetiology* of the sublunary or entangled world in which we observe principles feeding through the world (according to the four causes) and also forms feeding through the world as (individual) substances moving or cycling through matter. Regarding Aristotle’s *ousiology* we find that he argues that the relationship between a “substance” and its “matter” is such that:

“The underlying nature is an object of scientific knowledge, by an analogy (ἡ δὲ ὑποκειμένη φύσις ἐπιστητὴ κατ’ ἀναλογίαν). For as the bronze is to the statue, the wood to the bed, or the matter to the formless before receiving form ([ἡ ὕλη καὶ] τὸ ἄμορφον ἔχει πρὶν λαβεῖν τὴν μορφήν) to any thing which has form (πρὸς τῶν ἄλλων τι τῶν ἐχόντων μορφήν), so is the underlying nature to substance (οὕτως αὕτη πρὸς οὐσίαν ἔχει), i.e. the “this” or existent (καὶ τὸ τόδε τι καὶ τὸ ὄν) (*Phys.* I 191a7-12)”

or, in other words, Aristotle argues that the lesser is prior to the more in the sense that it is required to grow, accumulate, become enformed, or expand, as follows:

“...[the prior thing] does not reciprocate as to implication of existence. For example, one is prior to two because if there are two it follows at once that there is one whereas if there is one there are not necessarily two, so that the implication of the other’s existence does not hold reciprocally from one; and that from which the implication of existence does not hold reciprocally is thought to be prior (*Cat.* 14a30-35)”

which shows us that being and becoming represents the real action of nature, the real movement of processes of nature (which can be hindered) and with this channelling of *becoming* being described by John Bowin as that: “...in each case, the relative

proximity to the goal state of these changes represents the degree of *assimilation* of the patient to the agent<sup>200</sup>”.

Regarding Aristotle’s *aetiology* I comment that Aristotle insists that *there are causes in nature* which drive change. Most famously, Aristotle gives us “four causes” for tracking substances through the world through a “formal cause” being supported by a “material cause” but with there also being the “moving cause” which represents *becoming* and the “final cause” which represents *being* or *why* something *is*, i.e. that we see the movement *of something from, through, and to something*<sup>201</sup>. We find, however, that Aristotle also argues that:

“...these classes of cause are six in number, each used in two senses. Causes are (i) particular, (ii) generic, (iii) accidental, (iv) generically accidental; and these may be stated singly or (v, vi) in combination [i.e. (per *Loeb* footnote) the cause of a statue may be said to be (i) a sculptor, (ii) an artist, (iii) Polyclitus, (iv) a man, (v) the sculptor Polyclitus (combination of (i) and (iii)), (vi) an artistic man (combination of (ii) and (iv))]; and further they are all either actual or potential (*Met.* Δ 1014a16-21)”

and, in general, that: “...the question is *why* the matter is some definite thing; e.g. why are these materials a house (δῆλον δὲ ὅτι τὴν ὕλην ζητεῖ διὰ τί τί ἐστίν: οἷον οἰκία ταδὶ διὰ τί)?...And why is this individual thing, or this body having a form, a man (καὶ ἄνθρωπος τοδί, ἢ τὸ σῶμα τοῦτο τοδί ἔχον)? Therefore what we seek is the cause (ὥστε τὸ αἴτιον ζητεῖται τῆς ὕλης), i.e. the form (τοῦτο δ’ ἐστὶ τὸ εἶδος), by reason of which the matter is some definite thing (ὅ τί ἐστίν); and this is the substance of the thing (τοῦτο δ’ ἡ οὐσία) (*Met.* Z 1041b4-9)”. As regards this underlying “form” we find that Aristotle argues in principle that: “...the activity is the end, and the actuality is the activity; hence the term “actuality” is derived from “activity,” and tends to have the meaning of “complete reality” (τὸ γὰρ ἔργον τέλος, ἢ δὲ ἐνέργεια τὸ ἔργον, διὸ καὶ τοῦνομα ἐνέργεια λέγεται κατὰ τὸ ἔργον καὶ συντείνει πρὸς τὴν ἐντελέχειαν) (*Met.* Θ 1050a 22-23)” and that:

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<sup>200</sup> Bowin, John “Aristotle on the Order and Direction of Time” in *Apeiron* (2009) p 49

<sup>201</sup> For a good consideration of Aristotle’s “four causes” see Mariska E.M.P.J. Leunissen’s “The Structure of Teleological Explanations in Aristotle: Theory and Practice” in *Oxford Studies in Ancient Philosophy* XXXIII (2007) and also Francis Wolff’s “The Three Pleasures of *Mimēsis* According to Aristotle’s *Poetics*” in Bernadette Bensaude-Vincent & William R. Newman (eds.) *The Artificial and the Natural: An Evolving Polarity* (Cambridge Mass., 2007)

“...what stays still and is definite is prior to what is indefinite and in motion (πρότερον γὰρ τὸ μένον καὶ τὸ ὀρισμένον τοῦ ἀορίστου καὶ ἐν κινήσει ὄντος) (*Top.* VI 141b20-21)”

and in practice that: “...man builds because he is a builder, and a builder builds in virtue of his art of building (οἷον ἄνθρωπος οἰκοδομεῖ ὅτι οἰκοδόμος, ὁ δ' οἰκοδόμος κατὰ τὴν οἰκοδομικὴν). This last cause then is prior: and so generally (τοῦτο τοίνυν πρότερον τὸ αἷτιον, καὶ οὕτως ἐπὶ πάντων) (*Phys.* II 195b23-25)” which shows us that whereas we have seen above “prior” principles *feeding through the world* we also see that the principle is “prior” also in being *the end at which the feeding through is due to arrive*.

I suggest that Rémi Brague explains this complexity well as that: “...*logos* is...at the basis of movement, insofar as it is *logos* that the potential as such, whose entelechy is movement, manifests itself<sup>202</sup>” and with time and numeration being on this view a form of collection and of ordering rather than of mere measuring, as follows:

“Time is the articulation of the prior-posterior structure of movement...Time “advances” down the middle, through the present that simultaneously ejects the past and the future<sup>203</sup>”

which suggests that the “now” or temporal “present” is an example of an Aristotelian “mean” or channelling – which is also the “actuality” or concrete worldly realisation that we actually experience – which we will consider in a later chapter and I add that Eric Sanday also explains Aristotle’s “now” well as that: “In order to perceive anything at all, the perceiving being must take a stand at a “when” (*De Anima* III 2). Just to say that two things are different, for instance, we must do so at a when, a now, a “now” that inherently means “now, time for...”<sup>204</sup>”.

I also suggest that we see that “prior” and “posterior” are essential concepts for Aristotle’s *epistemology* (noting that ontology and epistemology are two sides of the same coin in Aristotle’s thought) on the basis that we can only (epistemologically) know the (ontologically) knowable and hence:

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<sup>202</sup> Brague, Rémi “On Aristotle’s Formula ὁ ποτε ὄν: Physics IV.11, 14” in Claudia Baracchi (ed.) *The Bloomsbury Companion to Aristotle* (London, [orig. 1982] 2013) p 85

<sup>203</sup> Brague, Rémi *Ibid.* p 84-85

<sup>204</sup> Sanday, Eric “*Phantasia* in *De Anima*” in Claudia Baracchi (ed.) *The Bloomsbury Companion to Aristotle* (London, 2013) p 123

“We gain knowledge, commonly speaking, of things that already exist, for in very few cases or none can our knowledge have come into being along with its proper object. Should the object of knowledge be removed, then the knowledge itself will be cancelled. The converse of this is not true. If the object no longer exists, there can no longer be any knowledge, there being now nothing to know. If, however, of this or that object no knowledge has yet been acquired, yet that object itself may exist. Take the squaring of the circle, for instance, if that can be called such an object. Although it exists as an object, the knowledge does not yet exist. If all animals ceased to exist, there would then be no knowledge at all, though there might in that case, notwithstanding, be still many objects of knowledge. The same may be said of perception. The object, I mean, would appear to be prior to the act of perception. Suppose that you cancel the perceptible; you cancel the perception as well... But the taking away of perception does not take such objects away. If the animal itself is destroyed, then perception is also destroyed. But perceptibles yet will remain, such as body, heat, sweetness and bitterness and everything else that is sensible (*Cat.* 7b24-8a6)”

and with Aristotle’s “common sense” outline position here being simply that we are *in* the world and know and perceive *it* and its objects and with his additional emphasis being that we must *reflect upon* the world and upon our actual experience in the world in order to understand the underlying principles of the world. In other words, I suggest that Aristotle argues that in order to truly philosophise we must perform the difficult task of going back to the “first principles” of nature in order to *follow the principles of nature through to their realisation* in the perceptibles that we encounter in the world<sup>205</sup>. I add that we ultimately find that there is a *cascading of actuality* in the world which originates in the “Unmoved Mover” that we as human beings pick up upon and tap in to but, significantly, only derivatively, partially, and reflectively.

For conclusion and reiteration I add that Aristotle’s conclusions on the “prior” and “posterior” of “change” from *Metaphysics* Θ is as follows:

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<sup>205</sup> Aristotle famously argues that our intellect in some way created through its engagement with the world, as follows: “...mind thinks itself (αὐτὸν νοεῖ ὁ νοῦς) by sharing in the object of thought (κατὰ μετάληψιν τοῦ νοητοῦ), for it becomes an object of thought by coming into contact with and thinking its objects (νοητὸς γὰρ γίνεται θιγγάνων καὶ νοῶν), so that mind and the object of thought are the same (ταὐτὸν νοῦς καὶ νοητόν). For the mind is that which is capable of receiving the object of thought (τὸ γὰρ δεκτικὸν τοῦ νοητοῦ), i.e. the essence (καὶ τῆς οὐσίας νοῦς); and it is active when it possesses the object (ἐνεργεῖ δὲ ἔχων) (*Met.* Λ 1072b19-24)” (and see also *De An.* III 430a14 ff).



“Now, since we have distinguished the several senses of priority, it is obvious that actuality is prior to potentiality (πρότερον ἐνέργεια δυνάμεώς ἐστιν). By potentiality I mean not that which we have defined as “a principle of change which is in something other than the thing changed, or in that same thing *qua* other,” but in general any principle of motion or of rest; for nature also is in the same genus as potentiality, because it is a principle of motion, although not in some other thing, but in the thing itself *qua* itself. To every potentiality of this kind actuality is prior, both in formula and in substance; in time it is sometimes prior and sometimes not (*Met.* Θ 1049b 4-13)”

and we find that Aristotle adds regarding “formula” and “substance” that:

“That actuality is prior in formula is evident (τῷ λόγῳ μὲν οὖν ὅτι προτέρα, δῆλον); for it is because it can be actualised that the potential, in the primary sense, is potential (τῷ γὰρ ἐνδέχασθαι ἐνεργῆσαι δυνατόν ἐστι τὸ πρότως δυνατόν), I mean, e.g., that the potentially constructive is that which can construct, the potentially seeing that which can see, and the potentially visible that which can be seen” ...it is also prior in substantiality; (a) because things which are posterior in generation are prior in form and substantiality (ἀλλὰ μὴν καὶ οὐσία γε, πρῶτον μὲν ὅτι τὰ τῇ γενέσει ὕστερα τῷ εἶδει καὶ τῇ οὐσίᾳ πρότερα); e.g. adult is prior to child, and man to semen, because the one already possesses the form, but the other does not; and (b) because everything which is generated moves towards a principle, i.e. its *end*. For the object of a thing is its principle; and generation has as its object the *end* (ἀρχὴ γὰρ τὸ οὗ ἕνεκα, τοῦ τέλους δὲ ἕνεκα ἡ γένεσις). And the actuality is the end, and it is for the sake of this that the potentiality is acquired; for animals do not see in order that they may see. Similarly men possess the art of building in order that they may build, and the power of speculation that they may speculate; they do not speculate in order that they may have the power of speculation – except those who are learning by practice (*Met.* Θ 1049b14-1050a14)”

and with the nub of Aristotle’s position here being that: “...just as teachers think that they have achieved their end when they have exhibited their pupil performing, so it is with nature (*Met.* Θ 1050a18-19)” from which we see (a) that the controversy which has arisen from Aristotle’s position here is clearly its emphasis on “finality” and the principle that: “...everything that is produced is something that is produced from something and by something, and that the same in species as it (πᾶν τὸ γινόμενον γίγνεται ἔκ τινος τι καὶ ὑπό τινος, καὶ τοῦτο τῷ εἶδει τὸ αὐτό) (*Met.* Θ 1049b28-29)” (b)

that Aristotle supports his position by observing that there are such cycles of (generic and individual) fulfilment evident in nature and (c) that Aristotle argues that there is a power of “actuality” in nature through which nature enables being to become actively *actualised* in the world and with this positive force of “actuality” being, of course, interpretable as “God”<sup>206</sup>.

I add in respect to “time” and the “prior” and “posterior” that Aristotle concludes that: “In time it is prior in this sense: the actual is prior to the potential with which it is formally identical (εἶδει), but not to that with which it is identical numerically (ἀριθμῷ) (*Met.* Θ 1049b 18-19)” and with this “numerical” and material world being a messy but structured reality (which we *can partly* but *only partly* and intermittently understand and represent) and with the “prior” and “posterior” being necessary for us to be able to consider the human individual and the entangled history of individuals, as follows:

“...in formula universals are prior, in perception individuals (κατὰ μὲν γὰρ τὸν λόγον τὰ καθόλου πρότερα κατὰ δὲ τὴν αἴσθησιν τὰ καθ’ ἕκαστα). And in formula also the accident is prior to the whole, e.g. musical to musical man, for the formula cannot exist as a whole without the part; yet musicalness cannot exist unless there is someone who is musical (καίτοι οὐκ ἐνδέχεται μουσικὸν εἶναι μὴ ὄντος μουσικοῦ τινός) (*Met.* Δ 1018b31-36)”

and in respect to *human* knowledge Aristotle argues that: “...it is better to aim at knowledge (πειρᾶσθαι γνωρίζειν) of the posterior by means of what is prior; for such a method is more scientific (ἐπιστημονικώτερον γὰρ τὸ τοιοῦτόν ἐστιν) (*Top.* VI 141b15-17)”<sup>207</sup> and also that:

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<sup>206</sup> I note, however, regarding Aristotle’s “God” that Aryeh Kosman argues that: “Beings...imitate divinity in being, acting out, what they are; *imitatio dei* consists in striving not to be God, but to be one’s self, to emulate that being who is totally active, i.e. who totally is what he is (“Aristotle’s definition of motion” in *Phronesis* (1969) p 60).”

<sup>207</sup> I note that Klaus Oehler explains the important principle that: “...the knowable would seem to be prior to knowledge...[and] the perceptible seems to be prior to perception...[and it is hence that] Aristotle formulates this thesis of the primacy of reality over knowledge (*Met.* 1010b30; 1053a31; 1056b35; 1057a9-17) (“Aristotle on Self-Knowledge” in *Proceedings of the American Philosophical Society* (1974) p 496)” and Thomas Kjeller Johansen adds on this point that: “...when Aristotle at *De An.* II 412a26-7 says that “knowledge is prior in coming into being for the individual” he is using a notion of priority which is the flipside of priority in being. As we read in *Met.* Θ 1050a4-5 “the things that are later in coming into being are prior in being (*ousia*)” (*The Powers of Aristotle’s Soul* (Oxford, 2012) p 16).”

“...different things are more intelligible to different people, and not the same things equally intelligible to all; and so a different definition would have to be given to each individual, if the definition has to be framed as the basis of what is intelligible to each of them. Furthermore, to the same persons different things are more intelligible at different times – first of all the objects of sense-perception, and then, when their knowledge becomes more accurate, the converse occurs (*Top.* VI 141b37-142a4)”

and I suggest in conclusion that Aristotle’s “time” should ultimately be set in the context that: “A middle is that which both follows a preceding event and has further consequences (*Poet.* 1450b30-31)” and that: “...proof must proceed through a middle term (ἀνάγκη γὰρ διὰ τοῦ μέσου δεῖξαι) (*Post. An.* II 92a11)” in the sense that we are ultimately situated in a world of change and space and with it *only* being *through this world* that *we can see and unpack* the nature of the world and we will explore this last point when we presently come to consider the “mean”<sup>208</sup>.

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<sup>208</sup> On Aristotle’s priority and posteriority see also Phil Corkum’s “Aristotle on Ontological Dependence” in *Phronesis* (2008), Jonathan Beere’s “The Priority of Being in *Energeia*” in Michel Crubellier *et al.* *Dunamis: Autour de la Puissance chez Aristote* (Paris, 2008), Christopher Shields’ “The priority of soul in Aristotle’s *De anima*: Mistaking categories?” in D. Frede & B. Reis (eds.) *Body and Soul in Ancient Philosophy* (Hamburg, 2009) and David Charles’ “Actuality and Potentiality in *Metaphysics* Θ” in James G. Lennox & Robert Bolton (eds.) *Being, Nature, and Life in Aristotle* (Cambridge, 2010). On “education” in nature see Gregory Bateson’s *Mind and Nature: A necessary unity* (Glasgow, 1980).

## 12 Aristotle on Symmetry

Moving on to “symmetry” I suggest to the reader that this concept supports the further concepts of “proportion” and “middle” (or “mean”) as a “centre” or “channel” and that all these concepts together present us with a philosophical map of reality based upon a very *physical* and *biological* picture of a “centred” physical being moving through time and space. Hence we see *in principle* that Aristotle associates “symmetry” with “order” (proportion) and “definiteness” (middle) and “beauty”, as follows:

“The chief forms of beauty [are] order (τάξις) and symmetry (συμμετρία) and definiteness (τὸ ὁρισμένον) (*Met.* M 1078a36-1078b1)”

and that he adds that “symmetry” is an “equilibrium” as follows:

“...in the statement that “coming-to-be is a channel [or leading] towards being” (ὅτι ἡ γένεσις ἀγωγὴ εἰς οὐσίαν) or that “health is a balancing [symmetry] of hot and cold” (ὅτι ἡ ὑγίεια συμμετρία θερμῶν καὶ ψυχρῶν). The words “channel [or leading]” and “balancing [symmetry]” are equivocal (ὁμώνυμος γὰρ ἡ ἀγωγὴ καὶ ἡ συμμετρία) (*Top.* VI 139b20-22)”

and also that “symmetry” is part of the framework within which “being” exists in the sense that: “...“disposition,” (διάθεσις) “state” (ἔξις) and “[symmetry]” (συμμετρία)... these terms cannot possibly exist anywhere else except in the things in relation to which they are employed (*Top.* IV 125a35-37)” which shows us that such concepts are generic natural phenomena but ones which are always *locally realised* in response to the needs of “the things in relation to which they are employed”. I suggest that we generally see both that Aristotle finds a general natural structuring (and symmetry) in nature which is realised locally and variously in individual beings and also that his conceptual view of the world – and his use of such terms as priority, symmetry, limit, mean, determinateness etc. – recognisably identifies the same reality as our own but does so in a philosophical rather than in a merely descriptive mode.

Let us consider these points by considering Aristotle’s detailed discussion of “symmetry” in respect to the human body, as follows:

“In fact, all of them [i.e. the organs] are double (διφυσᾶ). And the reason for this is that the structure of the body is double (διφυσῆς), though its halves are combined (συντελοῦσα) under one source (πρὸς μίαν ἀρχήν) (PA III 669b18-20)”

and with Aristotle arguing that: “In all animals the brain is double. Beyond this, at the far end, is the cerebellum as it is called; its form is different from that of the brain, as can be both felt and seen (HA I 494b31-4)<sup>209</sup>” and going to extraordinary lengths to show the general “symmetricity” of the body by pointing out that even the tongue is divided (PA II 657a1-2) which Peck interprets (p. 180 of his *Loeb* translation) as referring to forked tongues but which Lennox relates to the fact that the tongue in most animals has a clear “midline” (p. 227 of his *Oxford* translation)). We also find that Aristotle extends symmetricity to the human soul (as well as to the human body) and hence that he argues that reason and desire are two “sides” (or “parts”) of the soul and with the “*epistēmonikon*” and the “*logistikon*” being the two “sides” of the reasoning part of the soul and “*nous*” being a fifth “middle” or “central” part.

I add that we find additionally to the two “sides” of the body and the “five” aspects of reason (with “*nous*” as a human intellectual intermediate) that Aristotle explains the five senses in his “*On Sense and Sensibles*” as follows:

“The senses making up an odd number, and an odd number having always a middle unit (μέσον), the *sense* of smell occupies in itself as it were a middle position between the tactual senses, i.e. touch and taste, and those which perceive through a medium, i.e. sight and hearing. Hence the *object* of smell, too, is an affection (πάθος) of nutrient substances (which fall within the class of tangibles), and is also an affection of the audible and the visible; whence it is that creatures have the sense of smell both in air and water. Accordingly, the object of smell is something common to both of these provinces, i.e. it appertains both to the tangible on the one hand, and on the other to the audible and translucent (*Sens.* 445a5-11)”

which suggests that “smell” is an animal perceptual intermediate regarding which I note that the nose is normally set between the eyes and ears in animals. I note that Aristotle also suggests that a human “self” must have a “centre” or “middle” and also a natural

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<sup>209</sup> Aristotle also points out that animals have a clear symmetry in respect to kidneys and lungs and he also tries, more disputably, to add the heart since its cavities make it bipartite (PA III 669b22-26) and more obviously incorrectly he regards the spleen as the “double” of the liver (PA III 669b15-18 & 669b36-670a3) (though Aristotle expresses doubts on this matter just as he also doubts that the sense of touch can be symmetrically explained as opposed to other senses).

“duality” in the sense that: “...the origin of movement must be that which lies above both sides [of the body], it necessarily follows that the origin of movement in the moving soul must be between them (ἀνάγκη ἐν τῷ μέσῳ εἶναι τὴν ἀρχὴν τῆς ψυχῆς τῆς κινούσης) (MA 702a14-16)” and I suggest that this is very physical, very immediate, and very literal but also a powerfully valid assessment of what it entails to possess a grounding to *physically be* a moving person (and, generally, an organic being) in the world<sup>210</sup>. I comment on the strangeness of the fact that we are so used to thinking in abstractions that we find such an obviously real assessment of reality to be itself strange.

As regards the interesting subject of “asymmetry” we find that Aristotle correctly points out that asymmetry sometimes exists in places in which we would normally expect to find symmetry for which he exemplifies the mole (though “...even the mole, we find, has eyes under the skin (*De An.* III 425a11-12)”) and, most obviously, the sponge (“...it has sensation of a sort (*HA* I 487b9)” even if “...the whole thing is similar to a lung (*HA* V 549a8)”) and hence we see that he observes that there are animals in the world which do not possess all five senses since their way of life does not require them to have all five senses. I add that Aristotle explains this principle of local selection from a palate of generic organic possibilities, as follows:

“...some animals possess all the modes of sense-perception (ἔχει τὰς αἰσθήσεις πάσας), and some not all, not, for example, sight, while all possess touch and taste, except such animals as are imperfectly developed (πλὴν εἴ τι τῶν ζώων ἀτελές) a class of which we have already treated in our work on the soul [i.e. the *De Anima*] (*Somn.* 455a5-9)”<sup>211</sup>

and I note that Aristotle even contends that there may be other senses of which we are not aware and hence we find that he is willing to suggest that it is *possible* that insects may smell through “...some other sense not included in the ordinary five (*Sens.* 444b19-20)”. I add, however, that aside from this observed physical and *literal* asymmetry in nature we find that there is an asymmetry in the very *principle* that:

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<sup>210</sup> See Eric Sanday’s “*Phantasia* in *De Anima*” in Claudia Baracchi (ed.) *The Bloomsbury Companion to Aristotle* (London, 2013)

<sup>211</sup> Cf. “...all animals have one sense (μίαν γε τῶν αἰσθήσεων) at least, viz. touch (ἅφῃ), and whatever has a sense (ὃ δ’ αἰσθησις ὑπάρχει) has the capacity for pleasure and pain (τούτῳ ἡδονή τε καὶ λύπη) and therefore has pleasant and painful objects present to it (καὶ τὸ ἡδύ τε καὶ λυπηρόν), and wherever these are present, there is desire, for desire (ἐπιθυμία) is just appetition (ὄρεξις) of what is pleasant (τοῦ ἡδέος) (*De An.* II 414b3-7)”

“...there is no necessity, because your father came-to-be, that you should come-to-be; but if you are to come-to-be, he must have done so (*GC* II 338b10-11)” and that even the basic existence of organisms as independent “self-movers” can be represented as that they have become disconnected from the wider generic cycles of nature, i.e. their impulse to be is in some sense an *asymmetrical* spin-off from the main unified cycle of being and from the “activity” and “movement” of the “unmoved mover”. I add that both “male” and “female” and also the craftsman and his product regarding which: “...the house and the builder do not perish together (*Met.* Δ 1014a24-25)” can be represented as *asymmetries*<sup>212</sup>.

I suggest in conclusion that Aristotle finds a “happy medium” between order and disorder (i.e. he does not insist that there is a “divine” order to all things or that such order as clearly exists is merely a figment of our imagination) and this assessment is supported by Mark Schiefsky, as follows:

“...while Aristotle is certainly concerned to show that the parts of a human being are “useful” and “suitable for an intelligent animal”, it is no part of his project to argue that the parts are so well constructed that they could not be any better. For Aristotle, the goal is just to show that a certain feature or structure makes some contribution to the organism’s activities, especially survival or reproduction; for Galen this is only the beginning. This explains the abundance of counterfactual argument in *De usu partium*: Galen often argues that if a certain part were any larger or smaller, or placed differently in any way, the activities of the organism would somehow be impaired. Such arguments play no role in Aristotle’s accounts of living things. In general Galen’s teleology is comprehensive in a way that Aristotle’s is not<sup>213</sup>”

and Schiefsky adds that: “...Aristotle, by contrast [with Galen], is more willing to acknowledge that some parts [of the body] are present for no purpose...The spleen is a case in point (*PA* III 670a30-31)<sup>214</sup>”. I add that this indeterminacy within Aristotle’s position is not necessarily a defect or even a subtlety but that it is an absolutely fundamental element of his philosophical position in the sense that it leads us to A.N.

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<sup>212</sup> See Phil Corkum’s “Aristotle on Ontological Dependence” in *Phronesis* (2008)

<sup>213</sup> Schiefsky, Mark “Galen’s Teleology and Functional Explanation” in *Oxford Studies in Ancient Philosophy* XXXIII (2007) p 392

<sup>214</sup> Schiefsky, Mark *Ibid.* p 392

Whitehead's position that: "What we have to explain is the trend towards order which is the overwhelming deliverance of experience. What we have also to explain is the frustration of order, and the absence of necessity in any particular form of order<sup>215</sup>" and to the conclusion that we find "creativity" in nature and not (just) mechanical determinism.

Moving on to consider the validity of Aristotle's position on "symmetry" *vis-à-vis* modern research I observe that the physicist P.W. Anderson explains the underlying and ongoing *physical* (rather than *biological*) significance of "symmetry", as follows:

"...symmetry is of great importance in physics. By symmetry we mean the existence of different viewpoints from which the system appears the same. It is only slightly overstating the case to say that physics is the study of symmetry...In quantum mechanics there is always a way, unless symmetry forbids, to get from one state to another. Thus, if we start from any one unsymmetrical state, the system will make transitions to others, so only by adding up all the possible unsymmetrical states in a symmetrical way can we get to a stationery state<sup>216</sup>"

and Anderson adds regarding asymmetry that: "...the internal structure of a piece of matter need not be symmetrical even if the total state of it is<sup>217</sup>". I add that the physicist Erwin Schrödinger argues that an organism exists by:

"...concentrating a "stream of order" on itself and thus escaping the decay into atomic chaos – of "drinking orderliness" from a suitable environment<sup>218</sup>"

and hence insists that the world *is ordered* and also that this *order exists within the context of disorder*. I note that Aristotle similarly assumes that an organism does necessarily possess order *in order to exist* and also has the capacity to *select and prioritise* forms of order according to individual and local needs and desires. I add that Aristotle similarly observes that our "sense" sucks orderliness *from* the world (as does

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<sup>215</sup> Whitehead, A.N. "Forms of Process" in *Modes of Thought* (New York, 1938) p 88

<sup>216</sup> Anderson, P.W. "More is Different: Broken symmetry and the nature of the hierarchical structure of science" *Science* (1972) p 394

<sup>217</sup> Anderson, P.W. *Ibid.* p 394

<sup>218</sup> Schrödinger, Erwin *What is Life? The Physical Aspect of the Living Cell* (Cambridge, 1944) p 75



our “nutrition”) and he adds that our “mind” pushes orderliness *into* the world.

Regarding Aristotle’s symmetry generally, I suggest that he seems to be correct (or at least to be in line with modern thinking) in thinking (A) that there is a fundamental symmetry in the world (B) that there are many forms and instantiations of symmetry in the world and (C) that it is also a fundamental aspect of the world that this symmetry is broken and reformulated (but with change normally being change from one state to another state).

I add further in respect to the *biological* significance of “symmetry” that Aldous Huxley first observes that:

“There is the symmetry of the free living animal, which is a bilateral symmetry: the two sides of the animal match one another, but it is different fore and aft; it has a head and a tail and it moves in one direction. This is radically different from radial symmetry, which we find in many flowers and in those kinds of animals which are either sessile or free<sup>219</sup>”

and that Gregory Bateson adds that there are (i) *dynamic* and (ii) *external* elements of such natural processes as the act of fertilisation, as follows:

“...in biological systems, the step from radical symmetry to bilateral symmetry commonly requires a piece of information *from the outside*...consider the case of the frog’s egg. The two poles and the point of entry of the spermatozoon determine a plane of bilateral symmetry. To achieve symmetry, the egg requires information *at right angles to this plane*, i.e., something which will make the right half different from the left<sup>220</sup>”

which shows us that there is reason to believe that symmetry breaking is normally due to some *external* intervention or impulse entering into the situation which Aristotle

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<sup>219</sup> Huxley, Aldous “Art” in *The Human Situation* (St Albans, [orig. 1959] 1980) p 186

<sup>220</sup> Bateson, Gregory “A Reexamination of “Bateson’s Rule”” in *Steps to an Ecology of Mind* (New York, 1972) p 382-6. I note that Robert Rosen also argues that: “The component may be thought of as the *particle of function*...a component possesses *an inherent polarity or asymmetry*...there is an *input side* or *afferent side*, reflecting the collective influence of the rest of  $\Omega$  [natural system], and the environment of  $\Omega$ , on the component itself...Likewise, there is an *output side*, or *efferent side*, reflecting the influence of the component (and hence its specific function) on  $\Omega$ , and on the environment of  $\Omega$  (*Life Itself: A Comprehensive Inquiry Into the Nature, Origin, and Fabrication of Life* (New York, 1991) p 120-3)”

explains as “*nous*” in the context of embryonic formation on the basis that: “...reason alone enters in, as an additional factor from outside (τὸν νοῦν μόνον θύραθεν ἐπεισιέναι) (GA II 736b27-29)”. As is always the case, we find that Aristotle is seeking to understand the world in its detail whilst accounting for the fact that there is a formal structuring lying beneath and hence we see that the concept of “symmetry” is recycled and redeployed in many ways *in* the things of nature and *by* the things of nature<sup>221</sup>.

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<sup>221</sup> On the subject of symmetry in nature (and *as* nature) see research into Fibonacci series / spirals and fractals and also Harald Atmanspacher & Hans Primas’ “Pauli’s ideas on mind and matter in the context of contemporary science” in *Journal of Consciousness Studies* (2006).

### 13 Aristotle on the “Mean”

Let us now move to the “centre” of our discussion and consider the “mean” or “middle” or “centre” or “channelling” which is conceptualised by Aristotle through his famous concept of “*to meson*” which is *in principle* that: “...the mean...everywhere... also produces the best state (τὸ μέσον... πανταχοῦ δὲ τοῦτο καὶ ποιεῖ τὴν βελτίστην ἔξιν) (*E.E.* II 1220b28-30)” and I comment (and will show below) that this single principle informs Aristotle’s study of each of the different subject matters that he treats in his various treatises. I therefore suggest that the “mean” is a guiding principle or “mean” of Aristotle’s own thought and work.

As regards (1) how we are *ourselves* a “mean” we see that Aristotle argues in his *De Anima* that our senses are a “mean” or “measure” we use to engage with the world outside and hence:

“...we have no sensation of what is as hot, cold, hard, or soft as we are, but only what is more so, which implies that sense is a sort of mean (μεσότητός τινος) between the relevant sensible extremes (*De An.* II 424a3-5)”

and in his *Movement of Animals* we see that the human body itself has a physical “mean” or “centre” in the sense that: “...the middle is the limit of both extremes (ἀμφοτέρων γὰρ τῶν ἄκρων τὸ μέσον ἔσχατον)...And the central part of the body is potentially one, but must actually become more than one; for the limbs are set in motion simultaneously from the origin of movement, and when one is at rest the other is in motion (*MA* 702b16-28)”. In respect to the structuring of our own ethical characters we see from Aristotle’s *Ethics* that:

“...right principle...is the mean between excess and deficiency relative to ourselves [and] it follows that as these actions are contrary to each other and to the mean, so also the states of character that cause them are contrary to each other and to virtue (ὥς ταῦτ’ ἀλλήλοις ἐναντία καὶ τῷ μέσῳ, οὕτω καὶ τὰς ἑξεις ἀλλήλαις ἐναντίας εἶναι καὶ τῇ ἀρετῇ) (*E.E.* II 1222a9-22)”

and with Aristotle importantly explaining this *channelling of self* (and of energy) as a *direction and intensity of movement*, as follows: “...from the start our nature does not diverge from the mean in the same way as regards everything, but in energy we are

deficient and in self-indulgence excessive (*E.E.* II 1222a37-39)". I add, however, that the fact that there are different kinds of or applications of energy leads Aristotle to argue that: "...what is capable of desiring and what is capable of fleeing are not different, either from one another or from what is capable of perceiving, but their being is different (*De An.* III 431a12-14)" which suggests to Aristotle that we should recognise that our basic situation is of an *active* "self" or "substance" which *employs* "energy" as *a means to achieve its ends*.

I add that we also find that Aristotle's "means" are the channels and "mechanisms" through which we achieve our "ends" in the sense that:

"The End is...the object for which the thing chosen is the mean, of which End goodness is the cause by its act of choice (οὗ μὲν οὖν ἔνεκα τὸ μέσον ἐστίν, οὗ αἰτία ἡ ἀρετὴ τῷ προαιρεῖσθαι οὗ ἔνεκα) – though the choice is not of the End but of the means adopted for the sake of the End (ἔστι μέντοι ἡ προαίρεσις οὐ τούτου, ἀλλὰ τῶν τούτου ἔνεκα) (*E.E.* II 1227b38-40)"

and regarding the relationship between "*phronēsis*" and "*sophia*" Aristotle argues that: "...the one determines the end and the other makes us do the things that lead to the end (*N.E.* VI 1145a5-6)" and regarding knowledge as a "measure" he argues that: "...it would seem that knowledge is a measure, and the knowable to be that which is measurable by it (δόξειε μὲν γὰρ ἂν μέτρον ἡ ἐπιστήμη εἶναι τὸ δὲ ἐπιστητὸν τὸ μετρούμενον) (*Met.* I 1057a9-11)" from which I suggest that Aristotle models human being upon (a) the *projection of being* as achieved through action, forethought, and intelligence and (b) our ability to measure and manage the world and to achieve results through doing so for which Aristotle's paradigmatic example is the art of teaching<sup>222</sup>. I also add here that the mature man is also *himself* a virtuous "mean" position between the immaturity of youth and the decrepitude of old age on the basis that such men are fully developed and "measured" (and in the *prime* of life) and hence: "...are guided not by the sole consideration either of what is noble or of what is useful, but by both, neither by parsimony nor by prodigality, but by what is fit and proper (πρὸς τὸ

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<sup>222</sup> Cf. "And that the end stands in a causal relation to the means subordinate to it is shown by teaching (ὅτι δ' αἴτιον τὸ τέλος τοῖς ὑφ' αὐτό, δηλοῖ ἡ διδασκαλία). For, having defined the end they show, regarding other things, that each of them is a good, because that for the sake of which is explanatory. For example, since "being healthy" is such-and-such a thing, then necessarily this other thing will be what is useful for it. And what is healthy will be the efficient cause of health, though only the cause of its being, but not of health being a good (*E.E.* I 1218b16-22)"

ἀρμόττον) (*Rhet.* II 1390b1-3)” (and I also note that Aristotle famously argues in his *Politics* that a “middling” state is best for human character and a middle class is best for the governing of a polity; see *Pol.* IV 1295a).

As regards (2) the “mean” as an instrument we find in the *On Sense and Sensibles* that Aristotle argues *contra* Democritus that the eye cannot work “...as mere mirroring...that takes place in an eye due to the fact that the eye is smooth (*Sens.* 438a7-8)” because this mirroring “...exists not in the eye but in the observer; for the phenomenon (τὸ πάθος) is only reflection (*Sens.* 438a8-9)” whereas on Aristotle’s schema the eye itself is a *medium* between the self and the world and its seeing takes place through the *further* medium of light, as follows:

“...vision is caused by a process through this medium (ἡ διὰ τούτου [i.e. through μεταξύ] κίνησις ἐστὶν ἡ ποιοῦσα τὸ ὁρᾶν) (*Sens.* 438b4-5)”

and it takes place through the *further* medium of colour, as follows:

“...the faculty of sight informs us of so many differences of all kinds, because all bodies have a share of colour, so that it is chiefly by this medium that we perceive the common sensibles. (By these I mean shape, magnitude, movement and number) (*Sens.* 437a6-9)”

and with such “common sensibles” being, in a sense, even *further* mediums which are only seen through the “medium” of “motion” which for Aristotle is synonymous with “change”<sup>223</sup>. Now, as regards Aristotle’s point here I suggest that he is emphasising, as he does often, that the world is comprised of responsive and interconnected structures which we perceive, think, use etc. and in respect to the example of sight itself we find that Aristotle stresses that it is not consequent to the simple material property of something but that it is, rather, the specific interaction between an *object being seen by something* through *the medium of light* (and of air or water and of colour) and through the *specialised organ* of the eye. I note that the eye itself is an instrument, means, or

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<sup>223</sup> Cf. “...we perceive all these things [motion, rest, shape, magnitude, number and unity] by movement; for instance we perceive magnitude by movement and shape also; for shape is a form of magnitude. What is at rest is perceived by an absence of movement; number by the negation of continuity (*De An.* III 425a17-19)” (and on “motion” see Aryeh Kosman’s “Aristotle’s definition of motion” in *Phronesis* (1969)).

*medium* which does, interestingly, observably take on its many forms and do so as required by the circumstances of the life of its organism (see *GA V* 778b16-19)<sup>224</sup>.

We see, then, that the act of seeing is certainly heavily mediated *through* instruments and *across* media but with the critical point here being not the mediation itself but that the end result remains *immediate* in the sense that sight is of “co-instantaneous wholes (ἅπαν ἅμα)” (*Sens.* 446b3) and also *natural* in the sense that:

“...it is not true that the beholder sees, and the object is seen, in virtue of some merely abstract relationship between them, such as between equals. For if it were so, there would be no need [as there is] that either [the beholder or the thing beheld] should occupy some particular place; since to the equalisation of things their being near to, or far from, one another makes no difference (*Sens.* 446b10-13)”

and I suggest that Aristotle’s world – and the world itself – is a world with a *natural pregnancy of purpose* which comes to fruition when it is not hindered and regarding this “pregnancy” of being Russell Winslow comments that:

“...Aristotelian intellectual perception discovers the being under inquiry in its singularity by becoming impregnated by the *ousia* of the other being. I will argue that it is precisely this impregnation and coming-to-be of the essential activity of the other being in the soul that is noetic perception, or what we might otherwise call the thinking that Aristotle names *nous*...[and this] *nous* must be itself completely without attributes but receptive of the form and capable of becoming the noetic matter in potency without the material<sup>225</sup>”

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<sup>224</sup> I note that Aristotle uses eyes to show how different animals are adapted according to their needs, as follows: “...two animals may both have eyes, but in one those eyes are hard, while in the other they are of fluid consistency; and while the one does not have eyelids, the other does – both being for the sake of a greater accuracy of vision (*PA II* 648a19)” (for which see Monte Ransome Johnson’s “Luck in Aristotle’s *Physics* and *Ethics*” in Devin Henry & Karen Margrethne Nielsen (eds.) *Bridging the Gap between Aristotle’s Science and Ethics* (Cambridge, 2015)).

<sup>225</sup> Winslow, Russell “On the Life of Thinking in Aristotle’s *De Anima*” in *Epoché* (2009) p 309-310. Winslow adds that: “...*nous* does not have attributes, it does not have an organ, it does not have shape, *except* as the form in potency of what it perceives. *Nous* is the most primordially *open* part of the soul. It can become any intelligible thing that works upon it. If there is such a thing as *primary matter* in Aristotle, from this description it would seem that, rather than some sort of lowly material substrate, *nous* – the highest potency in the cosmos – is a kind of *primary matter*. After all, *nous* can potentially become all forms, for Aristotle: “...it will be said that the soul is a place of forms, except that this is not the whole soul but the noetic soul, and it is not the form in its entelecheia, but in potency (*De An.* III 429a 28)” (*Ibid.* p 310).”

from which we see that both “matter” and “*nous*” are, for Aristotle, *positive* channels of “potentiality” and are the medium through which our world emerges in all its depth, subtlety, and meaningfulness. I add that Aristotle also maintains that “sense” is a flow and transmission of meaning in the sense that: “...sense perception (αἴσθησις) [is] a movement of the soul through the body (ὥς ἐνέργεια κίνησις τις διὰ τοῦ σώματος τῆς ψυχῆς ἐστὶ) (*Somn.* 454a10)” which portrays sense perception itself as being a *medium* or instrument of the body (or perhaps *vice versa*) and as being a *real and literal movement* of energy within the body (and note the meaning of the word “conduct”) and I suggest that Aristotle *sees* “sight”, “*nous*”, “matter”, and “sense” as media through which *the pregnant potentiality of the world is actualised*.

As regards (3) the “mean” as a “form” passing through a “channel” or “duct” we find that Aristotle argues in his *On coming-to-be and passing-away* (i) in principle that:

“The form of which we have spoken is a kind of power immersed in matter – a duct, as it were (Τοῦτο δὲ τὸ εἶδος ἄνευ ὕλης, οἷον αὐλός, δύναμις τις ἐν ὕλῃ ἐστίν) (*GC I* 322a28)”

(ii) that from another angle it is the “matter” (i.e. rather than the “form” as above) which is the “mean” through which “substances” come-to-be and hence:

“...it is “matter” that is the “mean” between the two contraries, and matter is imperceptible and inseparable from them (ἡ γὰρ ὕλη τὸ μέσον ἀναίσθητος οὖσα καὶ ἀχώριστος) (*GC II* 332a35-332b1)”

and (iii) that chemical compounds are expressions of “means” of form in matter (perhaps this “means” can be considered as a “substratum” or “*hupokeimenon*”) and hence:

“The “mean”, however, is of considerable extent and is not indivisible...it is *qua* reduced to a “mean” condition that the dry and the moist, as well as the contraries we have used as examples, produce flesh and bone and the remaining compounds (τὸ δὲ μέσον πολὺ καὶ οὐκ ἀδιαίρετον. Ὀμοίως δὲ καὶ τὸ ξηρὸν καὶ ὑγρὸν καὶ τὰ τοιαῦτα κατὰ μεσότητα ποιοῦσι σάρκα καὶ ὀστούν καὶ τᾶλλα) (*GC II* 334b28-30)”

and I suggest that there is significant similarity between Aristotle's "mean" here and the compounds or "equilibrical" states of modern physics and biology.

I also note here that Rémi Brague explains that "time" is also a channelling through which "potentiality" unfolds itself through natural processes thereby enabling "actuality" to become concretised in the "now", as follows:

"The unity of the now is its unifying function ([*Phys.* II] 222a15). It is devoid of its own unity, which it attains only by unifying what it is not. By unifying that which is two, it passes into the two: the two becomes one, but the one passes into the two. This pulsation of gathering and division constitutes time. Time "advances" down the middle, through the present that simultaneously ejects the past and the future. The "movement" of time is centrifugal<sup>226</sup>"

and, ultimately, that: "...*logos* is...at the basis of movement, insofar as it is *logos* that the potential as such, whose entelechy is movement, manifests itself<sup>227</sup>". I suggest that we see that it is not only substance but also being itself – the "now" – that is *a channelling of actuality* (which arises from out of potentiality and then passes into history) and I add that *we see* this sustained and structured being through "*logos*" or "proportion" and that *it exists* by means of "*nous*".

As regards (4) the "mean" as energy and as form feeding through matter we find that Aristotle argues in his *Parts of Animals* (and from another perspective in the embryology of his *Generation of Animals*) that animals come-to-be through energy *flowing through channels* from a "centre" and hence we see that hot-blooded animals are produced when:

"...the hot substance prevails in the body (ἡ γὰρ τοῦ θερμοῦ φύσις ἐνισχύουσα) it induces growth, beginning from the centre (ποιεῖ τὴν αὐξησιν ἀπο τοῦ μέσου) along its own line of travel (κατὰ τὴν αὐτῆς φοράν) (*PA* II 653a31-33)"

and that cold-blooded animals are produced when:

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<sup>226</sup> Brague, Rémi "On Aristotle's Formula ὁ ποτε ὄν: Physics IV.11, 14" in Claudia Baracchi (ed.) *The Bloomsbury Companion to Aristotle* (London, [orig. 1982] 2013) p 84

<sup>227</sup> Brague, Rémi *Ibid.* p 85



“...the principle of the soul (ἡ τῆς ψυχῆς ἀρχὴ) is sluggish and corporeal (δυσκίνητός ἐστι καὶ σωματώδης). And if the heat which raises the organism up wanes still further, while the earthly matter waxes, then the animals’ bodies wane, and they will be many-footed; and finally they lose their feet altogether and lie full length on the ground (*PA* IV 686b29-31)”

(and hence we see that it is the strength or intensity of the line of energy shaping the matter which produces, in principle either a millipede or a snake) from which we see that Aristotle *literally* sees life coming-into-being and being shaped by the “principles” of channelled energy (or “heat”<sup>228</sup>). I add that Aristotle explores this literal channelling of energy in detail in his *Generation of Animals* and that an example of his thinking (and I note that this approach is effective throughout his study of embryos) here is as follows:

“Genesis from seeds (ἥ τε γὰρ ἐκ τῶν σπερμάτων γένεσις) always starts from the middle (ἐκ τοῦ μέσου). All seeds are bivalvular, and the place of juncture is situated at the point of attachment (to the plant), an intermediate part belonging to both halves. It is from this part that both root and stem of growing things emerge; the starting-point is a central position between them (ἡ δ’ ἀρχὴ τὸ μέσον αὐτῶν ἐστίν). In the case of grafts and cuttings this is particularly true of the buds (*Juv.* 468b18-24)”

which is a “branching out” model which Aristotle also interestingly uses for our own animal limbs, as follows: “...they use their joints like a centre (ὥσπερ γὰρ κέντρον), and the whole section containing the joint becomes both one and two (καὶ ἓν καὶ δύο), both straight and bent, changing potentially and actually (δυνάμει καὶ ἐνεργείᾳ) by reason of the joint (*MA* 698a18-21)”. I suggest that Aristotle presents us with a picture of nature which is of principles logically and functionally branching out through the energy of a “mean” and through its movements through *natural symmetries* which are somehow

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<sup>228</sup> I note regarding “hotbloodedness” that it gives the animal the internal energy to allow it to be independently detached from its environment on a constant basis (apart from taking in food regularly) and that it is on this basis that hotbloodedness is a feature of the “higher” animals. I add regarding this “energy” and regarding the “heat” of the blood that Aristotle argues that: “The nature of the blood is the cause of many features of animals with respect to both character and perception, as is reasonable (*PA* II 651a13-14)” which does surely seem like a reasonable and true observation regarding “heat” and “blood” and “bloodedness”.

*grounded* in the world (and I note that our logic also branches out in a comparable way)<sup>229</sup>.

As regards (5) the “means” as a tool for our representation of the world which enables the relationship between a subject (e.g. an artist’s “vision”), a medium (e.g. shapes and colours), and an object (e.g. an artwork) we find that Aristotle argues in his *Poetics*, as follows:

“Now, epic and tragic poetry, as well as comedy, dithyramb, and most music for aulos and lyre, are all, taken as a whole, kinds of *mimesis*. But they differ from one another in three respects: namely, by producing *mimesis* in different media, of different objects, or in different modes (ἢ γὰρ τῷ ἐν ἑτέροις μιμεῖσθαι ἢ τῷ ἕτερον ἢ τῷ ἑτέρως καὶ μὴ τὸν αὐτὸν τρόπον). Just as people (some by formal skill, others by a knack) use colours and shapes to render mimetic images of many things [i.e. as artists], while others again use the voice [i.e. as actors], so too all the poetic arts mentioned produce *mimesis* in rhythm [i.e. dance], language [i.e. poetry], and melody [i.e. music], whether separately or in combinations (*Poet.* 1447a13-22)”

and with this “means” as “art” in some way becoming its own independent principle *working through the medium of the artist or man*, as follows: “...the genre’s own nature teaches poets to choose what is apt for it (αὐτὴ ἡ φύσιν διδάσκει τὸ ἀρμόττον αὐτῇ αἰρεῖσθαι) (*Poet.* 1460a3-4)” and having its own independent “end”, as follows:

“...after going through many changes tragedy ceased to evolve, since it had achieved its own nature (ἐπαύσατο, ἐπεὶ ἔσχε τὴν αὐτῆς φύσιν) (*Poet.* 1449a13-15)”. I add that Aristotle refers to “craft” as a medium which *is suited to its material* in his *Ethics*, as follows: “...every art [or form of understanding] (πᾶσα ἐπιστήμη) does its work well (τὸ ἔργον εὖ ἐπιτελεῖ) – by looking to the intermediate (πρὸς τὸ μέσον) and judging its works by this standard (so that we often say of works of art that it is not possible either to take away or to add anything, implying that excess and defect destroy the goodness of works of art, while the mean preserves it; and good artists (οἱ ἀγαθοὶ τεχνῖται), as we

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<sup>229</sup> I make note of Aristotle’s willingness to move from study of physical facts to the theoretical consideration of the cosmos itself, as follows: “Any quality of rest...in an animal is of no effect unless there is absolutely at rest and immovable. And it is worth while to stop and consider this dictum; for the reflection which it involves applies not merely to animals, but also to the motion and progression of the universe (*MA* 698b8-13)”

say, look to this in their work) (*N.E.* II 1106b8-14)” which shows us Aristotle’s assertion that we *follow* the principles of nature in our attempts at artistic creation<sup>230</sup>.

I note that Aristotle maintains that even our actions and creations – such as computers, cars etc. – which clearly *add to* and *build upon* nature *imitate the principles* of nature and as regards (6) the “mean” as a “middle” in our thinking we find that Aristotle argues in his logical works that: “...proof must proceed through a middle term (ἀνάγκη γὰρ διὰ τοῦ μέσου δεῖξαι) (*Post. An.* II 92a11)” and that:

“Some things have a cause distinct from themselves, and other have not. Thus it is clear that of essences too some are immediate (ἄμεσα); i.e. they are first principles, and both their existence and their definition have to be assumed or exhibited in some other way. (This is what an arithmetician does: he assumes both what a unit is, and that it exists.) As for things which have a middle term (τῶν δ’ ἐχόντων μέσον), i.e. something distinct from themselves which is a cause of their being (καὶ ὃν ἔστι τι ἕτερον αἴτιον τῆς οὐσίας), it is possible (as we have said) to exhibit their essence by demonstration, although we do not actually demonstrate it (*Post. An.* II 93b22-28)”

from which we see that Aristotle believes that we can only reveal “first principles” by unpacking worldly phenomena and processes through the consideration of worldly objects which possess “middles” and by means of which we can see “first principles” at work. I add that we *follow* nature in the sense that the “middle” of our logic or of our (scientific) demonstration must *map back* to reality and *follow its course* (which is clearly not meaningfully *random*) on the basis that:

“A middle is that which both follows a preceding event and has further consequences (*Poet.* 1450b30-31)”

and with the cause-and-effect of the “middle” (taking place in the “interval”) merely, for Aristotle, *showing us* the structured and meaningful nature of nature which we also see in nature immediately and in an unmediated manner, i.e. as ἄμεσα or “first principles”, as follows:

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<sup>230</sup> See Francis Wolff’s “The Three Pleasures of Mīmēsis According to Aristotle’s Poetics” in Bernadette Bensaude-Vincent & William R. Newman (eds.) *The Artificial and the Natural: An Evolving Polarity* (Cambridge Mass., 2007)

“...the question suggests itself whether, as is commonly supposed, events which do *not* occur simultaneously in continuous time can be related as cause and effect (ἐπὶ δὲ τῶν μὴ ἅμα ἄρ' ἔστιν ἐν τῷ συνεχεῖ χρόνῳ) – a past effect having a cause in the remoter past, a future effect a cause in the nearer future, and a present effect too a cause prior to it?...The interval between cause and effect can neither be indefinite nor definite (ἔτι οὔτε ἀόριστον ἐνδέχεται εἶναι τὸν χρόνον τὸν μεταξὺ οὔθ' ὀρισμένον); because during the interval it will be false to assert the effect (ψεῦδος γὰρ ἔσται τὸ εἰπεῖν ἐν τῷ μεταξὺ). We must investigate what is the bond of continuity that makes a present process follow the completion of a past event (ἐπισκεπτέον δὲ τί τὸ συνέχον ὥστε μετὰ τὸ γεγονέναι τὸ γίνεσθαι ὑπάρχειν ἐν τοῖς πράγμασιν) (*Post. An.* II 95a24-95b4)”

and I note that it is interesting to see how close Aristotle's *unmediated* principles or “first principles” are to Plato's Forms (and to our scientific *laws*). I ultimately suggest that Aristotle's reason for holding on to the *mess* of our “limited” thinking and of our “entangled” sublunary world is simply that he recognises that even if we can infer the existence of immediate “first principles” we must accept and recognise that we live in a real world of human limitedness and worldly mess. I suggest that Aristotle simply accepts that our worldly mess (for want of a better word) is the necessary possibility within which our human personality, creativity, and individuality is shaped and exists and therefore should not without very good reason be reduced to or dismissed through formal abstractions<sup>231</sup>.

Finally, as regards (7) the “mean” as the sublunary entanglement we find in the world we see that it is explained by Aristotle in his *Metaphysics* as that:

“By intermediates we mean those things into which that which changes must first change (μεταξὺ μὲν γὰρ ταῦτα λέγομεν εἰς ὅσα μεταβάλλειν ἀνάγκη πρότερον τὸ μεταβάλλον) (*Met.* I 1057a21-22)”

and that: “...all intermediates are between certain opposites, for it is only from these *per se* that change is possible (ἀλλὰ μὴν πάντα γε τὰ μεταξὺ ἐστὶν ἀντικειμένων τινῶν: ἐκ τούτων γὰρ μόνων καθ' αὐτὰ ἔστι μεταβάλλειν). Hence there can be no intermediate between things which are not opposites (διὸ ἀδύνατον εἶναι μεταξὺ μὴ ἀντικειμένων:

<sup>231</sup> I note the appearance here in the context of cause-and-effect of Aristotle's “principle of non-contradiction” and suggest that Aristotle recognises the importance of leaving room for “creativity” and I note that Paul Feyerabend wisely defines “creativity” as being a “...secularised version...[of] the divine element (“Aristotle” in *Conquest of Abundance: A Tale of Abstraction versus the Richness of Being* (Chicago, 1999) p 218).”

εἷη γὰρ ἂν μεταβολὴ καὶ μὴ ἐξ ἀντικειμένων) (*Met.* I 1057a30-33)” which emphasises that nature is structured and changes in a structured manner in *phases* (or “states”) *from something to something* in the sense that: “...everything that changes is something and is changed by something and into something (πᾶν γὰρ μεταβάλλει τι καὶ ὑπὸ τίνος καὶ εἰς τι) (*Met.* Λ 1069b36-1070a1)” and I add Aristotle’s further thought that:

“...a thing is potentially all those things which it will be of itself if nothing external hinders it (καὶ ὅσων δὴ ἐν αὐτῷ τῷ ἔχοντι, ὅσα μηθενὸς τῶν ἔξωθεν ἐμποδίζοντος ἔσται δι’ αὐτοῦ (*Met.* Θ 1049a13))”

and that: “...nature also is in the same genus as potency; for it is the principle of movement – not, however, in something else but in the thing itself *qua* itself (καὶ γὰρ ἡ φύσις ἐν ταύτῳ γίγνεται: ἐν ταύτῳ γὰρ γένει τῇ δυνάμει: ἀρχὴ γὰρ κινητική, ἀλλ’ οὐκ ἐν ἄλλῳ ἀλλ’ ἐν αὐτῷ ἢ αὐτό) (*Met.* Θ 1049b8-10)” (*cf. De An.* II 417a27-8) which shows us how an organism is itself a moving force or being which can be understood as being a “moving principle” (which is itself a “mean”).

Ultimately, then, I suggest that we see (A) that the “mean” is the dynamic movement of a “principle” or a “being” or “substance” finding its “right” path through the “medium” of the world and through matter and with Aristotle’s world being one of *living principles seeking to realise themselves* rather than being a world of *inert matter happening to interact* and (B) that Aristotle’s approach both recognises our practical limitations in the sense that he argues that: “...it must be grasped that in every continuum that is divisible there is excess and deficiency and a mean, and these either in relation to one another or in relation to us (ληπτέον ὅτι ἐν ᾧπαντι συνεχεῖ καὶ διαιρετῷ ἐστὶν ὑπεροχὴ καὶ ἔλλειψις καὶ μέσον, καὶ ταῦτα ἢ πρὸς ἄλληλα ἢ πρὸς ἡμᾶς) (*E.E.* II 1220b21-24)” and also recognises our spiritual possibility in the sense that he argues that we can discern both in reality and in principle that:

“...reason in each of its possessors chooses what is best for itself, and the good man obeys his reason (πᾶς γὰρ νοῦς αἰρεῖται τὸ βέλτιστον ἑαυτῷ, ὃ δ’ ἐπιεικὴς πειθαρχεῖ τῷ νῷ) (*N.E.* IX 1169a17-18))”

and with this “reason” or “*nous*” actually *being* the “channel” or “mean” through which beings become and are sustained and through which we can see “meaning”, “good”, “God” *etc.*, and this is the space or zone the mystic Meister Eckhart describes as a

“...silent “middle”, for no creature ever entered there and no image” and which Arthur J. Deikman describes as “awareness” or “pure consciousness<sup>232</sup>”.

As regards how Aristotle’s “mean” resonates in sensitive modern thinking I note that Aldous Huxley uses a concept of “canalisation” philosophically as follows:

“Habits of behaviour facilitate activity in one particular direction – canalising it, so to speak, in a certain channel. In the same way habits of thought canalise thinking, scoop out a course along which it must flow, unless more or less violently deviated<sup>233</sup>”

and that Carl Jung argues (by reference to Aristotle’s “ὁρμή”) that: “The damming up of libido is analogous to a specific obstruction in the direction of the flow, such as a dike, which transforms the kinetic energy of the flow into the potential energy of a reservoir. Thus damned back, the water is forced into another channel, if as a result of the damming it reaches a level that permits it to flow off in another direction<sup>234</sup>” and that:

“Libido moves not only forward and backward, but also outwards and inwards<sup>235</sup>”

and he argues in his sub-chapter “The Canalisation of Libido” that “man” has an additional energy (an “excess of libido”) which pushes him to detach himself from nature and hence: “...man can never rest content with the natural course of things, because he always has an excess of libido that can be offered a more favourable

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<sup>232</sup> Deikman, Arthur J. “I=Awareness” in *Journal of Consciousness Studies* (1996)

<sup>233</sup> Huxley, Aldous “Varieties of Intelligence” in *Proper Studies* (London, 1927) p 69

<sup>234</sup> Jung, Carl “On Psychic Energy” in *The Structure and Dynamics of the Psyche* (London, [orig. 1928] 1960) p 38

<sup>235</sup> Jung, Carl *Ibid.* p 41. (Cf. “...no sooner are one or two of the channels of psychic activity blocked, than we are reminded of a stream that is damned up. The current flows backward to its source; the inner man wants something which the visible man does not want, and we are at war with ourselves. Only then, in this distress, do we discover the psyche; or, more precisely, we come upon something which thwarts our will, which is strange and even hostile to us, or which is incompatible with our conscious standpoint...No psychic value can disappear without being replaced by another of equivalent intensity. This is a rule which finds its pragmatic sanction in the daily practice of the psychotherapist; it is repeatedly verified and never fails (“The Spiritual Problem of Modern Man” in *Modern Man in Search of a Soul* (London, [orig. 1933] 1961) p 233 & 242)”) )

gradient than the merely natural one<sup>236</sup>”. I add that Jung argues further that “nature” is to some extent a “pathway” in the sense that: “...every child is born with an immense split in his make-up: on the one side he is more or less like an animal, on the other side he is the final embodiment of an age-old and endlessly complicated sum of hereditary factors...Although our inheritance consists of psychological paths, it was nevertheless mental processes in our ancestors that traced these paths<sup>237</sup>” and that “sex” and reproduction is the founding “pathway” of human being in the sense that: “...sexuality has an ancient claim upon the spirit, which it once – in procreation, pregnancy, birth, and childhood – contained within itself, and whose passion the spirit can never dispense with in its creations<sup>238</sup>”.

I add from a different perspective that Janna Hastings *et al.* have sought to rehabilitate “pathways” as biological and *ontological* facts of nature on the basis that:

“Pathways form the units of meaningful knowledge into which many aspects of biological research are conducted...Complex pathways can be defined as aggregations of simpler pathways, which should at least consist of several reactions organised into a coherent whole by virtue of fulfilling some biological objective<sup>239</sup>”

and that this process is dynamic and energy dependent – and is effectively “active” rather than “passive” – on the basis that: “Understanding the rates of processes is crucial to adequate modelling, as fast processes can dominate a system even if the number of

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<sup>236</sup> Jung, Carl *Ibid.* p 49. I note that Jung argues elsewhere that human “will” is “disposable energy” (*The Earth Has a Soul: C.G. Jung on Nature, Technology & Modern Life* (Berkeley, 2002) p 94).

<sup>237</sup> Jung, Carl *Ibid.* p 51-3

<sup>238</sup> Jung, Carl *Ibid.* p 57. I note that Jung argues *contra* Freud on sex that: “Surely, straight thinking will grant that it is more important to open up drainage canals. We should try to find, in a change of attitude or in new ways of life, that difference of potential which the pent-up energy requires. If this is not achieved a vicious circle is set up, and this is in fact the menace which Freudian psychology appears to offer. It points no way that leads beyond the inexorable cycle of biological events (“Freud and Jung – Contrasts” in *Modern Man in Search of a Soul* (London, [orig. 1933] 1961) p 139)” (see also Sigmund Freud’s *Three Essays on the Theory of Sexuality* (London, [orig. 1905] 1949)).

<sup>239</sup> Hastings, Janna *et al.*, “Collective bio-molecular processes: The hidden ontology of systems biology” in eds. Anthony Galton & Zena Wood *Understanding and Modelling Collective Phenomena* (online, 2012) p 3-4

participating molecules in the process is small<sup>240</sup>”. I suggest that once we throw off the artificial *philosophical* constraints of Francis Bacon and René Descartes’ supposed scientific methods which, as Gottfried Leibniz notes, are: “...like the precepts of some chemist; take what you need and do what you should, and you will get what you want<sup>241</sup>” we should be able to appreciate that: “The assumption of pure extension destroys the whole of this wonderful variety [of nature]; mass alone (if it were possible to conceive of it) is as much inferior to a substance which is perceptive and a representation of the whole universe according to its point of view and the impressions (or rather relationships) which its body receives mediately or immediately from all others, as a corpse is inferior to an animal or rather as a machine is to a man<sup>242</sup>”. I suggest that Michel Foucault is correct to see a movement from “memory” through “meditation” to “method”<sup>243</sup> and I express the hope that the subtlety and close attention to the world of modern science as represented in the fields of quantum physics and epigenetic biology will ultimately allow Aristotle and Leibniz’s *philosophical* positions based upon “meditation” to take their rightful place.

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<sup>240</sup> Hastings, Janna *et al. Ibid.* p 3. See also Gregory Bateson’s “A Reexamination of “Bateson’s Rule”” in *Steps to an Ecology of Mind* (New York, 1972).

<sup>241</sup> Gottfried, Leibniz “Untitled Essay” in *Die philosophischen Schriften* (ed.) C.I. Gerhardt IV (Berlin, 1875-90) 329 (and see also Descartes’ four rules from his *Discourse on the Method* § 18-19, CSM I p. 120)

<sup>242</sup> Leibniz, Gottfried *The Leibniz-Arnaud Correspondence* (Manchester, 1967) p 123

<sup>243</sup> Foucault, Michel *The Hermeneutics of the Subject* (New York, [orig. 1981-2] 2005) p 460



## 14 Aristotle on Proportion

We have seen, then, that for Aristotle a principle is a “mean” moving through space and time *continuously*, that it has a “symmetry” which makes the direction for the movement possible, and with the movement having a “prior” and “posterior”. I add that we also see that a structured being has a “proportion” which is effectively a dynamic extension of the principle of “symmetry” and which Aristotle explains as follows:

“...of all things naturally composed there is a limit or proportion of size and growth; this is due to soul, not to fire, and to the essential formula rather than to matter (τῶν δὲ φύσει συνισταμένων πάντων ἔστι πέρας καὶ λόγος μεγέθους τε καὶ αὐξήσεως· ταῦτα δὲ ψυχῆς, ἀλλ’ οὐ πυρός, καὶ λόγου μᾶλλον ἢ ὕλης) (*De An.* II 416a17-18)”

and with Aristotle adding elsewhere in another context that: “...due proportion (τὸ πρέπον) consists in contraction and amplification as the subject requires (*Rhet.* III 1404b15-16)”. I comment that we can clearly see from the glossary at the back of this work – which may be specifically Aristotelian but which is also clearly based upon and derived from Greek language and culture – how rich, how different, and how *physical* and *immediate* the Greek view of the world and vocabulary for the world is. I suggest that a good example of this physicality of language is “μέθοδος” which means literally “through a path” and that a good example of the richness of language is “λόγος” which means speech, language, account, word, thought, reason and bringing these definitions together “that by which the inward thought is expressed”. I add in respect to how this thought engages with the world that we find that “λόγος” means “ratio”, due relation, and proportion and I suggest that the contrary of this richness of language is the “nominalism” which regards words as “names” or “labels” and I therefore suggest that in exploring Aristotle’s thought we are actually exploring the expression of the richness of the Greek language and culture and, by contrast, the flattened nature (to some degree) of our own.

Ultimately, then, I suggest that we see here and throughout a contrast between our thinking as typified by René Descartes, as follows:

“...a man who walks across a room shows much better what motion is than a man who says “It is the actuality of a potential being in so far as it is potential”, and so on<sup>244</sup>”

which is in (explicitly) direct contrast with Aristotle’s thinking, as follows:

“...it must be grasped that in every continuum that is divisible there is excess and deficiency and a mean, and these either in relation to one another or in relation to us (ληπτέον ὅτι ἐν ᾧπαντι συνεχεῖ καὶ διαιρετῷ ἐστὶν ὑπεροχὴ καὶ ἔλλειψις καὶ μέσον, καὶ ταῦτα ἢ πρὸς ἄλληλα ἢ πρὸς ἑμᾶς) (E.E. II 1220b21-24)”<sup>245</sup>

and with proportionality as a quality which enables analogy being explained as follows:

“This proportion is not continuous (ἔστι δ’ οὐ συνεχὴς αὕτη ἡ ἀναλογία); for we cannot get a single term standing for a person and a thing (οὐ γὰρ γίνεται εἷς ἀριθμῷ ὅρος, ὃ καὶ ὅ) (N.E. V 1131b14-15)”

and I note that the stress upon “continuity” here shows us that we are not in this instance considering “moving principles” but are rather considering objects which have the capacity to *act at a distance* across space with other objects and through other “objects”. In other words, I suggest that when we are talking about “proportion” here we are not just talking about the proportions of physical and organic objects themselves but also about the proportions of all the various forces and conceptual “objects” such as love, desire, thought, justice, functionality etc. which enable some physical objects such as human beings to engage with other objects, e.g. other human beings, animals, stones etc. in the world.

In respect to human affairs we find that Aristotle represents this basic principle of proportionality as being (ideally) reflected in friendship and also in economic exchange, as follows:

“In all friendships between dissimilars it is, as we have said, proportion that equalises the parties and preserves the friendship (τὸ ἀνάλογον ἰσάζει καὶ σφάζει τὴν φιλίαν); e.g. in the political form of friendship the shoemaker gets a return for his shoes in

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<sup>244</sup> Descartes, René “*Letter To Mersenne 16<sup>th</sup> October 1639*”, CSM III §597 p 139

<sup>245</sup> Cf. “The just necessarily involves at least four terms. Indeed, there are two people involved in a just relation, and two aspects under which a relation is termed just (N.E. V 1131a18-20)”

proportion to his worth, and the weaver and all other craftsmen do the same. Now here a common measure has been provided in the form of money (*N.E.* IX 1163b32-1164a1)”

(and Aristotle also refers to business partnerships at *N.E.* V 1131b30 and see also *E.E.* VII 1242b) and regarding ethics Aristotle argues that “values” are proportional to the “good man” in the sense that:

“...virtue and the good man seem, as has been said, to be the measure of every class of thing (μέτρον ἐκάστων ἢ ἀρετὴ καὶ ὁ σπουδαῖος εἶναι) (*N.E.* IX 1166a12-13)”

and I add that “justice” provides Aristotle with a paradigmatic example of a situation in which proportionality is observed and (explicitly and artificially) acted out, as follows:

“The just...is a species of the proportionate (ἐστὶν ἄρα τὸ δίκαιον ἀνάλογόν τι) (proportion being not a property only of the kind of number which consists in abstract units, but of number in general (τὸ γὰρ ἀνάλογον οὐ μόνον ἐστὶ μοναδικοῦ ἀριθμοῦ ἴδιον, ἀλλ’ ὅλως ἀριθμοῦ)). For proportion is equality of ratios, and involves four terms at least (ἢ γὰρ ἀναλογία ἰσότης ἐστὶ λόγων, καὶ ἐν τέτταρσιν ἐλαχίστοις) (*N.E.* V 1131a29-32)”

and we see, further, that: “...for the persons for whom it is in fact just are two, and the things in which it is manifested, the objects distributed, are two. And the same equality will exist between the persons and between the things concerned (*N.E.* V 1131a19-21)”. I comment that Aristotle’s full position here is that there are various “substantive” objects – i.e. the judge, the plaintiff, the claimant, the (current) written law, and the (historical) customary law – at play and that these “substances” have a generic relationship in which they are constantly changing and interacting. As regards the philosophical significance of this account I comment that if we accept with Aristotle that “justice” is not (only) a mechanism but a real interaction between parties and forces in a given place and circumstance then it clearly follows that our world is not flat and transactional but is, rather, a suspended reality which is infused with meaningfulness

(and see my *Aristotle on the Meaning of Man esp. p xxxiii-xxxix* for further discussion)<sup>246</sup>.

As regards the “proportion” of “forces” I add that we find that “love” and “reason” and many other “forces” in the world are structured in such a way that they *act at distance* in a proportionate manner. Regarding “reason” and “mind” (and “memory”) we see that:

“...the mind (τὴν διάνοιαν) does not think of large things at a distance by stretching out to them, as some think that vision operates (for the mind will think of them equally if they are not there), but one thinks of them by a proportionate mental impulse (ἀλλὰ τῇ ἀνάλογον κινήσει); for there are similar figures and movements in the mind (ἔστι γὰρ ἐν αὐτῇ τὰ ὅμοια σχήματα καὶ κινήσεις)...all internal things are smaller, and as it were, proportionate to those outside (πάντα γὰρ τὰ ἐντὸς ἐλάττω, καὶ ἀνάλογον [καὶ τὰ ἐκτός]). Perhaps, just as we may suppose that there is something in man proportionate to the forms (ἔστι δ’ ἴσως ὥσπερ καὶ τοῖς εἶδεσιν ἀνάλογον λαβεῖν ἄλλο ἐν αὐτῷ), we may assume that there is something similarly proportionate to their distances. E.g. if one experiences the impulses AB, BE, he can imagine CD; for AC and CD are in the same ratio as AB: BE (*Mem.* 452b9-19)”

and as regards “mind” being a channelling of being or “measure” in the world we find that: “...mind thinks itself (αὐτὸν νοεῖ ὁ νοῦς) by sharing in the object of thought (κατὰ μετάληψιν τοῦ νοητοῦ), for it becomes an object of thought by coming into contact with and thinking its objects (νοητὸς γὰρ γίγνεται θιγγάνων καὶ νοῶν), so that mind and the object of thought are the same (ταὐτὸν νοῦς καὶ νοητόν). For the mind is that which is capable of receiving the object of thought (τὸ γὰρ δεκτικὸν τοῦ νοητοῦ), i.e. the essence (καὶ τῆς οὐσίας νοῦς); and it is active when it possesses the object (ἐνεργεῖ δὲ ἔχων) (*Met.* Λ 1072b19-24)”.

I add that we also find that Aristotle’s “love” also acts at a distance in a proportionate manner in the sense that:

“Let loving, then, be defined as wishing for anyone the things which we believe to be good, for his sake but not our own, and procuring them for him as far as lies in our power. A friend is one who loves and is loved in return, and those who think their

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<sup>246</sup> On justice see Carlo Natali’s “The search for definitions of justice in Nicomachean Ethics 5” in Devin Henry and Karen Margrethe Nielsen (eds.) *Bridging the Gap between Aristotle’s Science and Ethics* (Cambridge, 2015)

relationship is of this character consider themselves friends. This being granted, it necessarily follows that he is a friend who shares our joy in good fortune and our sorrow in affliction, for our own sake and not for any other reason...those are friends who have the same ideas of good and bad, and love and hate the same persons, since they necessarily wish the same things; wherefore one who wishes for another what he wishes for himself seems to be the other's friend (*Rhet.* II1380b36-1381a20)"

and as regards the expending of energy on something due to the intensity and proportionality of a relationship we find Aristotle's thoughts on the "philoprogenitive instinct" as an investment of care and attention by parents at *E.E.* I 1241a-b. I add that Aristotle relates this "relationship" between objects to the human "sense" of "touch" and hence argues that: ...if anything causes motion without being itself moved, it might touch that which is moved, though not itself touched by anything; for we say sometimes that a man who grieves us "touches" us, though we ourselves do not "touch" him. So much for our definition of contact in the realm of Nature (*GC* I 323a32-35)" from which we see how the example of our physical relationship with the world informs Aristotle's thinking about our mental and emotional engagement with the world and also regarding the nature of a world *which enables that engagement to take place*.

I suggest that we can see this account as being Aristotle's response to Plato's "third man" which retains the ideas of "forms" and of a metaphysical reality but which also holds onto the physical and real world around us and hence, as Aryeh Kosman correctly explains, we see that:

"In none of these teachings does the individual subject disappear; whether in friendship, polity, or contemplation, the self is enhanced by incorporation, not diminished<sup>247</sup>"

and with G.W.F. Hegel correctly explaining the value of Aristotle's perspective as a whole, as follows:

"He [i.e. Aristotle] gets the sensuous phenomenon before him in its entire completeness, and omits nothing, be it ever so common. All sides of knowing enter his mind, all interest him; all are handled by him with depth and exhaustiveness...[and] Aristotle... abandons a determination only when he has traced it to another sphere wherein it retains

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<sup>247</sup> Kosman, Aryeh "Aristotle on the Desirability of Friends" in *Virtues of Thought: Essays on Plato and Aristotle* (Cambridge Mass., [orig. 2004] 2014) p 182

no longer its former shape...[and] sometimes Aristotle does not aim to reduce all to unity, or at least to a unity of antithetic elements; but, on the contrary, to hold fast each one in its determinateness, and thus to preserve it<sup>248</sup>”

from which we see that the depth and richness of Greek thinking, and of Aristotle’s thinking, allows Aristotle to both see the whole and investigate the detail and, ultimately, we see that Aristotle does not lose sight of the “whole”, of the “form”, and of the “individual”. Generally, then, I stress that Aristotle never loses sight of the fact that an “*ousia*” is both a generic something (a such) and an individual being (a this) and I suggest that this emphasis on determinate being(s) acting in the world places him in direct conflict with a modern (positivistic) emphasis upon accounting for the natural world through abstract scientific laws (and their data)<sup>249</sup>.

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<sup>248</sup> Hegel, G.W.F. “The Philosophy of Aristotle” *The Journal of Speculative Philosophy* ([orig. 1825-6]1871) p 73-75) (and for an interesting modern account of “objective” rather than “propositional” reality see Colin McGinn’s “Consciousness as Knowledge” in *The Monist* (2008)).

<sup>249</sup> On the flexibility of ancient thought generally – and the excessive literalness of our own – see especially Pierre Duhem’s *To Save the Phenomena: An Essay on the Idea of Physical Theory from Plato to Galileo* (Chicago, [orig. 1908] 1969).

## 15 Aristotle on the Soul

Let us now consider that all of the aspects of humanity we have hitherto considered up to this point are covered by Aristotle's *single* concept of "soul" which is as follows:

"The capacities [of the soul] we mentioned were: the nutritive faculty, the perceptual faculty, the desiderative faculty, the faculty of motion with respect to place, and the faculty of understanding (*De An.* II 414a29-33)"

and which is explained by Richard Sorabji as follows:

"...the soul [should be thought of] as a set of capacities. The conception does, incidentally, have one great advantage, namely that we undeniably have a soul of the kind Aristotle describes. At least, we have a soul, if this means that we have a capacity to grow, perceive and think. But it must be admitted that Aristotle sometimes adds the difficult idea that we have a capacity to perceive and grow which *explains* our perceiving and growing<sup>250</sup>"

and by Alan Code and Julius Moravcsik as follows:

"...Aristotle views the soul as both (i) structures in the living body (*De An.* II 424b1-3) and (ii) ensuing powers (e.g. *De An.* II 413a25-8). This way of taking the notion of the soul as the "form" of the living body seems strange only to those who think of "form" as necessarily to be analysed in terms of universals or properties of the sort familiar to us from the philosophies of Moore and Russell. However, if one considers the proposal from within a biological context, then the identification seems quite natural. There must be something in the organism that makes certain kinds of growth and development possible, and this is linked also to certain powers and potentialities that the actual processes realise<sup>251</sup>"

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<sup>250</sup> Sorabji, Richard "Body and Soul in Aristotle" in *Philosophy* (1974) p 65

<sup>251</sup> Code, Alan and Moravcsik, Julius "Explaining Various Forms of Living" in Martha Nussbaum & Amélie O. Rorty (eds.) *Essays on Aristotle's De Anima* (Oxford, 1992) p 133

from which we can see that Aristotle does not regard soul as a synonym of mind and he does not strongly differentiate *physical* body from *ethereal* soul since soul *is* the working principles and faculties of the body and with Aristotle's own basic position being that: "...the movement does not take place in the soul, but sometimes penetrates to it, and sometimes starts from it. For instance perception starts from particular objects and reaches the soul (οἷον ἡ μὲν αἴσθησις ἀπὸ τῶνδ᾽); recollection starts from the soul and extends to the movements or resting points in the sense organs (ἡ δ' ἀνάμνησις ἀπ' ἐκείνης ἐπὶ τὰς ἐν τοῖς αἰσθητηρίοις κινήσεις ἢ μονάς) (*De An.* I 408b16-19)"<sup>252</sup>. In other words, we see that Aristotle's basic principle of the "soul" is that it is something which can *receive* the movements from worldly objects and *apply* its own movements to the world<sup>253</sup>.

Having seen that Aristotle's soul and body go hand in hand let us now consider William Heinaman's observation that all "activities" are of the soul rather than of the body, as follows:

"Not only do activities occur in souls, they occur only in souls. This claim receives support from the examples listed by Aristotle which are *all* psychic occurrences: thinking, perceiving, living well, pleasure. And the clear implication of N.E. 1173b7-13 is that the soul is the subject even of activities that are bodily pleasures"<sup>254</sup>

and with Aristotle himself explaining knowledge (of something) as being an "activity" of the "soul", as follows:

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<sup>252</sup> Cf. "Since the exercise of sense-perception does not belong exclusively either to soul or to body (ἐπεὶ δὲ οὔτε τῆς ψυχῆς ἴδιον τὸ αἰσθάνεσθαι οὔτε τοῦ σώματος) (for a potentiality and its actuality reside in the same subject; and what we call sensation, as actuality, is a movement of the soul through the agency of the body (οὗ γὰρ ἡ δύναμις, τούτου καὶ ἡ ἐνέργεια· ἡ δὲ λεγομένη αἴσθησις ὡς ἐνέργεια κίνησις τις διὰ τοῦ σώματος τῆς ψυχῆς ἐστὶ)), it is clear that the affection is not peculiar to the soul, nor is a body without soul capable of sensation (φανερὸν ὡς οὔτε τῆς ψυχῆς τὸ πάθος ἴδιον, οὔτ' ἄψυχον σῶμα δυνατόν αἰσθάνεσθαι) (*Somn.* 454a8-12)"

<sup>253</sup> I note that Aristotle's soul represents the various structures of personhood and is *not* equivalent to the Christian concept of "spirit" which is concerned with the individual spark of human personality and shapes itself accordingly, as Robert Pasnau explains, as follows: "For the human soul to be immortal, it must evidently be capable of existence apart from the body, inasmuch as the human body does not ordinarily survive death ("Mind and Hylomorphism" in J. Marenbon (ed.) *The Oxford Handbook of Medieval Philosophy* (Oxford, 2012) p 497)"

<sup>254</sup> Heinaman, William "Aristotle and the Mind-Body Problem" in *Phronesis* (1990) p 94



“...“knowledge” is said to be of the “knowable,” but is a “state” or “disposition” not of the “knowable” but of the “soul” (ἡ γὰρ ἐπιστήμη ἐπιστητοῦ λέγεται, ἕξις δὲ καὶ διάθεσις οὐκ ἐπιστητοῦ ἀλλὰ ψυχῆς) (*Top.* IV 124b34-35)”

and with Aristotle explaining how “virtues” arise from out of the various “parts” of the soul as “good” arises in nature generally, as follows:

“...the [soul] has two parts (δύο μέρη τῆς ψυχῆς), and the virtues are divided between them (καὶ αἱ ἀρεταὶ κατὰ ταῦτα διήρηνται), one set being those of the rational part (τοῦ λόγον ἔχοντος), intellectual virtues, whose work is true (ὧν ἔργον ἀλήθεια), whether about the nature of a thing or about its mode of production, while the other set belongs to the part that is irrational but possesses appetite (αἱ δὲ τοῦ ἀλόγου, ἔχοντος δ’ ὀρεξιν) (*E.E.* II 1221b28-32)”

from which we see that the relationship between body and soul for Aristotle is holistic in the sense that Christopher Shields explains, as follows: “...the body would not so much as be a body without its being directed towards the soul which is its actuality<sup>255</sup>” and also that the soul itself is structured in a certain way as to reveal its functioning, the functioning of the body, the functioning of the being itself, and the functioning of being itself through human knowledge of it.

We see, then, that Aristotle does distinguish “body” and “soul” (and also “mind”) but that he always seeks to see them as a unified and meaningful whole. In respect to how this project is reflected in Aristotle’s work we see particularly that the “parts” of the body are philosophically analysed in Aristotle’s *On the Parts of Animals* and that the “parts” of the soul are philosophically analysed in his *De Anima*. As regards the particular importance of the human body and of the human soul I suggest that we follow A.N. Whitehead’s thought that: “Mankind is that factor *in* Nature which exhibits in its most intense form the plasticity of nature<sup>256</sup>” and see that Aristotle similarly argues that the (human) soul is important because “...in a sense the soul is all existing things”, as follows:

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<sup>255</sup> Shields, Christopher “The Priority of Soul in Aristotle’s *De Anima*: Mistaking Categories?” in D. Frede & B. Reis (eds.) *Body and Soul in Ancient Philosophy* (Hamburg, 2009) p 281

<sup>256</sup> Whitehead, A.N. *Adventures of Ideas* (Harmondsworth, 1933) p 98

“...summing up what we have said about the soul, let us assert once more that in a sense the soul is all existing things (ἡ ψυχὴ τὰ ὄντα πῶς ἐστὶ πάντα). What exists is either sensible or intelligible; and in a sense knowledge is the knowable and sensation the sensible (ἡ γὰρ αἰσθητὰ τὰ ὄντα ἢ νοητά, ἔστι δ' ἡ ἐπιστήμη μὲν τὰ ἐπιστητά πῶς, ἡ δ' αἴσθησις τὰ αἰσθητά). We must consider in what sense this is so. Both knowledge and sensation are divided to correspond to their objects, the potential to the potential, and the actual to the actual (τέμενεται οὖν ἡ ἐπιστήμη καὶ ἡ αἴσθησις εἰς τὰ πράγματα, ἡ μὲν δυνάμει εἰς τὰ δυνάμει, ἡ δ' ἐντελεχείᾳ εἰς τὰ ἐντελεχείᾳ). The sensitive and cognitive faculties of the soul are potentially these objects, viz., the sensible and the knowable (τῆς δὲ ψυχῆς τὸ αἰσθητικὸν καὶ τὸ ἐπιστημονικὸν δυνάμει ταυτά ἐστὶ, τὸ μὲν <τὸ> ἐπιστητὸν τὸ δὲ <τὸ> αἰσθητόν). These faculties, then, must be identical either with the objects themselves or with their forms. Now they are not identical with the objects; for the stone does not exist in the soul, but only the form of the soul (ἀνάγκη δ' ἢ αὐτὰ ἢ τὰ εἶδη εἶναι. αὐτὰ μὲν δὴ οὐ· οὐ γὰρ ὁ λίθος ἐν τῇ ψυχῇ, ἀλλὰ τὸ εἶδος). The soul, then, acts like a hand; for the hand is an instrument which employs instruments, and in the same way the mind is a form which employs the forms of sensible objects (ὥστε ἡ ψυχὴ ὥσπερ ἡ χεὶρ ἐστὶν· καὶ γὰρ ἡ χεὶρ ὄργανόν ἐστὶν ὀργάνων, καὶ ὁ νοῦς εἶδος εἰδῶν καὶ ἡ αἴσθησις εἶδος αἰσθητῶν) (*De An.* III 431b20-432a3)”

from which we see that the importance of the soul for Aristotle is that it is a nexus of being which mirrors the world both in respect to replicating its structuring but also in showing us how different things relate to and engage with each other. I note that the parallelism between the human soul and the human hand is significant since it emphasises the peculiar subtlety and plasticity of humanity in its physical engagement with the world (through the human hand) as also in its mental engagement with the world (through the human mind).

I add that Aristotle's core figuration is to cut nature at the joints on the basis that the *core* function of the “soul” of plants is “nutrition” just as the core function of animals is “sensation” and that of human being is “thought” which is a distinction from which we see (A) that the important inclusion of plants dismisses the common sloppy identification of “soul” with “mind” and then with “brain”, i.e. since plants do not have a “brain”, and (B) that the mind / body problem is resolved by seeing the body as an embodiment of the soul in the sense that the (animal) body is a particular vehicle for a particular species of animal soul *to sense* as the plant body is a particular vehicle for a plant's *nutrition* and the human body is also a particular vehicle for human *thought*. I note that Aristotle's emphasis upon the whole body as being the “organ” of the whole soul is explained (as well as the necessary cooperation of the “parts” within the whole),

as follows: “...the same relationship must hold good of the whole of sensation to the whole sentient body *qua* sentient as obtains between their respective parts (ἀνάλογον γὰρ ἔχει ὡς τὸ μέρος πρὸς τὸ μέρος, οὕτως ἢ ὅλη αἴσθησις πρὸς τὸ ὅλον σῶμα τὸ αἰσθητικόν, ἢ τοιοῦτον) (*De An.* II 412b24-26)”<sup>257</sup>.

From a further perspective I add that we have previously seen in our discussion of the “mean” that a being is in some sense a “moving principle” in the “hylomorphic” sense of being a “form” moving through “matter” and I suggest that this is certainly a useful simplification whilst not being a fully correct representation of how Aristotle understands “soul” which is that:

“It has been well said that the soul is the place of forms (εἶναι τόπον εἰδῶν), except that this does not apply to the soul as a whole, but only its thinking capacity, and the forms occupy it not actually but only potentially (πλὴν ὅτι οὔτε ὅλη ἀλλ’ ἡ νοητική, οὔτε ἐντελεχεία ἀλλὰ δυνάμει τὰ εἶδη) (*De An.* III 429a27-30)”

and I also comment here that the soul is a “place of forms” and *uses* forms but *is* itself not the same as these forms. We see further that man himself *has* a soul but is not equivalent to his soul and hence:

“Since in similar ways soul stands to body and craftsperson to tool and master to slave, there is no *koinonia* [community] of these with one another, but the one is an individual and the other is something belonging to the individual (οὐ γὰρ δὴ ἐστίν, ἀλλὰ τὸ μὲν ἓν, τὸ δὲ τοῦ ἐνός οὐδέν). Nor <in these relationships> is the good divided between

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<sup>257</sup> I note that Aristotle continues by arguing that the whole body is the organ of the soul and that soul is not obviously separable from the body, as follows:

“That which has the capacity to live is not the body which has lost its soul, but that which possesses its soul; so seed and fruit are potentially of this kind. The waking state is actuality in the same sense as the cutting of the axe or the seeing of the eye, while the soul is actuality in the same sense as the faculty of the eye for seeing, or of the implement for doing its work (ἡ δύναμις τοῦ ὀργάνου). The body is that which exists potentially (τὸ δὲ σῶμα τὸ δυνάμει ὄν); but just as the pupil and the faculty for seeing make an eye, so in the other case the soul and the body make a living creature. It is quite clear, then, that neither the soul nor certain parts of it, if it has parts, can be separated from the body (ὅτι μὲν οὖν οὐκ ἔστιν ἡ ψυχὴ χωριστὴ τοῦ σώματος, ἢ μέρη τινὰ αὐτῆς); for in some cases the actuality belongs to the parts themselves (*De An.* II 412b26-413a6)”

and with the full situation being perhaps that the active male “principle” of soul unites with the passive female “principle” of body (and hence the male/female dichotomy stands at the base of the composite active/passive and soul/body nature of organic being).

each, but the <good> of both is for the sake of the individual (οὐδὲ διαίρετόν τὸ ἀγαθὸν ἑκατέρῳ, ἀλλὰ τὸ ἀμφοτέρων τοῦ ἐνὸς οὗ ἕνεκα ἐστίν) (*E.E.* VII 1241b17-22)”

from which I suggest in outline conclusion that the individual is himself a mean both as being a fusion (and, in a purely figurative sense, a coming-together) of soul and body and also (potentially) as a locus or nexus for the channelling for the good, i.e. the good for a concrete individual in the world<sup>258</sup>.

I add further that we find that Aristotle is not merely concerned with our soul as regarding how it represents our individual human experience but that he also wishes to consider how it relates to the nature of the universe itself, as follows:

“The *dunamis* of every soul seems to have something of a *sōma* different from and more divine than the so-called elements; and the differences in worth or unworth between souls correspond with the differences in this active substance (*phusis*). For the semen of everything (that lives) contains within itself its cause of being fertile, viz. so-called (vital) heat. This (vital) heat is not fire or any such power but the *pneuma* which is enclosed within the semen and in the foam-like stuff; it is the active substance which is in *pneuma*, which is an analogue of the astral element [i.e. the “*ether*”] (*GA* 736b29-737a1)”

which shows us (A) that Aristotle is a “vitalist” in the sense that he argues that organic, living being must have its own *living* medium (and matter) and that we can therefore expect a local “soul” to be expressed *through a medium* which he calls “*pneuma*” and Abraham Bos explains this “epigenetic” principle (and I refer here to the modern scientific theory which maintains that traits dynamically feed through organic being) further from a specifically Aristotelian perspective as form feeding through a specific medium of matter, as follows:

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<sup>258</sup> Aristotle explains the relationship between “body” and “soul” further as that: “...formal causes coexist with their effects. For it is when the man becomes healthy that health exists, and the shape of the bronze sphere comes into being simultaneously with the bronze sphere. Whether any form remains also afterwards is another question. In some cases there is nothing to prevent this, e.g. the soul may be of this nature (not all of it, but the intelligent part (μὴ πᾶσα ἀλλ’ ὁ νοῦς); for presumably all of it cannot be) (*Met.* Λ 1070a23-28)” and he also comments that: “Probably it is better not to say that the soul pities, or learns, or thinks, but to say rather that the soul is the instrument whereby man does these things (ἀλλὰ τὸν ἄνθρωπον τῇ ψυχῇ) (*De An.* I 408b13-15)”

“A-body-which-receives-soul that has the potentiality only to be a biotic instrument will never produce anything else than a plant or a tree. A-body-which-receives-soul that has a potentiality to be a nutritive and sensitive soul-instrument will in due course manifest animal life<sup>259</sup>”

and I note that the *fact of nature* that most animals do in nature have a very specific *source* of food accords with the Aristotelian perspective regarding which the material or “matter” of a given *ousia* or “being” is a means or channel for that certain form of being and it is hence that its materials are “...not found apart from the thing itself whose materials they are (PA I 645a37)”<sup>260</sup>. I add (B) that Aristotle assumes that the universe will operate on the same or analogous principles throughout (with the qualification that these are not purely physical principles) and hence Aristotle suggests that there should be an “*ether*” as a medium for the “divine” as an analogue for the “*pneuma*” which is a medium for “life” and (C) that Aristotle argues that we must account both for the fact that *living beings* are *themselves formal or speciate beings* and also for the fact that living beings are somehow able *to locally and individually transmit their own particular “principle” or “archē”* of becoming and being, i.e. their entelechy, to other such beings. Overall, when we look at the world in the full we see that “form” is not the same as “soul” and also that we must consider both how organic beings live and reproduce themselves *in principle* (through their “form”) and also how they reproduce themselves *in practice* (through their “seed” or “sperm”)<sup>261</sup>.

I hope to have shown above, then, that Aristotle’s “soul” possesses coherence, nuance, and good sense and I note that this good sense is continued and mirrored in some modern philosophy (and we will come to the dismissive attitude of the other part of modern philosophy presently). Hence we find that Edmund Husserl argues in basic outline that: “...the expression “I” encompasses the whole man, Body and soul. It can

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<sup>259</sup> Bos, Abraham “Why the Soul Needs an Instrumental Body According to Aristotle ([*De An.*] I. 3, 407b13-26)” in *Hermes* (2000) p 30

<sup>260</sup> I note that Aristotle argues that: “It is clear that we must posit as many differences of matter as there are bodies (Ὅτι δ' ἀναγκαῖον ποιεῖν ἴσας τὰς διαφορὰς αὐτοῖς, δῆλον) (*De Cael.* IV 312b20)” and I suggest that we should also consider the concept of “*krasis*” from his biological works and also see Aristotle’s thoughts on “food” as set out in the following section.

<sup>261</sup> For “*pneuma*” and its relation to “soul” see Abraham Bos’ *The Soul and Its Instrumental Body: A Reinterpretation of Aristotle’s Philosophy of Living Nature* (Leiden, 2003)

therefore very well be said: I *am* not my Body, but I *have* my Body; I *am* not my soul, but I *have* a soul<sup>262</sup>” and in more detail that:

“People and animals *have* material Bodies, and to that degree they have spatiality and materiality. According to what is specifically human and animal, that is, according to what is psychic, they *are*, however, not material, and, consequently, taken *also as concrete totalities*, they are *not material* realities in the proper sense. Material things are open to fragmentation, something which accompanies the extension that belongs to their essence. But men and animals cannot be fragmented. Men and animals are *spatially localised*; and even what is psychic about them, at least in virtue of its essential foundedness in the Bodily, partakes of the spatial order. We will even say that much of what is included under the broad – and, at first, unclarified – heading of the psychic has something like spread (although not extension in space). In principle, however, *nothing* on this side is *extended in the proper sense*, in the specific sense of the extension we described<sup>263</sup>”

and Maurice Merleau-Ponty similarly argues that we should not see the body “...as an external instrument but as the living envelope of our actions<sup>264</sup>” and also that: “I perceive things directly without my body forming a screen between them and me; it is a phenomenon just as they are, a phenomenon (gifted, it is true, with an original structure) which precisely presents the body to me as an intermediary between the world and myself although it *is not* as a matter of fact. I see with my eyes, which are not an ensemble or transparent or opaque tissues and organs, but the instruments of my looking<sup>265</sup>”.

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<sup>262</sup> Husserl, Edmund *Ideas II* (New Delhi, [orig. 1928] 2013) p 99

<sup>263</sup> Husserl, Edmund *Ibid.* p 36

<sup>264</sup> Merleau-Ponty, Maurice “Relations of Soul and Body” in *The Essential Writings of Merleau-Ponty* (New York, [orig. 1963] 1969) p 142 (cf. “...the body is not a self-enclosed mechanism on which the soul could act from the outside. It is defined only by its functioning, which can present all degrees of integration. To say that the soul acts on the body is wrongly to suppose a univocal notion of the body and to add to it a second force which accounts for the rational signification of certain conducts. In this case it would be better to say that bodily functioning is integrated with a level which is higher than that of life and that the body has truly become a human body (*Ibid.* p 157)”).

<sup>265</sup> Merleau-Ponty, Maurice *Ibid.* p 176 (cf. “The mental, we have said, is reducible to the structure of behaviour. Since this structure is visible from the outside and for the spectator at the same time as from within and for the actor, another person is in principle accessible to me as I am to myself; and we are both objects laid out before an impersonal consciousness...I am then drawn into a *coexistence* of which I am not the unique constituent and which founds the

I add to these modern observations that of Carl Jung that the “ego” is necessary both physical and psychical and also that the body is fundamentally psychic even if we only seem to encounter the psychic as a seemingly disembodied consciousness, as follows:

“Experience shows that it [i.e. the ego] rests on two seemingly different bases: the *somatic* and the *psychic*. The somatic basis is inferred from the totality of endosomatic perceptions, which for their part are already of a psychic nature and are associated with the ego, and are therefore conscious. They are produced by endosomatic stimuli, only some of which cross the threshold of consciousness. A considerable proportion of these stimuli occur unconsciously, that is, subliminally. The fact that they are subliminal does not necessarily mean that their status is merely physiological, any more than this would be true of a psychic content<sup>266</sup>”

and I conclude that when we honestly face up to the detail of the world we immediately and indisputably encounter an “Aristotelian” reality constituted of whole beings in which “body” and “soul” are clearly intimately intertwined in a highly complex, structured, and highly localised relationship. As a further example of a thoughtful philosophical position I note that A.N. Whitehead argues that: “Each animal body is an organ of sensation. It is a living society which may include in itself a dominant “personal” society of occasions. This “personal” society is composed of occasions enjoying the individual experiences of the animals. It is the soul of man. The whole body is organised, so that a general co-ordination of mentality is finally poured into the successive occasions of this personal society<sup>267</sup>.”

I suggest that it is certainly possible and that it is possibly persuasive to treat the soul as Aristotle and the modern philosophers cited above do, i.e. as the structuring of

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phenomenon of social nature as perceptual experience finds that of physical nature (*Ibid.* p 178-9)). On Husserl and Merleau-Ponty see Jenny Slatman’s “The Sense of Life: Husserl and Merleau-Ponty on Touching and Being Touched” in *Life and Individuation* (Memphis, 2005).

<sup>266</sup> Jung, Carl G. “The Ego” in *Aion: Researches into the Phenomenology of the Self* (London, 1959) p 3-4 (cf. “Although its bases are in themselves relatively unknown and unconscious, the ego is a conscious factor par excellence. It is even acquired, empirically speaking, during the individual’s lifetime. It seems to arise in the first place from the collision between the somatic factor and the environment, and, once established as a subject, it goes on developing from further collisions with the outer world and the inner (“The Ego” in *Aion: Researches into the Phenomenology of the Self* (London, 1959) p 5)”)

<sup>267</sup>Whitehead, A.N. *Adventures of Ideas* (Harmondsworth, 1933) p 245 (and on the soul see also Nicolas Berdyaev’s *Slavery and Freedom* (London, 1943) p 30-32)

organic being, and I add that a contrasting position on the soul or spirit is to treat it as human personality, as something exceptional and individual. I suggest regarding this “Christian” conception that it clearly raises essential issues which Aristotle treats though not as part of his discussion of the “soul” but, rather, under the heading of “person” or “*nous*”. I note further that it is clearly this Christian “soul” or “spirit”, its eternity, its otherworldly character, and its Christian message which is the target of the modern philosophical assault upon the existence of the soul. I add that my own general view on these positions is (a) that the Christian position, i.e. that “soul” is an expression of God, is *perfectly tenable* since the “soul” is definitely a meaningful something which *seems to have* an inexplicable origin but that this account goes beyond the facts of *this* world by accounting for the reality of the soul as a creation of the “mind of God” (and this position then causes a further problem for us by *insisting* that we account for the world on the basis of its presumptions) (b) that the modern naturalist position is *obviously untenable* and lacks explanatory power since human “soul” and human being (and being in general) obviously cannot be seen as being the simple consequence of chemical or physical interaction however we dress the matter up (and I add here that this sort of reductionism is not merely wrong but also perniciously wrong since it essentially seeks to deny such things as human free will, human mind, human individuality etc. in order to promote its aims and ideas) and (c) that Aristotle’s account does possess explanatory power without making unsubstantiated assertions or accepting “convenient” reductions – and I will show below that Aristotle himself refutes the various reductionisms which have been proposed by modern “scientific” philosophers.

Before we begin this exercise let us note that Aristotle treats the “soul” in detail throughout his work and gives us (1) a dedicated logical assessment of the nature of “soul” in his *De Anima* and also applies his concept of soul and fits it and develops it to the various subject matters of (2) animal biology, (3) human ethics and (4) the philosophical account of reality itself.

First, let us consider that we see (1) in Aristotle’s *De Anima* (A) that in principle Aristotle defines the “soul” (i) as that “...the soul must be a substance (ἀναγκαῖον ἄρα τὴν ψυχὴν οὐσίαν εἶναι) in the sense of the form of a natural body having life potentially within it (ὥς εἶδος σώματος φυσικοῦ δυνάμει ζῶν ἔχοντος) (*De An.* II 412a20-21)” (ii) as being “...substance in the sense of formula (οὐσία γὰρ ἢ κατὰ τὸν λόγον); i.e. the essence of such-and-such a body (τοῦτο δὲ τὸ τί ἦν εἶναι τῷ τοιῷδὶ σώματι) (*De An.* II 412b10-11)” and (iii) as being “...the first [entelechy] of a natural body which serves the soul as instrument (ἐντελέχεια ἢ πρώτη σώματος φυσικοῦ



ὁργανικοῦ) (*De An.* II 412b5-6)” from which it is clear that Aristotle defines the concept and actuality of “soul” as being *that which is essential to the being of life and to the being and natural development of living things* (see also *De An.* II 413a20 ff.). I add (B) that Aristotle also defines “soul” as being an underlying structuring of nature which is comparable to the underlying mathematical quality of existence in the sense that:

“...a single definition can be given of soul only in the same sense as one can be given of figure (*De An.* II 414b20-21)”

which shows us that although “soul” is an abstraction which we legitimately employ to represent reality it is not a real manifestation of that reality itself. I suggest that Aristotle’s flexibility of philosophical thinking stands in contrast with the narrowness of perspective which Karl Popper rightly attributes to the modern “analytic” philosophers on the basis that:

“...most philosophers mix up the idea of truth with the idea of a criterion of truth. They think that if there is an idea of truth, there has to be a criterion of truth attached to it. In other words, they are operationalists. There has to be an operation by which we find out whether or not a thing is true. Now it is quite clear that such an operation does not exist<sup>268</sup>”

although we see that Popper himself recommends a hamstrung “scientific” or “sceptical” view of the world in which things are only “true” if an experiment can prove that they are so and which is a narrowness that leads to the “correspondence theory of truth” regarding which: “This theory is, as it ought to be, trivial. It is *so* simple and *so* trivial that one cannot believe that it solves the problem. “Snow is white” unquote corresponds to the facts if, and only if, snow is white<sup>269</sup>”. Contrary to all these positions, then, I suggest that Aristotle is clearly correct in assuming that words are not merely tokens or propositions or simples (which can be true or false) but that all words, especially such generalising terms as “animal”, “health”, “thing” or “being”, “truth”,

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<sup>268</sup> Popper, Karl “Description, Argument, and Imagination” in *Knowledge and the Body-Mind Problem: In defence of interaction* (London, [orig. 1969]1994) p 96

<sup>269</sup> Popper, Karl *Ibid.* p 103.

“element”, “part”, “good” etc., are complex and must be understood as forms and thought of as analogies<sup>270</sup>.

Second, let us consider (2) how Aristotle’s ideas on the soul translate into his thinking on biology. Fred D. Miller Jr. shows us how Aristotle rejects materialism (in my opinion devastatingly) through the following three questions:

“(1) Why do organisms grow in particular directions (*De An.* II 415b28-416a5)? (2) What holds the organism’s body together (*De An.* II 416a6-9)? (3) Why is growth a self-limiting process (*De An.* II 416a9-18)?<sup>271</sup>”

and Miller then quotes John Searle arguing for the “materialist” and “emergentist” principle that: “...higher-level psychic properties emerge from a basal level of material properties”, as follows:

“The brain causes certain “mental” phenomena, such as conscious mental states, and these conscious states are simply higher-level features of the brain. Consciousness is a “higher-level” or emergent property of the brain in the utterly harmless sense of “higher-level” or “emergent” in which solidity is a higher-level emergent property of H<sub>2</sub>O molecules when they are in a lattice structure (ice), and liquidity is similarly a higher-level emergent property of H<sub>2</sub>O molecules when they are, roughly speaking, rolling around on each other (water). Consciousness is a mental, and therefore physical, property of the brain in the sense in which liquidity is a property of systems in molecules<sup>272</sup>”

and Miller rejects this “emergentism” on Aristotle’s behalf on the basis that it:

“...evidently conflicts with Aristotle’s own claim that the soul exercises a causal power which cannot itself be explained in terms of more elementary powers in the living organism’s body. Even in a plant, psychic causation is needed to explain why growth is directed, why opposed materials are held together, and why growth is self-limiting. The

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<sup>270</sup> See Aristotle’s concept of “focal reference” (e.g. *Cat.* 1a6ff) and also Robert Rosen’s comments on “analogy” in his *Life Itself: A Comprehensive Inquiry Into the Nature, Origin, and Fabrication of Life* (New York, 1991).

<sup>271</sup> Miller Jr., Fred D. “Aristotle’s Philosophy of Soul” *Review of Metaphysics* (1999) p 323

<sup>272</sup> Searle, John *The Rediscovery of Mind* (Cambridge Mass. 1992) p 14

presence of psychic power cannot be explained as the mere result of the material components or their combination<sup>273</sup>”

and following Aristotle’s own thoughts we find (1) that *creation* must arise from out of a definite directed force and hence: “...the power of originating movement cannot belong to a harmony (τὸ κινεῖν οὐκ ἔστιν ἁρμονίας) (*De An.* I 407b36)” (2) that *creation* and even being itself cannot arise (routinely or systematically) through chance and hence:

“...it is by this association [between body and soul] that the one acts and the other is acted upon, that one moves and the other is moved; and no such mutual relation is found in haphazard combinations (τούτων δ' οὐθὲν ὑπάρχει πρὸς ἀλλήλα τοῖς τυχοῦσιν) (*De An.* I 407b17-20)”

and (3) that *creation* is formal and controlled and hence Aristotle argues that a hand is “...form immersed in matter (ἐν ὕλῃ εἶδος) (*GC* I 321b20-1)” and grows “proportionately (ἀνάλογον) (*GC* I 321b29)” according to its “form”, i.e. additional matter does not act as an amorphous “blob” but does, rather, transform a small hand into a larger hand<sup>274</sup>.

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<sup>273</sup> Miller Jr., Fred D. “Aristotle’s Philosophy of Soul” *Review of Metaphysics* (1999) p 332. I also refer the reader to Jaegwon Kim’s “The myth of nonreductive materialism” in *Proceedings and Addresses of the American Philosophical Association* (1989) for a contemporary assessment of the inherent problems of the emergence hypothesis and one which also shows through its argument (though it does not argue for) the weakness of materialism as a coherent explanation of observed reality *per se*.

<sup>274</sup> Aristotle asserts *in principle* that:

“...of all things naturally composed there is a limit or proportion of size and growth; this is due to soul, not to fire, and to the essential formula rather than to matter (τῶν δὲ φύσει συνισταμένων πάντων ἔστι πέρας καὶ λόγος μεγέθους τε καὶ αὐξήσεως· ταῦτα δὲ ψυχῆς, ἀλλ' οὐ πυρός, καὶ λόγου μᾶλλον ἢ ὕλης) (*De An.* II 416a17-18)”

and, in more detail, that: “...we must think of the tissue [i.e. flesh] after the image of flowing water that is measured by one and the same measure...the matter of the flesh grows, some flowing out and some flowing in fresh...[but that] growth has taken place proportionally, is more manifest in the organic parts – e.g. in the hand. For *there* the fact that the matter is distinct from the form is more manifest than in flesh, i.e. than in the tissues...in one sense it is true that any and every part of the flesh has grown; but in another sense it is false. For there has been an accession to every part of the flesh in respect to its form, but not in respect to its matter (*GC* I 321b24-34).”

I add that Fred D. Miller explains Aristotle's *epigenetic* conclusion that we can only realistically explain the forms and structures of organic being if we treat them as being the result of forms and structures traversing through, entering into, and then en-forming the passive matter of the world, as follows:

"The epigenesist interpretation helps to explain why Aristotle insists that a living organism can come to be with a soul only if it is brought to existence by another substance which has this soul in actuality: he says, "the movement of nature exists in the product itself, issuing from another nature which has the form in actuality (ἐνεργεία) (GA II 735a4)"<sup>275</sup>

and I add that Alfred and Maria Miller explain the dynamic and structured character of biological reality as seen through an Aristotelian lens, as follows:

"This unified functioning maintains itself as the uninterrupted process of being-alive and also continuously renews the bodily parts and potentials. Thus, the existing of an organism is not simply the persisting presence of material structures that are stable in themselves and function only secondarily. Existing as being-alive (*psuchē* as *eidos* / *ti ēn einai*) is itself the dynamic process by which an organism maintains itself as the entity it is...since an organism's existing is constituted by the dynamic physiological process of self-preservation, its *persisting identity* as an individual also cannot derive from some unchanging substance that underlies this functioning existing. Continuing identity is also dynamically constituted as the self-preserving species-figuration [*ousian kata ton logon*] that comprises the functional organisation of the process of self-maintenance"<sup>276</sup>

from which we see that Aristotle's *epigenetic* biological account of the "soul" seeks to recognise and include the facts of being (i) that an organic being is both *concrete* and structured in its "static" being, (ii) that an organic being behaves in both a *dynamic* and in a *structured* way in its actual *living* existence, and (iii) that an organic being possesses a structured *cyclical* quality of entelechy which is "programmed" into its

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<sup>275</sup> Miller Jr., Fred D. "Aristotle's Philosophy of Soul" in *Review of Metaphysics* (1999) p 336

<sup>276</sup> Miller, Alfred and Maria "Aristotle's Metaphysics as the Ontology of Being-Alive and its Relevance Today" in *Proceedings of the Boston Area Colloquium in Ancient Philosophy* (2004) p 4-6.

overall makeup. I suggest (iv) that Aristotle’s “epigenetic” “picture” of organic being as *forms and “principles” feeding through nature* convincingly repudiates the materialistic view of being as arising from *matter interacting in the world* and (v) that modern biological science has matured and in finding itself has returned to face up to and then to accept the *specifically* epigenetic quality of the organic world<sup>277</sup>.

Let us move on to consider (3) how Aristotle’s ideas on the soul are used in his *Ethics*. Interestingly, we find that Aristotle’s ethical discussions are built upon an *explicitly biological and scientific* take on the soul which divides the soul into the “nutritive” (the basic organic principle of nutrition and reproduction) shared by all organic creatures including plants, the “sensitive” (which is also possessed by animals), and the “intellective” (which is most *fully* possessed by man)<sup>278</sup>. On this foundation we see that Aristotle concludes Book I of his *Ethics* (i) with an assessment of the “nutritive soul”, as follows:

“Of the irrational element [of the soul] one division seems to be widely distributed, and vegetative in its nature (τοῦ ἀλόγου δὲ τὸ μὲν ἔοικε κοινῷ καὶ φυτικῷ), I mean that which causes nutrition and growth (λέγω δὲ τὸ αἴτιον τοῦ τρέφεσθαι καὶ αὐξεσθαι); for it is this kind of power of the soul that one must assign to all nurselings and to embryos (τὴν τοιαύτην γὰρ δύναμιν τῆς ψυχῆς ἐν ἅπασιν τοῖς τρεφομένοις θεῖναι τις ἂν καὶ ἐν τοῖς ἐμβρύοις), and this same power to grown-up creatures (τὴν αὐτὴν δὲ ταύτην καὶ ἐν τοῖς τελείοις); this is more reasonable than to assign some different power to them (εὐλογώτερον γὰρ ἢ ἄλλην τινά)...this part (τὸ μῶριον) or faculty (ἡ δύναμις) seems to function most in sleep (*N.E. I 1102a32-1102b6*)”

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<sup>277</sup> For some good examples of the “new” thinking in biology see Gerd B. Muller & Stuart A. Newman’s (eds.) *Origination of Organismal Form; Beyond the Gene in Developmental and Evolutionary Biology* (Cambridge Mass., 2003), Susan Oyama, Paul E. Griffith, & Russell D. Gray’s (eds.) *Cycles of Contingency: Developmental Systems and Evolution* (Cambridge Mass., 2001), Carl Woese’s “A New Biology for a New Century” in *Microbiol. Mol. Biol. Rev.* (2004), Mae-Wan Ho’s *The Rainbow and the Worm* (Singapore, 1993), and Harald Atmanspacher & Hans Primas’ “Pauli’s ideas on mind and matter in the context of contemporary science” in *Journal of Consciousness Studies* (2006). For the revival of essentialism in biology see Olivier Rieppel’s “New Essentialism in Biology” in *Philosophy of Science* (2010) and Denis M. Walsh’s “Evolutionary Essentialism” in *British Society for the Philosophy of Science* (2006).

<sup>278</sup> This is a distinction which may, perhaps, be found in modern garb in the modern tri-une brain theory of the reptilian, limbic, and neo-cortex brains (reptilian – found in reptiles – being the “oldest” brain covering basic functions, limbic – found in mammals – enabling memory and emotions, and neocortex – found in primates – enabling thought and imagination).

which is a passage which explains the important point that the “nutritive soul” of plants, i.e. their feeding, growth, maturation, reproduction, and death, is the essential or “first” entelechy of *all* organic being and with other layers of being – namely, sensation and thought (and sleep<sup>279</sup>) – being built upon this basic entelechy and it also being notable that Aristotle breaks down his explanation of the soul in order to clearly show this point. We find that Aristotle then proceeds to (ii) assess the relationship between the “rational” and the “irrational” in man as being such that:

“...the irrational element [of the soul]...appears to be twofold (φαίνεται δὴ καὶ τὸ ἄλογον διττόν)...the vegetative element in no way shares in a rational principle, but the appetitive and in general desiring element in a sense shares in it, so far as it listens to and obeys it (τὸ μὲν γὰρ φυτικὸν οὐδαμῶς κοινωνεῖ λόγου, τὸ δ’ ἐπιθυμητικὸν καὶ ὅλως ὀρεκτικὸν μετέχει πῶς, ἢ κατήκοόν ἐστιν αὐτοῦ καὶ πειθαρχικόν) (N.E. I 1102b28-31)”

and with Aristotle concluding that the complication arising from these divergent “brains” *per* footnote 278 is (iii) that: “...the impulses of incontinent people move in contrary directions (ἐπὶ τὰναντία γὰρ αἱ ὁρμαὶ τῶν ἀκρατῶν) (N.E. I 1102b21)”, i.e. the conflicted nature of the human situation is due to the existence of different “souls” and the conflict which arises between desire the “sensitive soul” (desire) and the “intellective soul” (reason), and see also *De An.* III 433a22-28.

We see, then, that the train of Aristotle’s argument is that man possesses (i) the wholly irrational “nutritive” soul / being, (ii) the partly rational “sensitive” and desiring soul / being (iii) the possibility of an “intellective” soul / being which can control his desiring self and (iv) that man is regarded (by Aristotle) as being peculiar or notable precisely owing to his ability to shape his life through his rational aspect and also because he *must* be able to shape his life in this manner in order to (properly and meaningfully) actually *be a man* (and here we clearly see, in Aristotelian terms, the full synthetic expression of “form”, “body”, and “soul”). We also find that Aristotle’s uses the fact of human reason and the example of man as the essential touchstone for *an explanation of nature which moves from* the unity of man to explain the structuring of nature and which Joseph Owens explains as follows:

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<sup>279</sup> Cf. “...both sleep and waking depend upon the presence of the soul, and waking is analogous to the exercise of knowledge (ἀνάλογον δ’ ἡ μὲν ἐγρήγορσις τῷ θεωρεῖν), sleep to its possession but not its exercise (*De An.* II 412a24-26)”

“Aristotle is unhesitant in maintaining the fundamental unity of the human agent, and in seeing in soul a unifying principle “with which we primarily live, perceive, and think”. He realises that our privileged awareness of life as specifically differentiated is on the operational level, and has to be read back into its qualitative and its substantial source...the penalty is that key issues have to remain in a state of *aporia*<sup>280</sup>”

and I suggest that the notable thing here is the capacity for allowing “key issues...to remain in a state of *aporia*” and with my suggestion here being that the problem of the modern mind – and perhaps of idealism in general – is that *it refuses to admit or accept its limits or limitations* and often chooses to distort reality rather than admit its incompleteness (which explains the strange shallowness and naïve investment in dogmatic *-isms* of many modern philosophical representations of reality). Conversely, I suggest that it is one of Aristotle’s strengths that he is willing to accept the existence of “gaps” in our knowledge of the world and to own up to the limitedness of our attempts to overcome these “gaps” (even if he seeks to overcome such gaps as far as he can by exploring what we can *infer* as well as *prove* about the world). The alternative position merely ignores the gaps either by claiming either that we are rapidly working towards finally filling them in à la Descartes or by claiming that: “All events seem entirely loose and separate” with Hume.

Finally, then, let us consider (4) the philosophical consequences of Aristotle’s scientific picture of the “soul” in the world and let us begin by considering that Aristotle’s basic position is that we must understand that there is a *necessary complexity* in the world itself in the sense that:

“The soul is the cause or source of the living body (ἔστι δὲ ἡ ψυχὴ τοῦ ζῶντος σώματος αἰτία καὶ ἀρχή)...in all three senses which we explicitly recognise [which are as] (a) the source or origin of movement (ὅθεν ἡ κίνησις) [as] (b) the end (οὗ ἕνεκα) [and as] (c) the essence of the whole living body (ὡς ἡ οὐσία τῶν ἐμψύχων σωμάτων ἡ ψυχὴ αἰτία) (*De An.* II 415b9-13)”

or, in other words, that the soul is in itself an expression of the (a) efficient (b) final and (c) formal causes of the world and exists within the context of (d) the material cause regarding which Aristotle argues that “the appropriate matter” (“τῇ οἰκείᾳ ὕλῃ” *De An.*

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<sup>280</sup> Owens, Joseph “Aristotle’s Definition of Soul” in *Aristotle: The Collected Papers of Joseph Owens* (New York, [orig. 1971] 1981) p 120

II 414a27) is also a *sine qua non* for substantive being (and see also *Met.* Θ 1050a16 ff). I add my suggestion that Aristotle requires this complex philosophical position on the (in my opinion correct) presumption that both idealism which neglects the efficient and final causes and merely sees *forms* arising in matter and materialism which neglects the formal and final causes and merely sees individual materialisations *happening* in the world are partial and hence inadequate accounts of being (and for this distinction see *De An.* I 403b4-9).

I add that Michael Frede explains the underlying motivation of Aristotle's metaphysics, and his emphasis upon organisation and essence, as follows:

“Only if we give organisation ...priority over its constituents will it count as an essence... Aristotle wants to hold on to the metaphysical primacy of objects, natural objects, living objects, human beings. He does not want these to be mere configurations of more basic entities, such that the real things turn out to be these more basic entities...[and hence] he introduces essences which guarantee this status<sup>281</sup>”

and with Aristotle's detailed explanation regarding how the functional “parts” of soul and body must combine to *become the whole entity which cannot come-into-being or viably exist without them* being that:

“...the parts of the soul are prior, either all or some of them, to the concrete “animal” and so too with each individual animal (ὥστε τὰ ταύτης μέρη πρότερα ἢ πάντα ἢ ἓν τῷ συνόλῳ ζώου, καὶ καθ' ἕκαστον δὴ ὁμοίως); and the body and its parts are posterior to this, the essential substance, and it is not the substance but the concrete thing that is divided into these parts as its matter (τὸ δὲ σῶμα καὶ τὰ τούτου μέρη ὕστερα ταύτης τῆς οὐσίας, καὶ διαιρεῖται εἰς ταῦτα ὡς εἰς ὅλην οὐχ ἡ οὐσία ἀλλὰ τὸ σύνολον):- this being so, to the concrete thing these are in a sense prior, but in a sense they are not. For they cannot even exist if severed from the whole; for it is not a finger in any and every state that is the finger of a living thing, but a dead finger is a finger only in name. Some parts are neither prior nor posterior to the whole, i.e. those which are dominant and in which the formula, i.e. the essential substance, is immediately present (ἓν δὲ ἅμα, ὅσα κύρια καὶ ἐν ᾧ πρῶτον ὁ λόγος καὶ ἡ οὐσία), e.g. perhaps the heart or the brain (*Met.* Z 1035b18-27)”

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<sup>281</sup> Frede, Michael “On Aristotle's Conception of the Soul” in Martha Nussbaum & Amélie O. Rorty (eds.) *Essays on Aristotle's De Anima* (Oxford, 1992) p 99



from which we see that Aristotle is concerned (i) with the meaning of the “concreteness / individuality” and “essentiality / speciate-ness” of organic being, i.e. the generic structuring of life as expressed in individuals in which some things are essential and some things are optional / peripheral and (ii) with the “prior” and the “posterior” and with the *dynamic* fact that *things are in the world* and that we must know *what* something is before we can understand *how* it is and behaves (and that everything organic *is* something and *has become* that something)<sup>282</sup>.

I add that Aristotle is also concerned (iii) with exactly how an organism has a range of “powers” of the soul and of “parts” of the body and with how it has a graded functionality such that some of its parts are necessary or “essential” to the organism and some are peripheral to its essential viability while also being of potentially functional importance, e.g. a finger. I add that the “finger” is an excellent example of Aristotle’s thinking and representation of the world in the sense that it is clear that it is not *essential* to the survival of man whilst being perfectly defined as a peculiarly human part, as follows:

“...the finger is defined by means of the whole body; for a finger is a particular kind of part of a man (*Met. Z* 1035b11-12)”

and with man being (in an important sense) defined by *and completed by* his finger, as follows:

“Now it would be wrong to say, as some do, that the structure of man is not good, in fact, that it is worse than any other animal. Their grounds are: that man is barefoot, unclothed, and void of any weapon of force. Against this we may say that all the other animals have just one method of defence and cannot change it for another: they are forced to sleep and perform all their actions with their shoes on the whole time, one might say...For man, on the other hand, many means of defence are available, and he can change them at any time...Take the hand, this is as good as a talon, or a claw, or a horn, or again, a spear or a sword, or any other weapon or tool: it can be all of these, because it can seize and hold them all. And nature has admirably contrived the actual

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<sup>282</sup> I note that the *existential statement* that *something must be something* – that “...there is knowledge of something that it is something (ἐπιστήμη τοῦ τινὸς ὄντος ὅτι τὶ ὄν)...for *ex hypothesi* the expression “that which is something” refers to the thing’s particular form of being (τὸ τὶ ὄν τῆς ἰδίου σημείου οὐσίας) (*Pr. An.* I 49a33-37)” – stands at the core of Aristotle’s thinking.

shape of the hand so as to fit in with this arrangement...One finger is placed sideways: this is short and thick, not long like the others. It would be impossible to get a hold if this were not placed sideways as if no hand were there at all (PA IV 687a23-687b14)”

which gives us a *complex* reality which cannot, as we have seen above, be explained (a) through a “propositional” or logical representation of the world or (b) through identifying worldly meaning with simple material, physical, or chemical “emergence” and with the underlying issue with both of these positions being (c) their refusal to face up to the richness of the world and to accept our limitedness and subservience in respect to our engagement with the world. I add that a further modern approach is to dismiss the world (d) through pathologising it (by adopting the stance of a doctor) and with a fashionable example of this approach being the use of Roger Sperry’s research into split-brain malfunctions which is often cited to prove that the “mind” is not a “spirit” or a unified whole<sup>283</sup> (i) which does not entail that there is no *normal* functioning (and in fact it requires this since it is a pathology of this normality) and (ii) which if anything supports Aristotle since these “split-brain malfunctions” confirm the Aristotelian position that “parts” have “principles” and also that principles do normally come to fruition in clearly defined “ends” if they are not “hindered”<sup>284</sup>.

Having shown that Aristotle’s “soul” stands up well vis-à-vis modern positions let us move on to consider Aristotle’s “soul” vis-à-vis Descartes’ “soul” taken as representing a quintessentially Christian position<sup>285</sup>. We find that Aristotle and Descartes *differ* on the grounds (a) that Descartes is primarily concerned with the

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<sup>283</sup> On this subject see Tim Bayne’s “The Unity of Consciousness and the Split-Brain Syndrome” in *The Journal of Philosophy* (2008)

<sup>284</sup> Cf. “...a thing is potentially all those things which it will be of itself if nothing external hinders it (καὶ ὅσων δὴ ἐν αὐτῷ τῷ ἔχοντι, ὅσα μηθενὸς τῶν ἔξωθεν ἐμποδίζοντος ἔσται δι’ αὐτοῦ). E.g. the seed is not yet potentially a man; for it must be deposited in something other than itself and undergo a change. But when through its own motive principle it has already got such and such attributes, in this state it is already potentially a man (ἤδη τοῦτο δυνάμει); while in the former state it needs another motive principle, just as earth is not yet potentially a statue (for it must first change in order to become brass) (*Met.* Θ 1049a13-18)”

<sup>285</sup> The full title of Descartes’ *Meditations* is, of course, *Meditations on First Philosophy - In Which the Existence of God and the Immortality of the Soul are Demonstrated* (1641) (cf. “You say that I have not said a word about the immortality of the soul. You should not be surprised. I could not prove that God could not annihilate the soul, but only that it is by nature entirely distinct from the body, and consequently is not bound by nature to die with it. This is all that is required as a foundation for religion, and is all that I had any intention of proving (“*Letter to Mersenne*, 24<sup>th</sup> Dec. 1640”, CSM III §266, p 163)).

positive and “higher” aspects of being which he identifies in “mind” and in the “innate ideas” which he supposes are planted by God in man and (b) that Aristotle identifies such “higher” aspects in the “forms” and “thought” and “states” and “virtues” etc. which *emerge* in us though our ability to develop them through our development of mind and self in the world (through our individual human “soul” and “substance”). I add, however, that Descartes and Aristotle *agree* on the “soul” on the basis that the soul should be understood in essentially “holonmereic” terms with Descartes writing that:

“...I now understand the mind to be coextensive with the body – the whole mind in the whole body and the whole mind in any one of its parts<sup>286</sup>”

and Robert Pasnau explains the implications of Descartes’ position, as follows:

“To see what they [i.e. merechronic and holonmeric concepts] involve, begin with an ordinary physical event, like kicking a football. The event takes place over time, and we can distinguish between parts of the event, such as the motion of the foot before contact and the motion of the foot after contact. Now try to extend the same idea to a substance that changes over time, like a growing boy. Just as we talked about parts of an event, it seems that we might talk about the six-year-old part of the boy and the seven-year-old part of the boy. Inasmuch as the boy is something that exists through time, it seems possible to conceive of him as having parts, temporal parts, just as he had spatial parts such as his right half and his left half. To have temporal parts in this way is to be a merechronic entity...To say that a boy has himself has temporal parts – e.g., his six-year-old part and his seven-year-old part – strains our ordinary mode of expression. It is far more natural to say that the whole boy exists each and every day of his life<sup>287</sup>”

and Aristotle’s account of substance also depending upon a parallel concept of “*aeonic*” being which is assumed in his concept of “*entelecheia*” and which is stated as that: “The

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<sup>286</sup> Descartes, René, *Sixth Replies*, CSM II §442 p 298

<sup>287</sup> Pasnau, Robert “On Existing All at Once” in C. Tapp (ed.) *God, Eternity, and Time* (Ashgate, 2011) p 12 & 25. I add that Erwin W. Straus explains that: “Existential time cannot be detached from the life and history of the individual; the relation present-past-future cannot be reduced to the schema earlier-later; existential time is finite; events situated between beginning and end have a positional value; a year in youth and a year in old age are not commensurable; existential time is not quantifiable (“An Existential Approach to Time” in *Annals New York Academy of Sciences* (1967) p759)” (and also consider in this context the holonomic theory of Karl Pribram and David Bohm).

total time which circumscribes the length of every creature, and which cannot in nature be exceeded, they [i.e. Aristotle's ancestors] named the *aeon* of each (Τὸ γὰρ τέλος τὸ περιέχον τὸν τῆς ἐκάστου ζωῆς χρόνον, οὗ μὴθὲν ἔξω κατὰ φύσιν, αἰὼν ἐκάστου κέκληται) (*De Cael.* I 279a23-25)" (and see also *GC* II 337a-b)<sup>288</sup>.

I therefore conclude that Aristotle and Descartes *differ* on the basis (a) that Descartes believes that we possess "innate ideas" (and that we must *clear away* the distraction of the empirical world in order to see these ideas) whereas Aristotle argues that, whilst we possess the capacity to formulate ideas, we must engage with the world in order to develop our ideas and our selves as people (according to our human nature) (and I note that Aristotle criticises Plato's – and hence also Descartes' and hence *our* – routine conflation of "soul" with "mind" at *De An.* I 407a; and this is an essential distinction if we are to recognise that organic beings are *living* rather than *logical* entities) and (b) that Aristotle regards the world and soul and organism in *epigenetic* terms and therefore sees organisms as being en-souled and structured substances feeding through and coming-to-be in nature (and with the paradigmatic statement of this position being that "man produces man") whereas Descartes accounts for our souls and our being as being directly derived from God (and on this basis insists that animals are machines which lack soul<sup>289</sup>). I finally suggest that we see that Descartes and Aristotle are participants in a common philosophical discussion of being which possesses only certain logical possibilities once we accept that the overall picture of the world is observably one of *moving principles feeding through and coming to be in the world in determinate and structured material forms* and with these options being (i) that the world is a plenum of potentiality which is activated locally by principles and forces (ii) that the world is a vacuum within which and across which discrete atoms interact according to their inherent properties and also natural "covering laws" or (iii) that the world is a creation controlled by and ordered by the Ideas of an all-powerful God and I

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<sup>288</sup> I note that another point of intersection between Descartes and Aristotle is that both assert that the world operates as a plenum with Descartes arguing on this point as follows: "...nothing has no properties, and that what is commonly called empty space is not nothing, but a real body deprived of all its accidents ("Letter to More, August 1649", *CSM III* §403, p 381)".

<sup>289</sup> Descartes argues that: "...the souls of animals are nothing but their blood, the blood which is turned into spirits [i.e. animal spirits] by the warmth of the heart... This theory involves such an enormous difference between the souls of animals and our own that it provides a better argument than any yet thought of to refute the atheists and establish that human minds cannot be drawn out of the potentiality of matter (*Correspondence, To Plempius 3<sup>rd</sup> Oct 1637* §414, III p 62)."

add for good measure the alternative “solution” (iv) that the world is a chance material “happening” which is at root inexplicable<sup>290</sup>.

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<sup>290</sup> Further works on Aristotle’s soul are Thomas Kjeller Johansen’s *The Powers of Aristotle’s Soul* (Oxford, 2012), Wilfrid Sellars’ “Substance and Form in Aristotle” in *The Journal of Philosophy* (1957), and Philip van der Eijk’s “Aristotle’s Psycho-Physiological Account of the Soul-Body Relationship” in *Psyche and Soma: Physicians and Metaphysicians on the Mind-Body Problem from Antiquity to Enlightenment*, ed. John Wright and Paul Potter (Oxford, 2000) and for more detail on Aristotle’s “aeonic” time see W. von Leyden’s “Time, Number, and Eternity in Plato and Aristotle” in *The Philosophical Quarterly* (1964) and for more detail on Descartes see Robert Pasnau’s “Mind and Extension (Descartes, Hobbes, More)” in *Studies of the History of Philosophy of Mind* (2007).

## 16 Aristotle on Matter

Having considered the expansive and real nature of Aristotle's "soul" let us move on to consider the expansive and real nature of Aristotle's conceptualisation of "matter". I suggest that Aristotle's basic questioning regarding "matter" or "*hylē*" is as follows:

"There are three kinds of substance (οὐσίαι δὲ τρεῖς) – the matter, which is a "this" by being perceived (ἡ μὲν ὅλη τόδε τι οὕσα τῷ φαίνεσθαι) (for all things that are characterised by contact and not by organic unity are matter and substratum (ὅσα γὰρ ἀφ᾽ ἧ καὶ μὴ συμφύσει, ὅλη καὶ ὑποκείμενον)); the nature, a "this" and a state that it moves towards (ἡ δὲ φύσις τόδε τι καὶ ἕξις τις εἰς ἣν); and, again, thirdly, the particular substance which is composed of these two, e.g. Socrates or Callias (ἔτι τρίτη ἡ ἐκ τούτων ἡ καθ' ἕκαστα, οἷον Σωκράτης ἢ Καλλίας). Now, in some cases the "this" does not exist apart from the composite substance (ἐπὶ μὲν οὖν τινῶν τὸ τόδε τι οὐκ ἔστι παρὰ τὴν συνθετὴν οὐσίαν), e.g. the form of house does not so exist, unless the art of building exists apart (nor is there generation and destruction of these forms, but it is in another way that the house apart from its matter, and health, and all things of art, exist and do not exist); but if it does it is only in the case of natural objects (ἀλλ' εἴπερ, ἐπὶ τῶν φύσει) (*Met.* Λ 1070a9-18)"

which shows us that Aristotle's overall concerns are (a) perception, (b) change through "generation and destruction"<sup>291</sup>, (c) individuality<sup>292</sup>, (d) forms, abstractions, and ideas and (e) "craft" acting through the forms located in the mind of man and "nature" acting through its own forms<sup>293</sup>.

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<sup>291</sup> Cf. "...all things that change have matter, but different matter (πάντα δ' ὅλην ἔχει ὅσα μεταβάλλει, ἀλλ' ἑτέραν); and of eternal things those which are not generable but are movable in space have matter – not matter for generation, however, but motion from one place to another (καὶ τῶν αἰδίων ὅσα μὴ γενητὰ κινητὰ δὲ φορᾷ, ἀλλ' οὐ γενητὴν ἀλλὰ ποθὲν ποί) (*Met.* Λ 1069b25-27)"

<sup>292</sup> I note that Aristotle's assumption regarding individuality stated *contra* Plato's "participation" in Forms is that: "...anything may both be and become like something else without being imitated (μὴ εἰκαζόμενον) from it...a man may become just like Socrates whether Socrates exists or not, and even if Socrates were eternal, clearly the case would be the same (*Met.* Α 991a23-28)" (and for Callias as an individual example of a type see *Post. An.* II 100a15-100b2).

<sup>293</sup> Cf. "...all things produced either by nature or by art have matter (ἅπαντα δὲ τὰ γινόμενα ἢ φύσει ἢ τέχνῃ ἔχει ὅλην); for each of them is capable both of being and of not being (δυνατὸν

More specifically on “matter” itself we find that Aristotle describes “matter” as follows:

“It is better...to suppose that the matter in anything is inseparable (ἀχώριστον), being the same and numerically one, though not one by definition. Further, for the same reasons also, we ought not to regard the matter of the body as points or lines; matter is that which has points or lines as its *limits* and cannot possibly exist without qualities and without form (Ἐκεῖνο δὲ οὗ ταῦτα ἔσχατα ἢ ὕλη, ἣν οὐδέποτε ἄνευ πάθους οἶόν τε εἶναι οὐδ’ ἄνευ μορφῆς). Now one thing comes-to-be, in the unqualified sense, out of another, as has been determined elsewhere and by the agency of something which is actually of the same species or of the same genus – for example, Fire comes-to-be through the agency of Fire and Man through that of Man (GC I 320b13-21)”

which shows us further that Aristotle argues (a) that matter necessarily *is something* with “limits”, (b) that “matter”, or “energy”, is necessarily *of something* and hence is inseparable from the “form” of that something, (c) that “matter” individuates species into individuals and thereby differentiates the actual individual from the “idea” of a “species” which is itself a matterless abstraction (though we will consider this point further in our discussion of “noetic matter”<sup>294</sup>), and (d) that “matter” *is a channel or epigenetic medium for a species* and hence “Fire comes-to-be through the agency of Fire [i.e. fire spreads] and Man through that of Man [i.e. man reproduces]” and with the *pregnancy* of matter being a point of considerable complication and importance.

Let us consider further that Aristotle gives us three paradigmatic situations in order to show us the nature of “matter”, these being the processes of (a) craft (b) digestion / nutrition and (c) reproduction.

In respect to (a) craft we find that Aristotle argues that “matter” should be regarded as a *limiting factor* and also as providing the possibility for realising the channelling and fulfilment of a moving principle in the sense that:

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γὰρ καὶ εἶναι καὶ μὴ εἶναι ἕκαστον αὐτῶν), and this capacity is the matter in each (τοῦτο δ’ ἐστὶν ἡ ἐν ἑκάστῳ ὕλη) (Met. Z 1032a20-22)”

<sup>294</sup> Cf. “...knowledge, like knowing, is spoken in two ways – as potential and as actual. The potentiality, being, as matter, universal and indefinite, deals with the universal and indefinite; but the actuality, being definite, deals with a definite object, - being a “this”, it deals with a “this” (Met. M 1087a15-19)”

“...it is obvious that only one table can be made from one piece of timber, and yet he who imposes the form upon it, although he is but one, can make many tables. Such too is the relationship of male to female: the female is impregnated in one coition, but one male can impregnate many females. And these relations are analogues of the principles referred to (*Met.* A 988a3-8)”<sup>295</sup>

and the obvious limitation of matter lies basically in the fact that it captures, concretises, and actualises worldly possibility in a certain time, space and given quantum of matter (and hence only one table can be made out of the materials for one table, a female is impregnated at a point in time and as a completed action etc.). I add that Aristotle clearly argues that *something's material being is an essential element of that something's being and "place" in the world* in the sense that: “...evidently there are many differences; e.g. some things are defined by the way in which their materials are combined, as, for example, things which are unified by mixture, as honey-water; or by ligature, as a faggot; or by glue, as a book; or by clamping, as a chest; or by more than one of these methods. Other things are defined by their position, e.g. threshold and lintel (for these differ in being situated in a particular way); and others by place <or direction>, e.g. the winds; others by time, e.g. dinner and breakfast; and others by the attributes peculiar to sensible things, e.g. hardness and softness, density and rarity, dryness and humidity. Some are distinguished by some of these differences, and others by all of them; and in general some by excess and some by defect (*Met.* H 1042b16-25)”.

I add, however, that we also see the matter has its own specificity and powers and limitations on the basis that it always has its own certain *quality*, as follows:

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<sup>295</sup> Cf. “...nothing passes from the carpenter into the pieces of timber, which are *his* material, and there is no part of the art of carpentry present in the object which is being fashioned: it is the shape and the form which passes from the carpenter, and they come into being by means of the movement in the material (ἀλλ' ἡ μορφή καὶ τὸ εἶδος ἀπ' ἐκείνου ἐγγίνεται διὰ τῆς κινήσεως ἐν τῇ ὕλῃ). It is his soul, wherein is the “form”, and his knowledge which cause his hands (or some other part of his body) to move in a particular way (different ways for different products, and always the same way for any one product); his hands move his tools and his tools move the material (αἱ δὲ χεῖρες τὰ ὄργανα τὰ δ' ὄργανα τὴν ὕλην). In a similar way to this, Nature acting in the male of semen-emitting animals uses the semen as a tool (χρηται τῷ σπέρματι ὡς ὄργανῳ), as something that has movement in actuality (καὶ ἔχοντι κίνησιν ἐνεργείᾳ); just as when objects are being produced by any art the tools are in movement, because the movement which belongs to the art is, in a way, situated in them (ἐν ἐκείνοις γὰρ πῶς ἢ κίνησις τῆς τέχνης) (*GA* I 730b11-25)”



“...different things can be generated by the moving cause (τὴν κινουῦσαν αἰτίαν) when the matter is one and the same, e.g. a chest and a bed from wood. But some different things must necessarily have different matter; e.g. a saw cannot be generated from wood, nor does this lie in the power of the moving cause, for it cannot make a saw of wool or wood (*Met.* H 1044a25-30)”

from which we see that Aristotle uses the example of “craft” to make us think about the point regarding *what it entails to create something in the world*<sup>296</sup> and, in detail, to show us (i) that “matter” is what makes being *possible* (though with this Aristotelian possibility being highly graduated<sup>297</sup>) but only being possibility in a transitional sense on the basis that: “...wood does not make a bed, nor bronze a statue, but something else is the cause of the change (ἀλλ’ ἕτερόν τι τῆς μεταβολῆς αἴτιον)...the source of motion (ὅθεν ἡ ἀρχὴ τῆς κινήσεως) (*Met.* A 984a24-28)”, (ii) that “matter” is the possibility for individuation in the sense that we have in our minds the idea of a table and with this idea only being realised through the creation of individual tables *in matter* and with the principle here being that: “...if it comes to be, it is its concrete unity that comes to be (οὕτως καὶ ἐπὶ τοῦ τί ἐστὶ) (*Met.* Z 1034b12)”, (iii) that the world we experience is a composite and entangled world of independent beings in which “...the house and the builder do not perish together (*Met.* Δ 1014a24-25)”, and (iv) that how we engage with, use, and shape “matter” through human craft shows us the possibility of *creation* in the world and also the necessary *meaningfulness* of this creation, i.e. since artistic products are evidently not the result of “chance” in any possibly meaningful sense<sup>298</sup>.

<sup>296</sup> Cf. “...a house exists potentially if there is nothing in X, the matter, to prevent it from becoming a house (δυνάμει καὶ οἰκία: εἰ μὴθὲν κωλύει τῶν ἐν τούτῳ καὶ τῇ ὕλῃ τοῦ γίγνεσθαι οἰκίαν)...similarly in all other cases where the generative is external (καὶ ἐπὶ τῶν ἄλλων ὁσαύτως ὅσων ἔξωθεν ἡ ἀρχὴ τῆς γενέσεως) (*Met.* Θ 1049a9-13)”

<sup>297</sup> I suggest that the basis for Aristotle’s argument for the *graduated and phased nature of the process of realisation* is that: “...a thing is potentially all those things which it will be of itself if nothing external hinders it. E.g. the seed is not yet potentially a man; for it must be deposited in something other than itself and undergo a change. But when through its own motive principle it has already got such and such attributes, in this state it is already potentially a man (ἤδη τοῦτο δυνάμει); while in the former state it needs another motive principle, just as earth is not yet potentially a statue (for it must first change in order to become brass) (*Met.* Θ 1049a13-18)”

<sup>298</sup> Remi Brague well explains the importance of “craft” as an example of creation, as follows: “The sharpness with which the artificial form emerges from the invisible results in a purer manifestation of the possible as such, whereas in natural generation, as in all cyclical processes, this possible (*dunamis*) is never more than an entr’acte between two realities which overshadow it... Making is given pride of place because it is the motion that best lends itself to the definition put forth: the *telos* is clearly visible in it (“Aristotle’s Definition of Motion and its Ontological Implications” in *Graduate Faculty Philosophy Journal* (1990) p 15-16)”

If Aristotle's consideration of "craft" is suggestive and prospecting in the sense that it is probing to understand such things as the nature of and context for human thought, I suggest that Aristotle's discussion of (b) "digestion" is much a more direct consideration of the nature of "matter". In respect to the digestion of food Aristotle's basic principle and emphasis is that matter must be actively transformed by something in order to *actively become food* on the basis of the principle that:

"...food is acted upon by what is nourished by it, not the other way round (ἔτι πάσχει τι ἢ τροφή ὑπὸ τοῦ τρεφομένου, ἀλλ' οὐ τοῦτο ὑπὸ τῆς τροφῆς) (*De An.* II 416b1-2)"

and upon the basis that: "...while it is being acted upon it is unlike, but when the action is complete, it is like (πάσχει μὲν γὰρ τὸ ἀνόμοιον, πεπονθὸς δ' ὅμοιον ἔστιν) (*De An.* II 417a20-21)" and he argues, further, that it takes both "soul" and "heat" (or "energy") to effect this transformation *from one being to another*, as follows:

"...the soul-principle in question is a power of preserving what possesses it as an individual (τοιαύτη τῆς ψυχῆς ἀρχὴ δυνάμεις ἔστιν οἷα σώζειν τὸ ἔχον αὐτὴν ἢ τοιοῦτον), while food prepares it for work (ἢ δὲ τροφή παρασκευάζει ἐνεργεῖν). For this reason it cannot continue to exist while deprived of food (διὸ στερηθὲν τροφῆς οὐ δύναται εἶναι) ...Now all food requires digestion, and that which produces digestion is heat (πᾶσαν δ' ἀναγκαῖον τροφήν δύνασθαι πέττεσθαι, ἐργάζεται δὲ τὴν πέψιν τὸ θερμόν); therefore everything which has a soul has heat (διὸ πᾶν ἔμψυχον ἔχει θερμότητα) (*De An.* II 416b27-30)"

and with the matter being transformed from what *is proper* to one being to what *is proper* to another which Aristotle explains as follows: "What is the matter? Not fire or earth, but the matter proper to man (τίς ἢ ὕλη; μὴ πῦρ ἢ γῆν ἀλλὰ τὴν ἴδιον) (*Met.* H 1044b3)"<sup>299</sup>. I suggest that Aristotle's consideration of matter is "biological" rather than (merely) "physical" and that this explains why Aristotle places his conceptualisation of food (as being basic biological matter) at the very centre of his explanation of being. I add that Aristotle's account also differs from our own by not only being descriptive (and scientific) but also interpretative and conceptual (and

<sup>299</sup> Cf. "It is clear that we must posit as many differences of matter as there are bodies (Ὅτι δ' ἀναγκαῖον ποιεῖν ἴσας τὰς διαφορὰς αὐτοῖς, δῆλον) (*De Cael.* IV 312b20)"

philosophical) and I suggest that this is clearly how we should be considering the matter.

In respect to this last point let us consider how Aristotle treats “digestion” and “nutrition” in more detail below in order to demonstrate the quality and philosophical depth of Aristotle’s approach. In respect to (A) Aristotle’s *descriptive account* of the digestive process we find (i) that the basic physiological structuring of being (of taking in food, transforming it, and then – if applicable – excreting the residue) is that:

“All animals have in common the part (κοινὰ μέρη) by which they take in food and the part into which they take it. These parts respectively are either identical, or diverse, in the ways already described...In addition to these, the majority of animals have other parts in common as well – first, the parts by which they discharge the residue that comes from their food...The part by which they take in their food is known as the mouth; that into which they take it, the belly; the remaining parts have many different names. Now as the residue is twofold, those animals which have parts to receive the fluid residue have also a part for the <residue from the> solid nutriment...Hence, all animals which have a bladder have a bowel as well (HA I 488b29-489a7)”

(ii) and that this structuring of being goes hand in hand with a structuring of behaviour such that:

“As carnivores, the snakes suck dry whatever animal they take and eject them whole with their excrement. It is much the same with the other animals of similar behaviour, for example the spiders; but the spiders suck the juices outside, while the snakes do it within their stomach (HA VII 594a12-16)”

(and I note that spiders do liquefy their food before ingesting it and that Aristotle discusses other blood-sucking and sap-sucking insects in more detail at HA VII 596b) and with Aristotle’s paradigm stripped-back example of nutrition being plants regarding which: “Plants get their food from the earth by their roots; and since it is already treated and prepared no residue is produced by plants – they use the earth and the heat in it instead of a stomach, whereas practically all animals, and unmistakably those that move about from place to place, have a stomach, or bag, – as it were an earth inside them – and in order to get the food out of this, so that finally after the successive stages of concoction it may reach its completion (τέλος), they must have some instrument corresponding to the roots of a plant (PA II 650a21-27)”.

In respect to (B) the transitional forms – i.e. *from description to interpretation* – of Aristotle’s argument we find (iii) that “nutrition” is both liquid (water) and solid (food) (and is concocted through energy), as follows:

“Everything that grows must of necessity take food (Ἐπεὶ δ’ ἀνάγκη πᾶν τὸ αὐξανόμενον λαμβάνειν τροφήν). This food is always supplied by fluid and solid matter, and the concoction and transformation of these is effected by the agency of heat (ἡ δέ τροφή πᾶσιν ἐξ ὑγροῦ καὶ ξηροῦ, καὶ τούτων ἡ πέψις γίνεται καὶ ἡ μεταβολή διὰ τῆς τοῦ θερμοῦ δυνάμεως). Hence, apart from other reasons, this would be a sufficient one for holding that of necessity all animals and plants must have in them a natural source of heat (καὶ τὰ ζῷα πάντα καὶ τὰ φυτά, κἂν εἰ μὴ οἱ ἄλλην αἰτίαν, ἀλλὰ διὰ ταύτην ἀναγκαῖον ἔχειν ἀρχὴν θερμοῦ φυσικῆν) (PA II 650a3-8)”

(and I note that we must sustain ourselves through earth (food), air, fire (energy), and water) and (iv) that “nutrition” is a structured (internal) process which transforms the food by converting it into the “fed” being and expelling any unwanted residue from the “fed on” being as a “residue”, as follows:

“...there is a receptacle for the food at each of its stages, and also for the residues that are produced; and as the blood-vessels are a sort of container for the blood, it is plain that the blood (or its counterpart) is the final form of that food in living creatures (τὸ αἷμα ἡ τελευταία τροφή τοῖς ζῴοις τοῖς ἐναίμοις ἐστί, τοῖς δ’ ἀναίμοις τὸ ἀνάλογον). This explains why the blood diminishes in quantity when no food is taken and increases when it is; and why, when the food is good, the blood is healthy, when bad, poor (PA II 650a33-650b2)”

from which we see Aristotle building up towards a full philosophical interpretation of his description of reality.

In respect to (C) Aristotle’s *philosophical interpretation* of the process of nutrition we find that he argues (v) that nutrition is a manifestation of the “nutritive soul” in which an organic being extracts its being from the world (just as the “sensitive soul” extracts meaning from our worldly environment<sup>300</sup> and the “rational soul” extracts formal meaning about the world itself) in which one being “masters” and transforms the

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<sup>300</sup> Cf. “...each sense organ is receptive of the perceived object, but without its matter (τὸ γὰρ αἰσθητήριον δεκτικὸν τοῦ αἰσθητοῦ ἄνευ τῆς ὕλης) (De An. III 425b22-4)”

being of another being (and expels the redundant form of this other being as excreta) into itself, as follows:

“Concoction, in fact, is what happens to everything when its constituent moisture is mastered (Συμβαίνει δὲ τοῦτο πάσχειν ἅπασιν, ὅταν κρατηθῇ ἡ ὕλη καὶ ἡ ὑγρότης); for this is the material that is determined by a thing’s natural heat, and as long as the determining proportion holds a thing’s nature is maintained (ἕως γὰρ ἂν ἐν αὐτῇ ὁ λόγος, φύσις τοῦτ ἐστίν). So urine and excreta and the waste products of the body in general are a sign of health, and we say they have been concocted because they show that its own inherent heat has mastered the indeterminate matter (ὅτι δηλοῖ κρατεῖν τὴν θερμότητα τὴν οἰκείαν τοῦ ἀορίστου) (*Met.* IV 379b33-380a4)”

(and note the stipulation that form and substance is dependent upon a “*logos*” or “determining proportion”) and (vi) that we should see “nutrition” as being a pure fulfilled paradigm representation of “coming-to-be”, as follows:

“...when nothing perceptible persists in its identity as a *substratum*, and the thing changes as a whole (ὅταν δ' ὅλον μεταβάλλῃ μὴ ὑπομένοντος αἰσθητοῦ τινὸς ὡς ὑποκειμένου τοῦ αὐτοῦ) (e.g. the seed as a whole is converted into blood, or water into air, or air as a whole into water (ἀλλ' οἶον ἐκ τῆς γονῆς αἷμα πάσης ἢ ἐξ ὕδατος ἀήρ ἢ ἐξ ἀέρος παντὸς ὕδαρ)), such an occurrence is no longer “alteration”. It is a coming-to-be of one substance and a passing-away of the other (*GC* I 319b14-18)”

and we clearly see from this *biological* account proof for Aristotle’s *philosophical* principle of *formal coming-to-be*, of *being*, and of the need for a *completion* of natural process *in something* concrete and meaningful on the basis that: “...everything that changes is something and is changed by something and into something (πάν γὰρ μεταβάλλει τι καὶ ὑπὸ τινος καὶ εἰς τι) (*Met.* Λ 1069b36-1070a1)”<sup>301</sup>. I note that we have already seen that ideas come-to-be in nature through induction or *epagoge*, that people come to be through experience and growth, and that species come to be through the “education of forms” and I suggest that we see generally in nature that there is room for and an impulse towards the development of beings which leads them to attain a certain completion or perfection in their final forms.

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<sup>301</sup> Cf. “...every movement is change from something into something (πάντα γὰρ κίνησις ἐξ ἄλλου εἰς ἄλλο ἐστὶ μεταβολή) (*Met.* K 1064a31-1068a25)”

Regarding the “material character” of substantive being we find with Jonathan Beere that:

“In Aristotle’s philosophy, the notion of matter appears to have arisen in connection with the notion of *change*. The notion of matter does not come up simply by asking what things are made out of...Aristotle’s view is that the matter of a composite substance is not what the substance is, but that the substance derives a *material character* from its matter. This material character is *like* a qualitative property, and, accordingly, it is properly specified by an adjective...The box is *wooden*, where the very form of the word indicates that it says what the box is *like* (ποῖον), not what it is (τί)<sup>302</sup>,”

which shows us that Aristotle’s explanation of matter is that he expects the material being of something to be shaped by and suited to its environment (and a being’s being to be being within an environment) and with this translating perhaps into animal being so that a carnivore would exhibit the characteristics required by a carnivore etc. (and this is Aristotle’s complex theory of *krasis* which we sadly cannot delve into here).

Moving on to (c) “reproduction” we find that Aristotle actually argues that the digestive function is a necessary and connected preliminary to the reproductive function in the sense that the flow of nutriment must enter and maintain the mother and *then* produce and maintain the baby and hence we see *in principle* that:

“Nutrition and reproduction are due to one and the same psychic power (ἐπεὶ δ’ ἡ αὐτὴ δύναμις τῆς ψυχῆς θρεπτικὴ καὶ γεννητικὴ). It is necessary first to give precision to our account of food, for it is by this function of absorbing food that this psychic power is distinguished from all the others (*De An.* I 416a19-22)”

and also *in more detail* that:

“...it is only so far as what has soul in it is a “this-somewhat” or substance that food acts *as* food (ἢ δὲ τόδε τι καὶ οὐσία, τροφή); in that case it maintains the being of what is fed, and that continues to be what it is so long as the process of nutrition continues (σώζει γὰρ τὴν οὐσίαν, καὶ μέχρι τούτου ἔστιν ἕως ἄν τρέφεται). Further, it is the agent in generation, i.e. not the generation of the individual fed but the reproduction of

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<sup>302</sup> Beere, Jonathan “Potentiality and the Matter of Composite Substance” in *Phronesis* (2006) p 306-310

another like it (καὶ γενέσεως ποιητικόν, οὐ τοῦ τρεφομένου, ἀλλ' οἷον τὸ τρεφόμενον)...Now there are three separate factors [in the fact of nutrition]: the thing fed, the means by which it is fed, and the feeding agent (τὸ τρεφόμενον καὶ ὃ τρέφεται καὶ τὸ τρέφον). The feeding agent is soul in the primary sense; the thing fed is the body which contains the soul, and the means by which it is fed is the food (τὸ μὲν τρέφον ἐστὶν ἡ πρώτη ψυχή, τὸ δὲ τρεφόμενον τὸ ἔχον ταύτην σῶμα, ὃ δὲ τρέφεται, ἡ τροφή). But since everything should be named in view of its end, and in this case the end is the reproduction of the species, primary soul will be that which reproduces another like itself (ἡ πρώτη ψυχή γεννητικὴ οἷον αὐτό) (*De An.* II 416b18-26)”

from which we see the profound point that “reproduction” is a *continuation* of “nutrition” on the basis that it is a single material *flow* of food which sustains both the individual, through nutrition, and the species, through reproduction, in the world<sup>303</sup>. I add in respect to the flow of sustenance that Aristotle goes to considerable lengths – which I cannot go into here – to track this flow of matter (as food) and to show that each living being must possess the biological and environmental (and maternal) facilities to feed at each distinct point in its development and with a statement of this principle being that: “Some animals have their primary matter within themselves, having derived it from the female parent, e.g. those animals which are produced not viviparously but out of larvae or eggs. Others derive it from the mother for a considerable time by being suckled (*GA* II 733b27-29)”. I stress here that Aristotle observes – and that he actually bases his philosophy upon the principle – that we observe that there must always be a flow of food, i.e. of blood, milk, solid food etc., which must be supported *at the right time* by a suitable biological apparatus, i.e. umbilical cord, breast, development of milk teeth and then adult teeth etc., and with the nature of and type of this “flow” of food in some sense determining the life and nature of the fed being.

We can, however, go even further and suggest that the desire for food and the desire to reproduce seem to be bound up with the nature of “matter” itself and this is the concept of “matter” as “mother”, as follows:

<sup>303</sup> Cf. “Their [i.e. animals’] activities all have to do with mating or production of young, or with the supply of food, or are contrived against periods of cold and heat or the changes of the seasons (αἱ δὲ πράξεις αὐτῶν ἅπασαι περὶ τε τὰς ὀχείας καὶ τεκνώσεις εἰσὶ, καὶ περὶ τὰς εὐπορίας τῆς τροφῆς, καὶ πρὸς τὰ ψύχη καὶ τὰς ἀλέας πεπορισμέναι καὶ πρὸς τὰς μεταβολὰς τῶν ὥρων). For all animals have an innate perception of change in respect of hot and cold, and just as among humans some move indoors during the winter while others who command extensive territory spend the summer in the cold parts and the winter in the warm sunny parts, so it is with those animals that are able to change their locations (*HA* VII 596b20-28)”

“... the matter is nearly, in a sense is, substance (καὶ τὴν μὲν ἐγγὺς καὶ οὐσίαν πως τὴν ὕλην), while the privation in no sense is (τὴν δὲ οὐδαμῶς)... the one which persists is a joint cause, with the form, of what comes to be – a mother, as it were (ἡ μὲν γὰρ ὑπομένουσα συναιτία τῇ μορφῇ τῶν γιγνομένων ἐστίν, ὥσπερ μήτηρ)... the form cannot desire itself, for it is not defective; nor can the contrary desire it, for contraries are mutually destructive (καίτοι οὔτε αὐτὸ αὐτοῦ οἷόν τε ἐφίεσθαι τὸ εἶδος διὰ τὸ μὴ εἶναι ἐνδεές, οὔτε τὸ ἐναντίον (φθαρτικὰ γὰρ ἀλλήλων τὰ ἐναντία)). The truth is that what desires the form is matter, as the female desires the male and the ugly the beautiful – only the ugly or the female not per se but per accidens (ἀλλὰ τοῦτ' ἐστὶν ἡ ὕλη, ὥσπερ ἂν εἰ θῆλυ ἄρρενος καὶ αἰσχρὸν καλοῦ· πλὴν οὐ καθ' αὐτὸ αἰσχρὸν, ἀλλὰ κατὰ συμβεβηκός, οὐδὲ θῆλυ, ἀλλὰ κατὰ συμβεβηκός) (*Phys.* I 192a5-25)”

from which we see (a) that Aristotle insists upon a triad of “form”, “matter”, and “being” in which “matter” is in a sense a “mother” and that he suggests that other philosophers fail to accurately represent nature precisely owing to their failure to accommodate this desiring “mother” – i.e. this *creative pathway* for being – in their picturing of the world<sup>304</sup> (b) that we can almost viscerally feel how Aristotle’s account of being through matter is messy, biological, individual, and worldly and is not just formal and mathematical though we encounter the complexity here that “eternal” being *is* in some sense purely formal since it has “not matter for generation...but motion from one place to another (*Met.* A 1069b27)”<sup>305</sup> and (c) that it is only by positing “matter” and “potentiality” that we can meaningfully posit “that there is something divine, good, and desirable” in the world which beings *such as individual human beings* can “desire and yearn for”<sup>306</sup>.

<sup>304</sup> I note that Carl Jung comments that: “The word “matter” remains a dry, inhuman, and purely intellectual concept...How different was the former image of matter – the Great Mother – that could encompass and express the profound emotional meaning of the Great Mother (*The Earth Has a Soul: C.G. Jung on Nature, Technology & Modern Life* (Berkeley, [orig. 1964] 2002) p 2)” and that: “It makes no substantial difference whether you call the world principle male and a father (spirit) or female and a mother (matter) (*Ibid.* p 85).”

<sup>305</sup> Aristotle’s admittance on this point does not, however, lead him to excuse philosophers who conflate eternal with sublunary principles, as follows: “Philosophy has become mathematics for modern thinkers, although they profess that mathematics is only to be studied as a means to some other end (*Met.* A 992a33-992b2)”

<sup>306</sup> Nicolas Berdyaev articulates well the visceral nature of our human being, as follows: “Yearning always indicates something lacking and movement towards the fullness of life. There is a tormenting yearning of sex. Sex is yearning; and this yearning cannot be finally overcome in the everyday objective world, for in that world final wholeness is not attainable;



As regards a modern parallel of Aristotle's approach to "matter" I suggest that A.N. Whitehead explains how "matter" seems to be obviously uncontroversial "stuff" until we come to consider the matter of matter *philosophically*, as follows:

"Nature suggests for our observation gaps, and then as it were withdraws them upon challenge. For example, ordinary physical bodies suggest solidity. But solids turn to liquids, and liquids and gases. And from the gas the solid can again be recovered. Also the most solid of solids is for certain purposes a viscous fluid. Again impenetrability is a difficult notion. Salt dissolves in water, and can be recovered from it. Gases interfuse in liquids. Molecules arise from a patterned interfusion of atoms. Food interfuses with the body, and produces an immediate sense of diffused bodily vigour. This is especially the case with liquid stimulants<sup>307</sup>."

and as regards "our" contrary material-*ism* and individual-*ism* we see that Whitehead comments that he is opposed to:

"...the grand doctrine of nature as a self-sufficient, meaningless complex of facts. It is the doctrine of the autonomy of physical science. It is the doctrine which in these lectures I am denying. The state of modern thought is that every single item in this general doctrine is denied, but that the general conclusions from this doctrine as a whole are tenaciously retained. The result is a complete muddle in scientific thought, in philosophic cosmology, and in epistemology. But any doctrine which does not implicitly presuppose this point of view is assailed as unintelligible<sup>308</sup>."

on the basis that: "The word *detail* lies at the heart of the whole difficulty. You cannot talk vaguely about "Nature" in general. We must fix upon details within nature and discuss their essences and their types of inter-connection. The world around is complex, composed of details<sup>309</sup>" and with this power to *force our ideas upon the world*

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that wholeness which the way out from the subjectivity of sex demands (*Slavery and Freedom* (London, 1943) p 53)."

<sup>307</sup> Whitehead, A.N. *Adventures of Ideas* (Harmondsworth, 1933) p 240. (and regarding the Heraclitean idea that "Nature loves to hide (B123 DK)" see Shimon Malin's *Nature Loves to Hide: Quantum Physics and the Nature of Reality, a Western Perspective* (Singapore, 2012) – and also Sam Nico's review of this book)

<sup>308</sup> Whitehead, A.N. "Nature Lifeless" in *Modes of Thought* (New York, 1938) p 132

<sup>309</sup> Whitehead, A.N. *Ibid.* p 127. I add that Whitehead argues in this lecture that: "...the Hume-Newton situation is the primary presupposition for all modern philosophic thought. Any

as *-isms* being the problem inherent in our minds' ability to select, simplify, and abstract from the world and it is precisely this problem of "idealism" that we will encounter in our consideration of Aristotle's conceptualisation of "noetic matter".

As regards the problem of material-*ism* I suggest, first, that it is a form of idealism and, second, that Aristotle clearly understands the problem in relation to Plato (see *Met.* M 1078b12-17) that by reducing the world to Heraclitean flux we will produce the error of materialism (of seeing the world as "flux") and also the error of idealism (of over-emphasising the importance of our minds in the world). In respect to the problem inherent both in materialism and idealism (which are, as we have said, two sides of the same coin) I note the position of Jacques Ellul that:

"For propaganda to succeed, a society must first have two complementary qualities: it must be both an individualist and a mass society...an individualist society *must* be a mass society, because the first move towards liberation of the individual is to break up the small groups that are an organic fact of the entire society. In this process the individual frees himself completely from family, village, parish, or brotherhood bonds – only to find himself directly vis-à-vis the entire society. When individuals are not held together by local structures, the only form in which they can live together by local structures, the only form in which they can live together is in an unstructured mass society. Similarly, a mass society can only be based on individuals – that is, on men in their isolation, whose identities are determined by their relationships with one another. Precisely because the individual claims to be equal to all other individuals, he becomes an abstraction and is in effect reduced to a cipher<sup>310</sup>"

and with Ellul arguing regarding "materialism" (as mechanisation) of modern society explicitly as follows: "He [i.e. modern man] has been liberated little by little from physical constraints, but he is all the more the slave of abstract ones. He acts through intermediates and consequently has lost contact with reality. The interested reader may

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endeavour to go behind it is, in philosophic discussion, almost angrily rejected as unintelligible (*Ibid.* p 135)" which is, of course, still broadly the situation prevailing today. I add further that Whitehead argues in this lecture – actually from c. 1934 – that seeing genes as "pellets of matter" is false on the basis that: "...no *a priori* argument as to inheritance of characters can be drawn from the mere doctrine of genes. In fact recently physiologists have found that genes are modified in some respects by their environment (*Ibid.* p 139)" which is a correction which has been fully accepted by modern science but which is clearly still resisted in modern philosophy on doctrinal grounds.

<sup>310</sup> Ellul, Jacques *Propaganda: The Formation of Men's Attitudes* (New York, 1965) p 90

wish to consult Friedmann's admirable work concerning the separation of the worker from his material. Man as worker has lost contact with the primary element of life and environment, the basic material out of which he makes what he makes. He no longer knows wood or iron or wool. He is acquainted only with the machine. His capacity to become a mechanic has replaced his knowledge of his material; this development has occasioned profound mental and psychic transformations which cannot yet be assessed<sup>311</sup>". I add that Ellul also comments on our "scientism" as follows: "...the scientist moves unconsciously toward the sphere of what is known scientifically, and tries to limit the whole question to that...The "scientific" position frequently consists of denying the existence of whatever does not belong to the current scientific method<sup>312</sup>" and I comment that it is interesting that the modern philosophical claim that we are hard-headed realists is itself actually a form of narcissistic idealism. We will consider the problem of our various *-isms* when we come to consider Aristotle's "noetic matter" in the next chapter.

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<sup>311</sup> Ellul, Jacques *The Technological Society* (New York, 1964) p 325

<sup>312</sup> Ellul, Jacques *Ibid.* p 17-18

## 17 Aristotle on Noetic Matter

I suggest that we can easily extrapolate from our previous discussion of matter and see that Aristotle's "noetic matter" will possess two basic characteristics, namely (i) that it will represent a channelling for thought just as "perceptible matter" is a channelling for bodily being and (ii) that it will represent a "taking" from or abstraction from the world of mental objects just as nutrition is a "taking" of matter from other beings as food, and as our sensation is a "taking" in of data about the world through our various senses<sup>313</sup>.

Before we move on to consider Aristotle's full position on "noetic matter" (such as it is) let us first set the context by considering how *we* think about the world and how this might affect our ability to relate to the Aristotelian position on "noetic matter". I take our expected standardised (philosophical) approach to the world to be a mix of emotivism and intellectualism which I will describe as "pragmatism" and which is reflected in Richard Rorty's thought, as follows:

"We no more know "the nature of mind" by introspecting mental events than we know "the nature of matter" by perceiving tables. To know the nature of something is not a matter of having it before the mind, of intuiting it, but of being able to utter a large number of true propositions about it"<sup>314</sup>

and so as to show that Rorty is indeed an end product of our worldview I add that we can easily go back from his modern "pragmatism" to "the Hume-Newton situation" which, according to Whitehead, is: "...the primary presupposition for all modern philosophic thought. Any endeavour to go behind it is, in philosophic discussion, almost angrily rejected as unintelligible"<sup>315</sup> and then back to the Kantian position which is explained by Josef Pieper, as follows:

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<sup>313</sup> I suggest that we can see the literalness and physicality of Aristotle's account of our human world by observing that "choice" is described (following the etymology) as a "taking", as follows: "'Choice" is "taking" (ἡ γὰρ προαίρεσις αἴρεσις μὲν ἐστίν) (*E.E.* II 1226b7)" whereas our "habits" as "*hexeis*" are (also following the etymology) a "having".

<sup>314</sup> Rorty, Richard "Mind as Ineffable" in Richard Q. Elvee (*ed.*) *Mind in Nature; Nobel Conference XVII* (San Francisco, 1982) p 69

<sup>315</sup> Whitehead, A.N. "Nature Lifeless" in *Modes of Thought* (New York, 1938) p 135

“According to Kant man’s knowledge is realised in the act of comparing, examining, relating, distinguishing, abstracting, deducing, demonstrating – all of which are forms of active intellectual effort. Knowledge, man’s spiritual intellectual knowledge (such is Kant’s thesis) is activity, exclusively activity<sup>316</sup>”

and then back further to Descartes’ position which is that: “...a man who walks across a room shows much better what motion is than a man who says “It is the actuality of a potential being in so far as it is potential”, and so on<sup>317</sup>”. In outline, then, I suggest that this modern man is reasonably well defined as an individual *actively applying himself* to the (inert) world and with this one-sided anthropocentrism having replaced the reflective engagement with the world which preceded it.

I add, however, that a different distinct dimension of our modern philosophical position is brought home by Ladislav Kvasz in his consideration of the history of our engagement with mathematical abstraction, as follows:

“Mathematical abstractions are unable to offer causal explanations. Galileo yielded to this Aristotelian argument. What he aimed [at] in his physics was a purely mathematical description of phenomena and he completely gave up the ambition of offering explanations of their causes. In this way he accepted the role Aristotle had allotted to mathematics. He was probably convinced that science can do no more than offer a precise mathematical description of the studied phenomena. Descartes did not shrink from the Aristotelian challenge. On the contrary, he welcomed it. According to Descartes a mathematical explanation of phenomena is possible, because the mathematical form, i.e. extension, is the ontological basis of nature. Therefore a mathematical description of the phenomena is the description of the causal basis of the world and a mathematical explanation is a causal explanation. In other words, Descartes raised the geometric form to the ontological level, he *converted mathematical form into physical substance*. Mathematics does not abstract anything, as Aristotle believed. It grasps the ontological essence of things, because extension and motion form the ontological essence of bodies. Thus according to Descartes not only the particular physical quantities are mathematical. The ontological basis of the physical world is

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<sup>316</sup> Pieper, Josef *Leisure the Basis of Culture* (London, [orig. 1947] 1965) p 26

<sup>317</sup> Descartes, René “Letter To Mersenne 16<sup>th</sup> October 1639”, *CSM* III §597, p 139

mathematical as well. Descartes thus passed from the Galilean idealization of the particular physical quantities to the idealization of the ontological foundation of the world<sup>318</sup>”

and with Kvasz explaining further that: “When Descartes says that everything can be reduced to extension and motion, it means that mathematics is the ontological foundation of reality. So geometry is not just a language suitable for the description of reality, as it was for Galileo. Reality itself is [for Descartes] nothing else but mathematical bodies in motion<sup>319</sup>” and that: “[for Descartes] *We do not apply mathematics to nature; nature itself is mathematical*<sup>320</sup>”. I repeat my initial supposition here that our thinking is a mixture of emotivism and intellectualism and I suggest that the emotivist component is derived from the sensualism and empiricism of the Humean approach, that the intellectualist component is derived from the mathematicism of the Cartesian approach, and that in neither of these perspectives do we actually engage with the world rather than with our abstractions regarding and our feelings about the world.

Moving forwards from Descartes we see that his “clear and distinct” ideas have become the “true” propositions about the material world which signify the mix of

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<sup>318</sup> Kvasz, Ladislav “The Mathematisation of Nature and Cartesian Physics” in *Philosophia Naturalis* (2003)

<sup>319</sup> Kvasz, Ladislav *Ibid.*

<sup>320</sup> Kvasz, Ladislav *Ibid.* I note that Kvasz interestingly assesses Galileo’s famous (and strikingly Platonic) explanation of nature, that: “Philosophy is written in that great book which ever lies before our eyes — I mean the universe — but we cannot understand it if we do not first learn the language and grasp the symbols, in which it is written. This book is written in the mathematical language, and the symbols are triangles, circles and other geometrical figures, without whose help it is impossible to comprehend a single word of it; without which one wanders in vain through a dark labyrinth (*The Assayer* (1623))” as being a *limited* halfway house toward full abstraction, as follows: “...the failure of Galileo’s project of mathematisation of nature by triangles and circles, by means of which the book of nature is allegedly written, shows the *inadequacy of ancient mathematics for the mathematisation of nature* (“Heidegger’s Interpretation of Mathematical Science in the Light of Husserl’s Concept of Mathematization in the *Krisis*” in *Philosophia Naturalis* (2013) p 344)” and with the full transformation being, according to Kvasz, that: “...Galileo studied ordinary objects of everyday experience, and represented only some of their aspects in a mathematical form. Descartes replaced all ordinary objects by his extended things, and identified them with space. Finally Newton showed that this Cartesian identification is a mistake, and he took as the characterisation of *the thingness of the things* not extension but hardness (i.e. forces) (*Ibid.* p 346)” (and see also Pierre Duhem’s *To Save the Phenomena: An Essay on the Idea of Physical Theory from Plato to Galileo* (Chicago, [orig. 1908] 1969)).

intellectualism and empiricism that we encounter in modern pragmatism (as instanced by Richard Rorty) which is outlined by A.N Whitehead as follows:

“One distortion stands out immediately...[and this is that] the substratum with its complex of inherent qualities is wrongly conceived as bare realisation, devoid of self-enjoyment, that is to say, devoid of intrinsic worth. In this way, the exclusive reliance on sense-perception promotes a false metaphysics. This error is the result of high-grade intellectuality. The instinctive interpretations which govern human life and animal life presuppose a contemporary world throbbing with energetic values. It requires considerable ability to make the disastrous abstraction of our bare sense-perceptions from the massive insistency of our total experiences. Of course, whatever we can do in the way of abstraction is for some purposes useful – provided that we know what we are about<sup>321</sup>”

and I add regarding the nature of matter itself that the main *problem* we face is that of Newtonianism the terms of which Robert Rosen explains as follows:

“...it would never occur to an ancient that life was something that *needed* to be explained. As noted at the outset, it was in fact the rise of Newtonian mechanism, and its success in celestial mechanics, that provided the credibility for an entirely different view of the world, the “modern” view. In that view, there was no room for a distinction between animate and inanimate; indeed, the distinction itself disappeared. It was only then that a need for an explanation of life became manifest; indeed, life was now to be explained in terms of the same mechanics that had previously explained the motions of the comets, the planets, and the stars, for there now *was* no other accepted mode of explanation...Hence the allure of the machine metaphor<sup>322</sup>”

which correctly (in my view) suggests that the one-sided mechanical reductionism that we encounter in the thought of Newton and Descartes – which reduces the world to matter, mechanics, mind, and science – has actually created a whole modern worldview in its image.

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<sup>321</sup> Whitehead, A.N. *Adventures of Ideas* (Harmondsworth, 1933) p 254-5

<sup>322</sup> Rosen, Robert *Life Itself: A Comprehensive Inquiry Into the Nature, Origin, and Fabrication of Life* (New York, 1991) p 182-3

I also add that we end up with a dispute over the very nature of “reason” (and hence “*nous*”) and of “intellectualism” and “objectivism” which Edmund Husserl explains, as follows:

“I...am certain that the European crisis has its roots in a misguided rationalism. But we must not take this to mean that rationality as such is evil or that it is of only subordinate significance for mankind’s existence as a whole. Rationality, in that high and genuine sense of which alone we are speaking, the primordial Greek sense which in the classical period of Greek philosophy had become an ideal, still requires, to be sure, much clarification through self-reflection; but it is called in its mature form to guide [our] development. On the other hand we readily admit (and German Idealism preceded us long ago in this insight) that the stage of development of *ratio* represented by the rationalism of the Age of Enlightenment was a mistake, though certainly an understandable one<sup>323</sup>”

and with Husserl’s conclusion being that: “The reason for the failure of a rational culture...lies not in the essence of rationalism itself but solely in its being rendered superficial, in its entanglement in “naturalism” and “objectivism”<sup>324</sup>”. I have assumed that it must be in the context of such a critique of our thinking that we should look to unpack our notions of “matter” and of “being” and see how they compare with Aristotle’s.

Moving back (finally) to Aristotle to set the context within his philosophy for his concept of “noetic matter” I argue that the critical difference between the Aristotelian and the Cartesian world picture is that the Cartesian world is simply reducible to mathematics whereas for Aristotle and for the Greeks generally we find that *we must uncover the truth* of substances and with this process of *revealing* being the famous literal meaning of *aletheia* or “truth”. I suggest that the hard mathematical world of Descartes is very different than Aristotle’s tentative inference of a powerful ordering force of nature which our thought to some extent draws its being from and also imitates and to some extent sees unclearly and derivatively in the sense that:

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<sup>323</sup> Husserl, Edmund “The Vienna Lecture” in *The Crisis of European Sciences and Transcendental Philosophy: An Introduction to Phenomenological Philosophy* (Evanston, [orig. 1935] 1970) p 290

<sup>324</sup> Husserl, Edmund *Ibid.* p 299



“...when we are able to render an account in accordance with the appearance (ἐπειδὴν γὰρ ἔχωμεν ἀποδιδόναι κατὰ τὴν φαντασίαν) of the consequent attributes (περὶ τῶν συμβεβηκότων), either all or some of them, then we shall also be able to speak excellently about the substance (περὶ τῆς οὐσίας) (*De An.* I 402b21-25)”

and with the problem inherent in seeing the world through mathematical, idealistic, and abstract structures being explained by Aristotle as that:

“...the mathematician... treats of these things [but] does not treat of them as the limits of a physical body (ἀλλ' οὐχ ἢ φυσικοῦ σώματος πέρας ἑκάστων); nor does he consider the attributes indicated as attributes of such bodies. That is why he separates them; for in thought they are separable from motion (χωριστὰ γὰρ τῇ νοήσει κινήσεως ἐστὶ), and it makes no difference, nor does any falsity result, if they are separated. The holders of the theory of Forms do the same, though they are not aware of it; for they separate the objects of physics, which are less separable than those of mathematics (*Phys.* II 193b31–194a1)”<sup>325</sup>

and with Aristotle's own thought and philosophy seeking to cleave to the structures (and beings) of nature itself on the basis that:

“Natural science deals with the things that have a principle of movement in themselves (ἡ μὲν οὖν φυσικὴ περὶ τὰ κινήσεως ἔχοντ' ἀρχὴν ἐν αὐτοῖς ἐστίν); mathematics is theoretical, and *is* a science that deals with things that are at rest, but its subjects cannot exist apart (ἡ μὲν οὖν φυσικὴ περὶ τὰ κινήσεως ἔχοντ' ἀρχὴν ἐν αὐτοῖς ἐστίν)...[and in reality] every movement is change from something into something (πᾶσα γὰρ κίνησις ἐξ ἄλλου εἰς ἄλλο ἐστὶ μεταβολή) (*Met.* K 1064a31-1068a25)”

from which we see that whereas *we* take for granted the application of our ideas upon the world and its reduction to mathematics and to science we find that Aristotle argues

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<sup>325</sup> Cf. “...the mathematician makes a study of abstractions (ὁ μαθηματικὸς περὶ τὰ ἐξ ἀφαιρέσεως τὴν θεωρίαν ποιεῖται)...for in his investigations he first abstracts everything that is sensible (περιελὼν γὰρ πάντα τὰ αἰσθητὰ θεωρεῖ), such as weight and lightness, hardness and its contrary, and also heat and cold and all other sensible contrarieties, leaving only quantity and continuity (τὸ ποσὸν καὶ συνεχές) – sometimes in one, sometimes in two and sometimes in three dimensions – and their affections *qua* quantitative and continuous, and does not study them with respect to any other thing; and in some cases investigates the relative positions of things and the properties of these, and in others their commensurability or incommensurability, and in others their commensurability, and in others their ratios; yet nevertheless we hold that there is one and the same science of all these things, viz. geometry (*Met.* K 1061a28-1061b3)”

that the reducibility of formalism *is a problem* on the basis that our abstractions are imperfect and partial representations of a complex world. I note here that we clearly see that our mathematical formalism is inherent in the idealism of Plato's Theory of Forms which Aristotle, is, of course, seeking to contradict.

With this essential contrast between "realism" and "idealism" in mind, then, let us move on to consider the nature of Aristotle's "noetic matter" by explaining first that it is "unknowable", as follows:

"...matter is itself unknowable (ἡ δ' ὅλη ἄγνωστος καθ' αὐτήν). Some matter is sensible and some [noetic] (ὅλη δὲ ἡ μὲν αἰσθητὴ ἐστὶν ἡ δὲ νοητή) (*Met. Z 1036a9*)"

and with Aristotle explaining his reasoning for separating out two types of this "unknowable" matter, namely "perceptible" and "noetic" matter, as follows:

"...perceptible matter being for instance bronze and wood and all matter that is changeable (αἰσθητὴ μὲν οἷον χαλκὸς καὶ ξύλον καὶ ὅση κινητὴ ὅλη), and intelligible matter being that which is present in perceptible things not *qua* perceptible, i.e. the objects of mathematics (νοητὴ δὲ ἡ ἐν τοῖς αἰσθητοῖς ὑπάρχουσα μὴ ἢ αἰσθητά, οἷον τὰ μαθηματικά) (*Met. Z 1036a10-12*)"

which reasonably observes that there is reason to believe that there is a structuring of being which is *not emergent from* "perceptible matter" but which still needs to be accounted for in any explanation of worldly being. I also note that it makes sense that we should perceive "perceptible matter" through our senses and that we should intellect "noetic matter" through our mind and I add that it makes no sense to merely assert that other kinds of matter do not exist other than "perceptible matter" because we cannot perceive them.

In respect to this unseeable "something" we ultimately see that Aristotle assumes that our thought *is itself something* which must have its own manifestation in the world and which should therefore be expected to have its own "medium" which Aristotle names as "noetic matter". As regards our mind or "*nous*" – i.e. our reflection upon and representation of the world through art and science and, importantly, our ability to interact with our fellow man in society – I suggest that Aristotle's overall position is that our thought is a clear instantiation of and reflection of the "*nous*" that we find generally expressed in the world. As regards the worldly nature of "*nous*" I suggest that it follows from Aristotle's concept of "*nous*" that we see the world as a

“noosphere” and as a medium through which the world has the meaning which makes “ousia” possible and through which we also “see” these formal constructions. It is, I suggest, hence that Aristotle answers a question regarding the relationship between part and whole, i.e. “...why are the formulae of the semicircles not part of the formula of the circle? (*Met. Z* 1036b34)”, as follows:

“...there will be matter in some sense in everything which is not essence or form considered independently, but a particular thing (καὶ παντὸς γὰρ ὅλη τις ἔστιν ὃ μὴ ἔστι τί ἦν εἶναι καὶ εἶδος αὐτὸ καθ’ αὐτὸ ἀλλὰ τόδε τι). Thus the semicircles will be parts not of the universal circle but of the particular circles, as we said before – for some matter is sensible, and some intelligible (*Met. Z* 1037a1-5)”

and with Aristotle arguing elsewhere that:

“Some matter is intelligible and some sensible, and part of the formula is always matter and part actuality; e.g. the circle is a plane figure (ἔστι δὲ τῆς ὅλης ἢ μὲν νοητὴ ἢ δ’ αἰσθητή, καὶ αἰεὶ τοῦ λόγου τὸ μὲν ὅλη τὸ δὲ ἐνέργειά ἐστιν, οἷον ὁ κύκλος σχῆμα ἐπίπεδον) (*Met. H* 1045a34-36)”

which suggests that Aristotle’s position is that perceptible “matter” is “passive” and general and that “form” is “active” and *locally* instantiated in parts, wholes, and individuals, and with the wider suggestion being that there must be *something else* other than mere physical matter to provide the *determination* for matter to become something. I ultimately suggest, then, that Aristotle’s general conclusion on “noetic matter” is that the “forms” and also “actuality” must imbue nature through the *medium* of “noetic matter” (and through “*nous*”) in a parallel sense as that *the principle of* “substance” is itself a medium for formal being<sup>326</sup>.

As regards the individual and human nature of “*nous*” we find that human thought has its own existence, depth, and space and reaches its own maturity and concreteness in the sense that:

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<sup>326</sup> Cf. “It would seem...that this “something else” is something that is not an element, but is the cause that *this* matter is flesh and *that* a syllable, and similarly in other cases (δόξειε δ’ ἂν εἶναι τὸ τοῦτο καὶ οὐ στοιχεῖον, καὶ αἰτιόν γε τοῦ εἶναι τοδὶ μὲν σάρκα τοδὶ δὲ συλλαβήν: ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων). And this is the substance of each thing, for it is the primary cause of its existence (οὐσία δὲ ἐκάστου μὲν τοῦτο (τοῦτο γὰρ αἴτιον πρῶτον τοῦ εἶναι)) (*Met. Z* 1041b25-28)”

“...everything which has not matter is indivisible (ἡ ἀδιαίρετον πᾶν τὸ μὴ ἔχον ὕλην) – as human thought, or rather the thought of composite beings, is in a certain period of time (for it does not possess the good at this moment or that (οὐ γὰρ ἔχει τὸ εὖ ἐν τῷδε ἢ ἐν τῷδί), but its best, being something *different* from it, is attained only in a whole period of time (ἀλλ’ ἐν ὅλῳ τινὶ τὸ ἄριστον, ὃν ἄλλο τι), so throughout eternity is the thought which has *itself* for its object (*Met.* Λ 1075a7-10)”

from which we see that Aristotle envisages the deepening of our thought over time (as individuals and multigenerationally as societies) as being a drawing at the well of an “eternal” meaningfulness. I add that we also see that the human “idea” itself is also “separable” from its individual particulars and has its own separate being – and hence *comes-into-being* – on the basis that: “Nor, indeed, can any Idea be defined; for the Idea is an individual, as they say, and separable (τῶν γὰρ καθ’ ἑκάστων ἡ ἰδέα, ὡς φασί, καὶ χωριστή) (*Met.* Z 1040a8-9)”. We see, then, that “*nous*” covers the meaning that we find expressed in and through human beings and that it also covers the meaning that we find in the world generally. Aristotle’s view is that we cannot explain the phenomena that we experience *in* the material world in purely material terms and that we must therefore posit the existence of a parallel formal and mental or non-material world which informs this material world. It is hence that “noetic matter” becomes a necessary posit for Aristotle.

As regards Aristotle’s need to posit the theory of “noetic matter” we find that this concept provides the basis for Aristotle’s explanation for three key “unknowables” in his schema of the world – i.e. “matter” which is “...unknowable in itself (ἡ δ’ ὕλη ἄγνωστος καθ’ αὐτήν) (*Met.* Z 1036a8-9)” and “substance” and “being” regarding which: “...the question which was raised of old, and is always the subject of doubt, *viz.* “What is being? (τί τὸ ὄν)”, is just the question, “What is substance? (τίς ἡ οὐσία)” (*Met.* Z 1028b2-4)” – and that it does so by means of a further “unknowable”, i.e. “*nous*”, regarding which:

“...it is right to say that we cannot undertake to try to discover a starting-point (a first principle) (ἀρχή) in all things and everything...for of course the first principle (ἀρχή) does not admit of demonstration (ἀπόδειξις), but is apprehended by another mode of cognition (ἄλλη γνῶσις) [i.e. “*nous*”] (*GA* II 742b30-34)”

and with this “*nous*” being explained elsewhere as that:

“Mind in the passive sense is such because it becomes all things (πάντα γίνεσθαι), but mind has another aspect in that it makes all things (πάντα ποιεῖν); this is a kind of positive state like light (ὥς ἔξις τις, οἷον τὸ φῶς); for in a sense light makes potential into actual colours. Mind in this sense is separable, impassive and unmixed, since it is essentially an activity (καὶ οὗτος ὁ νοῦς χωριστὸς καὶ ἀπαθὴς καὶ ἀμιγής, τῇ οὐσίᾳ ὧν ἐνέργεια); for the agent is always superior to the patient, and the originating cause to the matter (ἀεὶ γὰρ τιμιώτερον τὸ ποιοῦν τοῦ πάσχοντος καὶ ἡ ἀρχὴ τῆς ὕλης) (*De An.* III 430a15-19)”

and I note that Aristotle routinely suggests in other places that “*nous*” has some form of independent being<sup>327</sup> and I suggest that we can unpack the solid nature of the “particular” into “form” and “matter” on the basis that: “...the proximate matter and the shape are one and the same (ἡ ἐσχάτη ὕλη καὶ ἡ μορφή ταὐτὸ καὶ ἓν) (*Met.* H 1045b18-19)” and infer the wider picture that: “...that which is *capable* of receiving the object of thought, i.e. the substance, is thought. And it is *active* when it *possesses* the object (τὸ γὰρ δεκτικὸν τοῦ νοητοῦ καὶ τῆς οὐσίας νοῦς, ἐνεργεῖ δὲ ἔχων) (*Met.* Λ 1072b22-23)<sup>328</sup>”. We see, then, that the basis of Aristotle’s argument is that *thought is something* (and also *potentiality*) which should be seen to be *like or comparable to* the material matter through which we *physically* find and shape the world.

I add that Aristotle’s envisaging of this *mental* and also *living* “world” is not as radical or as arcane as it may at first appear to be and I comment that it is reflected in such (excellent) modern thinking Walter Elsasser’s “biotonic laws”, Jakob von Uexküll’s concept of the *Umwelt*, and Karl Popper’s “third world” which he explains as follows:

“We live in a world of physical bodies, and we ourselves have physical bodies. When I speak to you, however, I am addressing myself not to your bodies but to your minds. So in addition to the *first world*, the world of physical bodies and their physical and

<sup>327</sup> Cf. “It remains, then, that reason alone enters in, as an additional factor from outside, and that it alone is divine, because physical activity has nothing to do with the activity of reason (λείπεται δὴ τὸν νοῦν μόνον θύραθεν ἐπεισιέναι καὶ θεῖον εἶναι μόνον· οὐτοῦ τῇ ἐνεργείᾳ κοινωνεῖ σωματικὴ ἐνέργεια) (*GA* II 736b 27-29)”

<sup>328</sup> Cf. “...knowledge, like knowing, is spoken in two ways – as potential and as actual (ὧν τὸ μὲν δυνάμει τὸ δὲ ἐνεργείᾳ). The potentiality, being, as matter, universal and indefinite, deals with the universal and indefinite (ἡ μὲν οὖν δύναμις ὥς ὕλη τοῦ καθόλου οὔσα καὶ ἀόριστος τοῦ καθόλου καὶ ἀόριστου ἐστίν); but the actuality, being definite, deals with a definite object, - being a “this”, it deals with a “this” (ἡ δ’ ἐνέργεια ὀρισμένη καὶ ὀρισμένου, τόδε τι οὔσα τοῦδέ τινος) (*Met.* M 1087a15-19)

physiological states, which I will call “world 1”, there seems to exist a *second world*, the world of mental states, which we will call “world 2”. And so the question arises concerning the relationship between these two worlds, the world 1 of physical states or processes and the world 2 of mental states or processes. This question is the body-mind problem...Thus I can describe myself as a Cartesian *dualist*. In fact I am doing a little better than even Descartes: I am a *pluralist*, for I also accept the reality of a *third world*, which I will call “world 3”...By “world 3” I mean, roughly, the world of the *products* of our human minds. These products are sometimes physical things such as the sculptures, paintings, drawings, and buildings of Michelangelo. These *are* physical things, but they are a very peculiar kind of physical things: in my terminology they belong to both the worlds 1 *and* 3. Some other products of our minds are not precisely physical things. Take a play by Shakespeare. You may say that the written or printed book is a physical thing like, say, a drawing. But the performed play is clearly not a physical thing, though perhaps it may be said to be a highly complex sequence of physical events. But now please remember that no single performance of *Hamlet* can be said to be identical with Shakespeare’s play *Hamlet* itself. Nor is Shakespeare’s play the class or set of all of its performances<sup>329</sup>”

and I add that Erwin Schrödinger argues in respect to “mind” that: “...what we call thought (1) is itself an orderly thing, and (2) can only be applied to material, i.e. to perceptions or experiences, which have a certain degree of orderliness<sup>330</sup>” and that Werner Heisenberg argues in respect to “form” that:

“...what is thus found as a result of an interaction, of any action, is not always objects, but forms – forms of that energy which is the fundamental basic material of modern physics, capable of taking different forms in which we recognise objects<sup>331</sup>”

and I note that Heisenberg also finds “...a certain intermediate layer of reality, halfway between the massive reality of matter and the intellectual reality of the idea or the

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<sup>329</sup> Popper, Karl “Knowledge: Objective and Subjective” in *Knowledge and the Body-Mind Problem: In defence of interaction* (London, [orig. 1969]1994) p 4-5

<sup>330</sup> Schrödinger, Erwin *What is Life? The Physical Aspect of the Living Cell* (Cambridge [orig. 1944] 1967) p 10

<sup>331</sup> Heisenberg, Werner “Planck’s discovery and the philosophical problems of atomic physics” in *On Modern Physics* (New York, 1961) p 31.

image”<sup>332</sup> and we find that his subtlety regarding the physical world translates into the intellectual and cultural dispute between Newton to Goethe and a situation in which against: “...objective reality, proceeding according to definite laws and binding even when appearing accidental and without purpose, there stands opposed that other reality, important and full of meaning for us. In that reality events are not counted but weighed, and past events not explained but interpreted<sup>333</sup>.”

Regarding the critical concept of “form” I note that Jerry Fodor and Massimo Piattelli-Palmarini recommend the “...return of the laws of form<sup>334</sup>” on the basis that: “When very similar morphologies (Fibonacci series and Fibonacci spirals) are observed in spiral nebulae, in the geometrical arrangement of magnetically charged droplets in a liquid surface, in seashells, in the alternation of leaves on the stalks of plant stems and in the disposition of seeds in a sunflower, it can hardly be that natural selection is responsible...It is the result of the laws of physics and chemistry creating constraints on possible biological forms, more particularly on stable and reproducible biological forms. That is what, basically, the expression “laws of form” tries to capture<sup>335</sup>. Regarding the critical concept of “mind” (and “matter”) I add that David Bohm argues that:

“...the quantum theory, which is now basic, implies that the particles of physics have certain primitive mind-like qualities which are not possible in terms of Newtonian concepts (though, of course, they do not have consciousness). This means that on the basis of modern physics even *inanimate* matter cannot be fully understood in terms of Descartes’ notion that it is nothing but a substance occupying space and constituted of separate objects. Vice versa, it will be argued that mind can be seen to have always a physical aspect, though this may be very subtle<sup>336</sup>”

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<sup>332</sup> Heisenberg, Werner *Ibid.* p 10

<sup>333</sup> Heisenberg, Werner “Goethe and Newton on Colour” in *Philosophical Problems of Modern Physics* (Woodbridge, [orig. 1941] 1979) p 68

<sup>334</sup> Fodor, Jerry & Piattelli-Palmarini, Massimo *What Darwin Got Wrong* (London, 2011) p 72

<sup>335</sup> Fodor, Jerry & Piattelli-Palmarini, Massimo *Ibid.* p 73

<sup>336</sup> Bohm, David “A new theory of the relationship of mind and matter” in *Philosophical Psychology* (1990) p 272 (and see also Harald Atmanspacher’s “Dual-Aspect Monism à la Pauli and Jung” in *Journal of Consciousness Studies* (2012))

and in conclusion I add that John Smythies argues that: "...phenomenal space and physical space are simply different spaces, different parallel universes<sup>337</sup>" on the basis that:

"...a large number of experiments in psychophysics...demonstrate beyond any doubt that, in vision, we do not perceive the world as it actually is, but as the brain computes it most probably to be... Visual sensations are not parts of external objects, as the Direct Realist theory holds, but are televisual-like constructions of the representative mechanisms of perception... Thus phenomenal consciousness must be allotted its own real space – phenomenal space. This *may* be identical with some aspect of brain space (however this has to be demonstrated and not simply taken for granted) but not with any aspect of external physical space<sup>338</sup>"

and with Smythies' reasonable conclusion being that: "...a consciousness may have its own space-time system and its own system of ontologically independent and spatiotemporally organised events (sensations and images) that have as much right to be called "material" as do protons and electrons<sup>339</sup>". As regards the value of these above "alternative" viewpoints from eminent thinkers I hope that they show that there is nothing radical about challenging Humean positions which are maintained, I suggest, not because they are correct but because they are convenient or in taking Aristotle's "alternative" positions seriously.

Now, I suggest that there is a real ongoing philosophical discussion regarding what matter actually *is* and there is also a real ongoing scientific discussion regarding what counts as matter, what antimatter is, whether we need to posit a "multiverse" etc. In short, then, if anything is clear about "matter" as we currently understand it it is that

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<sup>337</sup> Smythies, John "Space, Time, and Consciousness" in *Journal of Consciousness Studies* (2003) p 51

<sup>338</sup> Smythies, John *Ibid.* p 49

<sup>339</sup> Smythies, John *Ibid.* p 55. I comment that Smythies also notes that: "...traditional Hindu psychology states that humans are compounded of an extended physical body made of ordinary matter and of an extended psyche made of another form of matter too diaphanous to be detected by ordinary instruments (*Ibid.* p 47)" and that Carl Jung asserts that: "When in the course of our own development we grow out of many-sided contradictions and achieve a unified personality, we experience something like a complicated growing-together of the psyche. Since the human body is built up by inheritance out of a number of Mendelian units, it does not seem altogether out of the question that the human psyche is similarly put together ("Archaic Man" in *Modern Man in Search of a Soul* (London, [orig. 1933] 1961) p 170).



we should *not* simply reduce it to “extended” material stuff on a Cartesian or Newtonian conceptual basis<sup>340</sup>. On this basis, then, let us consider Stephen Gaukroger’s explanation of Aristotle’s “noetic matter” as that our thought in respect to the world – and our “ideas” about it – *is* something in the world which possesses its own “matter” and its own qualities in the sense that:

“Aristotle’s doctrine of abstraction (ἀφαίρεσις)... [means that] When mathematical attributes such as numbers are defined in terms of the physical objects possessing those attributes they clearly have sensible matter as their matter. When they are defined independently of such objects their matter is what Aristotle terms ὅλη νοητή, noetic or “intelligible” matter... Mathematical abstraction is distinctive in that it is a twofold process: we must abstract the mathematical properties of the object or collection by disregarding what it is that has those properties (i.e. the matter), but there is also a second part to the abstraction in which we disregard the *properties* of sensible objects so that what has these properties becomes the object of investigation. These two parts of the abstraction taken together yield mathematical properties and a noetic matter of which these are the properties. In abstracting numbers we “detach” them from sensible things, but it is an essential characteristic of numbers (and geometrical figures) that they be properties, so we must therefore “attach” them to something else; otherwise they would be “free floating” properties, so to speak, and this is as impossible in the case of numbers as it is in the case of kinds<sup>341</sup>”

and let us compare Aristotle’s position as above with William James’ assessment as below which is based upon the “pragmatic method<sup>342</sup>” and which asserts that: “There is...no aboriginal stuff or quality of being, contrasted with that of which material objects are made, out of which our thoughts of them are made<sup>343</sup>”.

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<sup>340</sup> Michael Lockwood argues on this point that: “The Newtonian concept of matter is incorrect...and it is high time that philosophers began properly to take on board the conception that has replaced it. Quantum mechanics...has robbed matter of its conceptual quite as much as its literal solidity (*Mind Brain & the Quantum: The Compound “I”* (Oxford, 1989) p ix)”

<sup>341</sup> Gaukroger, Stephen “The One and the Many: Aristotle on the Individuation of Numbers” in *The Classical Quarterly* (1982) p 318-9

<sup>342</sup> James, William “Does “Consciousness” Exist?” in *The Journal of Philosophy* (1904) p 481

<sup>343</sup> James, William *Ibid.* p 478

We find that William James argues that once we desubstantivise “consciousness” and see it merely as being some sort of emergence then we can effectively seek to delegitimise this intangible altogether, as follows: “I believe that “consciousness,” when once it has evaporated to this estate of pure diaphaneity, is on the point of disappearing altogether. It is the name of a nonentity, and has no right to a place among first principles. Those who still cling to it are clinging to a mere echo, the faint rumour left behind by the disappearing “soul” upon the air of philosophy<sup>344</sup>” and with James’ subsequent suppositions being as follows:

“My thesis is that if we start with the supposition that there is only one primal stuff or material in the world, a stuff of which everything is composed, and if we call that stuff “pure experience,” the knowing can easily be explained as a particular sort of relation towards one another into which portions of pure experience may enter... [and] if we take conceptual manifolds, or memories, or fancies, they also are in their first intention mere bits of pure experience, and, as such, are single *thats* which act in one context as objects, and in another context figure as mental states<sup>345</sup>”

which shows us the natural movement (and *non sequitur*) from arguing that if something is immaterial or, rather, is not physically perceptible then *it does not exist*.

As regards how James’ assessment relates to Gaukroger’s assessment of Aristotle’s “noetic matter” we find that James puts replicates his position, as follows: “We operate...by physical subtraction...[and t]his supposes that the consciousness is one element, moment, factor - call it what you like - of an experience of essentially dualistic inner constitution, from which, if you abstract the content, the consciousness will remain revealed to its own eye. Experience, at this rate, would be much like a paint

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<sup>344</sup> James, William *Ibid.* p 477. I note by contrast that Aryeh Kosman explains Aristotle’s “nous” as follows: “Aristotle’s god is not a scientist, nor a philosopher, and divine thought is not a form of cosmic ratiocination or brilliantly articulated scientific theory. For θεωρία is not theory; it is simply the principle of *awareness* (prior to its later thematization as interiority), the (divine) full self-manifesting and self-capturing activity of *consciousness*, of which scientific activity and philosophical speculation are to be sure particularly subtle forms, but of which the ruder and more incorporate activities of perception and nutrition are equally images, if meaner and less noble, and of which indeed – and this is after all simply the doctrine of *Metaphysics*, culminating in book 12 – the essential being of all things, the formal principle of their being what they are, which constitutes their intelligible essence, is also a mode (“What Does the Maker Mind Make?” in *Virtues of Thought: Essays on Plato and Aristotle* (Cambridge Mass., [orig. 1992] 2014) p 135)”

<sup>345</sup> James, William *Ibid.* p 478-482

of which the world pictures were made<sup>346</sup>”. As regards James’ own position, however, we find that he rejects the idea that our mind “paints” in the world, as follows:

“...my contention is exactly the reverse of this. *Experience, I believe, has no such inner duplicity; and the separation of it into consciousness and content comes, not by way of subtraction, but by way of addition*<sup>347</sup>”

and with James insisting that: “Consciousness connotes a kind of external relation, and does not denote a special stuff or way of being. *The peculiarity of our experiences, that they not only are, but are known, which their “conscious” quality is invoked to explain, is better explained by their relations - these relations themselves being experiences - to one another*<sup>348</sup>”. Ultimately, then, I suggest that the contrast we find between James and Aristotle is that James argues that we do not *actively* interpret the world but merely *passively* accumulate its experiences but that Aristotle argues that we are *determinate* beings with an *internal* world which *actively* move in the world and I note that this distinction arises from a disagreement over the need for “noetic matter”.

The distinction we encounter above is, of course, stark. We see that Aristotle asserts the active and creative involvement of man in a world in which “The faculty of thinking...thinks the forms in the images (τὰ μὲν οὖν εἶδη τὸ νοητικὸν ἐν τοῖς φαντάσμασι νοεῖ) (*De An.* III 431b2-3)” and I add that he argues that we must recognise that when we speak about such formal “intangibles” we are *not* merely talking about the numbers and / or language (and “mind”) which our modern philosophers are willing to recognise (I note that Aristotle actually regards number and word as being exceptional and to some extent misleading examples of “intangibles”; see *Cat.* 4b28-39). We find, rather, that Aristotle is referring to an immense wealth of the “intangible” which includes poetry, melody, art, logic, form, good, science, thought, love, meaning *etc.* which all possess natural structures, means, and objects which cannot be accounted for – or dismissed – as random individual accumulations of experience<sup>349</sup>. We see that

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<sup>346</sup> James, William *Ibid.* p 480

<sup>347</sup> James, William *Ibid.* p 480

<sup>348</sup> James, William *Ibid.* p 486

<sup>349</sup> See Francis Wolff’s “The Three Pleasures of Mimēsis According to Aristotle’s Poetics” in Bernadette Bensuade-Vincent & William R. Newman (eds.) *The Artificial and the Natural: An Evolving Polarity* (Cambridge Mass., 2007)

James, on the other hand, regards man as a passive, material, and plastic being who merely regurgitates the world he experiences and whose thought can be explained as being a literal mirroring of the physical external world in the sense that:

“Why...do we call a fire hot, and water wet, and yet refuse to say that our mental state, when it is “of” these objects, is either wet or hot? “Intentionally,” at any rate, and when the mental state is a vivid image, hotness and wetness are in it just as much as they are in the physical experience<sup>350</sup>”

and I add that this strangely mechanical, literal, and disembodied worldview – which perhaps merely extends Descartes’ account of soulless mechanical animals to human beings – is importantly reflected in the very history and structure of Western science itself in the sense that Mae Wan-Ho explains, as follows: “The standard procedure is to grind up the organisms or cells to a pulp, or “homogenate” [and]...it only gradually dawned on us that the cell is highly structured<sup>351</sup>”. I conclude on the basis of the views outlined above that we can clearly discern the existence of two very different mental “worlds” and I suggest that the very existence of these consistent and expansive mental “worlds” supports Aristotle’s posit that we must account for – even if aporetically – the existence of a shared mental energy or “noetic matter” in which our shared world of thought, imagery, and culture subsists which we can reasonably call a “noosphere”.

As regards Aristotle’s approach to the world I suggest that we see here, as elsewhere, a willingness to posit unknowables in order to maintain the shape and accuracy of our total worldview. Namely, I suggest that we have previously seen in respect to memory or touch or food that Aristotle argues that we discriminate and we take what we want from the world on a range of different levels, through a range of means, and through a range of different “matters”. I add in respect to nutrition that we are acting upon the world by extracting our matter from it, that in respect to sensation we are balancing or maintaining ourselves in the world, whereas in respect to thought we are acting upon the world in the sense that we are actively shaping it and imposing ourselves upon it. I conclude that we are, following Aristotle, simply considering the

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<sup>350</sup> James, William “Does “Consciousness” Exist?” in *The Journal of Philosophy* (1904) p 488-89

<sup>351</sup> Ho, Mae-Wan *The Rainbow and the Worm: The Physics of Organisms* (Singapore, 1993) p 93-94 (and see also Robert Rosen’s “On the Strategy of Relational Modelling” in *Life Itself: A Comprehensive Inquiry Into the Nature, Origin, and Fabrication of Life* (New York, 1991) and David Bohm’s “On the Subjectivity and Objectivity of Knowledge” in *Beyond Chance and Necessity* ed. John Lewis (London, 1974))

*force* and *power* which is *in things* (both as physical and non-physical forces) and I suggest regarding James that his attempt to reduce the world to pragmatic description which denudes nature of meaning and invests it in ourselves is merely a way to redefine this force as merely being *our force or will*.

As regards this intellectual *force* I note that the Greek term “*deinotēs*” means both *terribleness* and *cleverness* and that Aristotle’s position which takes this duality seriously (for which see N.E. VI 1144a23-30) contrasts significantly with the position of Sigmund Freud who maintains that:

“Civilisation has little to fear from educated people and brainworkers. In them the replacement of religious motives for civilised behaviour by other, secular motives would proceed unobtrusively; moreover, such people are to a large extent themselves vehicles of civilisation<sup>352</sup>”

with this contrast showing us the contrast between Aristotle’s “ancient” position (a) that our picture of the world is precisely that, *a picturing or channelling exhibiting force and focus*, (b) that *ideas have power* and (c) that these ideas can be forceful and also forcefully destructive<sup>353</sup> and Freud’s “modern” position which accepts the *force* of ideas and of intellectuals and assumes that they are vehicles of civilisation and progress. I suggest that the possibility which Aristotle raises (and which other philosophers may wish to ignore) is that the application of our thought through our various narrow progressive –isms may actually serve to *mutilate and degrade their objects of affection* e.g. think about what happens when “social” becomes social-ism, “individual” becomes individual-ism, feminine becomes “femin-ism”, “intellectual” becomes intellectual-ism,

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<sup>352</sup> Freud, Sigmund *The Future of an Illusion* in *Complete Psychological Works of Sigmund Freud*, vol. XXI (London, [orig. 1927] 2001) p 39

<sup>353</sup> I suggest that Mircea Eliade correctly finds this combination of “cleverness” and “terribleness” reflected in our modern world, as follows: “...the phenomenon of colonisation was part of the baroque style. The love of power and the frenzy to enjoy this power. Colonisation and Puritanism are two poles of the baroque. On the one hand, the slave trader; on the other hand, the Puritan – or, on the one hand, the will to gain wealth as rapidly as possible (and by all the means available); on the other hand, the mystical doctrine of the Quakers. The will to power – outward or inward (*No Souvenirs: Journal, 1957-1969* (London, 1978) p 200)”. On the *terribleness* of the bored intellectual and the reason why philosophy is so important as an occupation for intellectuals who otherwise may interfere in politics see Elizabeth Shaw’s “Aristotle on the Fullness of Social Living” in *The Imaginative Conservative* (online, 2014) (and see also Werner Heisenberg’s “Goethe and Newton on Colour” in *Philosophical Problems of Modern Physics* (Woodbridge, [orig. 1941] 1979)).

“positive” becomes “positiv-*ism*”, “material” becomes material-*ism*, “function” becomes functional-*ism*, “situation” becomes “situation-*ism*”, “environment” becomes “environmental-*ism*”, “selection” becomes selection-*ism*, “physical” becomes physical-*ism etc. etc. ad nauseam*. I will take the liberty here of christening this rule as “Jackson’s law of intellectual mutilation”.

Now, as regards the meaning and origin of the problem of intellection that I have set out above I will seek to show below that our worldview fundamentally hinges upon our conceptual understanding of “God” and also upon how our thought in respect to “God” has changed over time. We see that G.W.F. Hegel shows us how our viewpoint is derived from the West’s Christian background, as follows:

“There can be no doubt that the essential Christian definition of freedom and of individuality, which as free is infinite within itself and is personality, has misled the understanding into conceiving the individualisation of finitude in terms of the category of a *subsisting* unchangeable atom, and of overlooking the element of the negative that resides in *power* and its general system<sup>354</sup>”

and I add that Ladislav Kvasz also explains well that *our picture of the world is based upon and derived from* our picturing of “God” on the basis that:

“...monotheistic theology with its idea of an omniscient and omnipotent God, who created the world, indirectly influenced the process of this mathematicisation. In *separating ontology from epistemology*, monotheistic theology opened the possibility to explain all of the ambiguity connected to these phenomena as a result of human finitude and so to understand the phenomena themselves as unambiguous, and thus accessible to mathematical description<sup>355</sup>”

and with Kvasz explaining the construction of our world picture further by adding that: “Determinism and randomness are two aspects of the same reality. Determinism is the ontological side and probability the epistemological side of the same world. According to Laplace, the world is absolutely determinisitic, but to the human mind, it is opened only in a probabilistic way...In his *Scholium generale*, Newton characterised the

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<sup>354</sup> Hegel, G.W.F. *Lectures on the Proofs of the Existence of God*, (1829) §311

<sup>355</sup> Kvasz, Ladislav “The Invisible Link Between Mathematics and Theology” in *Perspectives on Science and Christian Faith* (2004) p 112

absolute space as *Sensorium Dei*. Therefore the possibility of its mathematicisation originates in God's perfection. To humans, only the relative, empirical space is accessible<sup>356</sup>.

If this is our *modern picture of reality*, however, we also find that Kvasz adds regarding the *ancient picture of reality* that:

“...the ancient notions of *apeiron*, *tyché*, *kenón*, and *kinesis* were much broader than our modern notions of infinity, randomness, space, and motion, which became the bases of the new mathematical disciplines. Today we strictly discriminate between the infinite and the indeterminate, between randomness and fate, between emptiness and space, between motion and change. Thus from the ancient notions, which were broad and ambiguous, narrow and specific parts were separated, and it was only these narrower notions that were mathematicised<sup>357</sup>”

which shows us that this *narrowing of our concepts* historically went hand-in-hand with the *focussing of our intellectual power* and that this focussed and mechanical power has driven the modern world *for better and for worse*. I posit that we see both the simple directed power of the thought of thinkers such as Newton and Descartes and also that the confusion, dogmatism, and dissimulation which permeates our modern thinking has arisen from out of the *confusion* which necessarily arises from the attempt to marry an idea such as “*hypothesis non fingo*” with an insistence that the world is created by an omniscient “God”<sup>358</sup>.

Now, let us expand upon Ladislav Kvasz's valuable assessment of the difference between ancient and modern concepts by recognising (a) that we have seen this difference in respect to the terms symmetry, mean, proportion, priority which have a purely *mathematical* significance in our worldview but have a much wider value-laden and worldly or *substantive* significance in Aristotle's and (b) that we also see that this

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<sup>356</sup> Kvasz, Ladislav *Ibid.* p 114-115

<sup>357</sup> Kvasz, Ladislav *Ibid.* p 114

<sup>358</sup> In respect to “dissimulation” we see that Descartes is willing to argue (and note the “not seem to support the opinion”) that: “Moving force is the force of God Himself conserving as much displacement in matter as He put in it at the first moment of creation ... And this force in created substance is its mode, but it is not a mode in God; but this being somewhat above the understanding of the common run of mind, I have not wanted to deal with the question in my writings so as not to seem to support the opinion of those who consider God as a world-soul united to matter (“To More, August 1649”, *CSM* III §404, p 381)”

difference in respect to the richness of concepts applies to *all* the terms we have considered such as “mind”, “desire”, “choice”, “pleasure”, “development” etc. which are concepts that we treat in purely descriptive and scientific way but which Aristotle (also) treats in a wider transcendent and philosophical sense. We can also add that we see this distinction in respect to the concept of “number” itself as Rémi Brague explains, as follows:

“A schema is the way something holds (echein) together. In this sense, an arithmos is like a figure...The term arithmos here designates not so much number as an expression of quantity, but rather the structure realised by the elements that draw together...[and] the articulation [of movement] is both the act of unifying and the act of dividing...Arithmos is not viewed as what makes counting possible, but as what a collection must possess in order to be a collection, and thus in order to be counted. Articulation alone makes enumeration possible... Time “advances” down the middle, through the present that simultaneously ejects the past and the future. The “movement” of time is centrifugal<sup>359</sup>”

and we also see that Imre Lakatos identifies our flattened take on “number” that: “Mathematics has been trivialised, derived from indubitable, trivial axioms in which only absolutely clear and trivial terms figure, and from which truth pours down in clear channels. Concepts like “continuity”, “limit”, etc. gave way to concepts like “natural number”, “class”, “and”, “or” etc. The “arithmeticisation of mathematics” was a most wonderful Euclidean achievement<sup>360</sup>” and that Paul Feyerabend draws out this comparison further, as follows: “Nowhere has Lakatos shown that the aims of modern science (progress with the help of “anticipations of the mind”) are better than the aims of Aristotelian science (absorption of facts into a stable body of basic theory; “saving” the phenomena), and that they are reached more efficiently<sup>361</sup>”.

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<sup>359</sup> Brague, Rémi “On Aristotle’s Formula ὁ ποτε ὄν: Physics IV.11, 14” in Claudia Baracchi (ed.) *The Bloomsbury Companion to Aristotle* (London, [orig. 1982] 2013) p 82-84

<sup>360</sup> Lakatos, Imre “Infinite Regress and Foundations of Mathematics” in *Proceedings of the Aristotelian Society* (1962) p 166

<sup>361</sup> Feyerabend, Paul “Theses on Anarchism” in *For and Against Method* (Chicago, 1999) p 117. On the Cartesian “problem” see also Emily Grosholz’s *Cartesian Method and the Problem of Reduction* (Oxford, 1991), Richard Hassing’s “History of Physics and the Thought of Jacob Klein”, *The New Yearbook for Phenomenology and Phenomenological Philosophy* XI (2012), and Katherine Brading’s “Autonomous Patterns and Scientific Realism” in *Philosophy of Science* (2010). I also note Imre Lakatos’ argument around the principle that: “When in science



I add further on this subject that David Bohm arrives at “Aristotelian” positions on “form” by recognising the: “...formal cause...[and that] what is involved [here] is not a mere form imposed from without, but rather *an ordered and structures inner movement that is essential to what things are*. Any such formative cause must evidently have an end or product which is at least implicit<sup>362</sup>” and also on “mind” regarding which:

“My suggestion is that at each stage the proper order of operation of the mind requires an overall grasp of what is generally known, not only in formal, logical, mathematical terms, but also intuitively, in images, feelings, poetic usage of language, etc. (Perhaps we could say that this is what is involved in harmony between the “left brain” and the “right brain”.) This kind of overall way of thinking is not only a fertile source of new theoretical ideas: it is needed for the human mind to function in a generally harmonious way<sup>363</sup>”

and with Bohm ultimately ending up seeing “*nous*” or “mind” as a heightened form of “sensation” which is reminiscent of Aristotle’s “*agchinoia*”, as follows:

“The perception of whether or not any particular thoughts are relevant or fitting requires the operation of an energy that is not mechanical, an energy that we shall call *intelligence*...Suddenly, in a flash of understanding, one may see the irrelevance of one’s way of thinking about the problem, along with a different approach in which all the elements fit in a new order and in a new structure. Clearly, such a flash is essentially *an act of perception*, rather than a process of thought...though later it may be expressed in thought. What is involved in this act is *perception through the mind* of abstract orders and relationships such as identity and difference, separation and connection, necessity and contingency, cause and effect, etc...If intelligence is to be an unconditioned act of perception, its ground cannot be in structures such as cells, molecules, atoms, elementary particles, etc...The actual operation of intelligence is thus

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one wants to prove everything from below, one has first to redefine, reconstruct, everything in the perfectly well known terms of the bottom (“Infinite Regress and Foundations of Mathematics”, *Proceedings of the Aristotelian Society* (1962) p 161)” (and also see my *Aristotle on the Meaning of Man* (Oxford, 2016)).

<sup>362</sup> Bohm, David *Wholeness and the Implicate Order* (London, 1980) p 12

<sup>363</sup> Bohm, David *Ibid.* p xiv

beyond the possibility of being determined or conditioned by factors that can be included in any knowable law<sup>364</sup>”

and I add further that Bohm (paralleling Husserl<sup>365</sup>) also seeks to explain *why* our thought has ossified in the way that it has by considering the shift from the ancient concept of “proportion” to the modern concept of “measure”, as follows: “...as time went on, this notion of measure gradually began to change, to lose its subtlety and to become relatively gross and mechanical. Probably this was because man’s notion of measure became more and more routinized and habitual, both with regard to its outward display in measurements relative to an external unit and to its inner significance as universal ratio relevant to physical health, social order, and mental harmony. Men began to learn such notions of measure mechanically, by conforming to the teachings of their elders or their masters, and not creatively through an inner feeling and understanding of the deeper meaning of the ratio or proportion which they were learning<sup>366</sup>”.

Regarding “reason” as “*nous*” and “noetic matter”, then, I ultimately concur with Russell Winslow’s conclusion that:

“...*nous* does not have attributes, it does not have an organ, it does not have shape, *except* as the form in potency of what it perceives. *Nous* is the most primordially *open* part of the soul. It can become any intelligible thing that works upon it. If there is such a thing as *primary matter* in Aristotle, from this description it would seem that, rather than some sort of lowly material substrate, *nous* – the highest potency in the cosmos – is a kind of *primary matter*. After all, *nous* can potentially become all forms, for Aristotle: “...it will be said that the soul is a place of forms, except that this is not the whole soul but the noetic soul, and it is not the form in its entelecheia, but in potency (*De An.* III 429a 28)<sup>367</sup>”

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<sup>364</sup> Bohm, David *Ibid.* p 51-2

<sup>365</sup> On the history of measurement see also Edmund Husserl’s “The Origin of Geometry” in *The Crisis of European Sciences and Transcendental Phenomenology: An Introduction to Phenomenological Philosophy* (Evanston: Northwestern Univ. [orig. 1936] 1970)

<sup>366</sup> Bohm, David *Wholeness and the Implicate Order* (London, 1980) p 21-2

<sup>367</sup> Winslow, Russell “On the Life of Thinking in Aristotle’s *De Anima*” in *Epoché* (2009) p 310

and I suggest regarding “matter” and “mind” that the Aristotelian idea that there are numerous “powers” in the world and that: “It is clear that we must posit as many differences of matter as there are bodies (*De Cael.* IV 312b20)” is only shocking or even subject to challenge if we assume or seek to assert that the world *reduces to one elemental principle* such as “God” or physical “matter”.

Regarding “science” and our modern standard “scientific” worldview I suggest that Aristotle’s posit of “noetic matter” is itself both a reasonable scientific posit and is, more importantly, a philosophical necessity as a placeholder through which we can properly represent our real, observed human situation just as the much maligned concept of the “ether” should actually also be retained and posited to explain our physical situation, as the physicist Robert B. Laughlin explains, as follows:

“Relativity actually says nothing about the existence or nonexistence of matter pervading the universe, only that any such matter must have relativistic symmetry....About the time relativity was becoming accepted, studies of radioactivity began showing that the empty vacuum of space had spectroscopic structure similar to that of ordinary quantum solids and fluids. Subsequent studies with large particle accelerators have now led us to understand that space is more like a piece of window glass than ideal Newtonian emptiness. It is filled with “stuff” that is normally transparent but can be made visible by hitting it sufficiently hard to knock out a part. The modern concept of the vacuum of space, confirmed every day by experiment, is a relativistic ether. But we do not call it this because it is taboo<sup>368</sup>”

and I add regarding this “taboo” that the insistence upon holding outdated Newtonian and Cartesian philosophical concepts of matter (as considered above) is due to the fact that it supports a certain “positivist” philosophical worldview. I add further that the attempt to reduce “truth” to “being able to utter a large number of true propositions<sup>369</sup>” is also a manifestation of the same narrow and reductionist “positivist” thinking which debases our philosophy, science, and politics.

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<sup>368</sup> Laughlin, Robert B. *A Different Universe: Reinventing Physics from the Bottom Down* (New York, 2005) p. 120-121 (and see Johann Rafelski and Berndt Müller’s *The Structured Vacuum: Thinking About Nothing* (Deutsch, 1985) esp. pps 172-3 and Christopher Decaen’s “Aristotle’s Aether and Contemporary Science” in *The Thomist* (2004)).

<sup>369</sup> Rorty, Richard “Mind as Ineffable” in Richard Q. Elvee (ed.) *Mind in Nature; Nobel Conference XVII* (San Francisco, 1982) p 69

Alternatively, I suggest that Michel Foucault offers us a rich and focussed philosophical assessment of man through consideration of a series of “focal points of experience” and “*kairoi*<sup>370</sup>” or “opportune moments” as follows:

“...by “thought” I meant an analysis of what could be called focal points of experience in which forms of a possible knowledge (*savoir*), normative frameworks of behaviour for individuals, and potential modes of existence for possible subjects are linked together<sup>371</sup>”

and with examples of these “opportune moments” being as follows:

“The movement of the soul that Seneca describes with Platonic images is, I think, very different from the movement found in Plato, and it arises from a quite different spiritual framework or structure. You see first of all that in Seneca’s description of this movement of the soul as, in fact, a kind of uprooting from the world, a transition from darkness to light, etcetera, there is no recollection, even if reason recognises itself in God. What is involved is a journey over the world, an investigation into the things of the world and their causes, rather than a rediscovery of the soul’s essence. There is no question of the soul withdrawing into itself and questioning itself in order to discover within itself the memory of the pure forms it had once seen. Rather, what is involved is really seeing the things of the world, of really grasping their details and organisation<sup>372</sup>”

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<sup>370</sup> Foucault, Michel *The Government of Self and Others* (Basingstoke, [orig. 1982-3] 2010) p 224

<sup>371</sup> Foucault, Michel *Ibid.* p 3

<sup>372</sup> Foucault, Michel *The Hermeneutics of the Subject* (New York, [orig. 1981-2] 2005) p 281. I note that Foucault also argues along these lines that:

“Whereas the Platonic movement consisted in turning away from this world in order to look towards another – even if souls, who, through recollection, have rediscovered and savoured the reality they have seen, are led more by force than by their own will back to this world in order to govern it – the Stoic movement defined by Seneca is completely different. It involves a sort of stepping back from the point we occupy. This liberation enables us to reach the highest regions of the world without, as it were, ever losing being out of sight. We reach the point from which God himself sees the world, we see the world to which we belong and consequently can see ourselves within this world (*Ibid.* p 276)”

and that: “...the spiritual exercise of Marcus Aurelius tends towards a sort of dissolution of individuality, whereas the function of Seneca’s spiritual exercise – with the subject’s move to the world’s summit from where he can grasp himself in his singularity – was, rather, to found and establish the subject’s identity, its singularity and the stable being of the self it constitutes (*Ibid.* p 307).”

and I suggest that our *highly abstract but contentless* worldview is the logical result of *our* history in which the Greeks imbued the world with meaning, the Christians attributed this meaning to “God”, and then the moderns denied existence to this “God”. I add that we can follow Foucault and find a shift from “memory” (finding ourselves) to “meditation” (understanding ourselves) to “method” (manipulating ourselves)<sup>373</sup> and also see a contrast between (A) (modern) methodical man as a constructed thing in a “flux space<sup>374</sup>” organised or driven by “laws” of nature (“atoms and the void”) and (B) (Aristotelian) meditative man as a natural and en-formed and individual human being in time and space.

I ultimately suggest in *this* philosophical context that there is nothing in Aristotle which is unreasonable – even his concept of “noetic matter”, the idea that there are many (material) “worlds”, and the idea that there is “noosphere” in which the richness of our culture, thought, and history is contained etc. – and also that the real problem we face is not excessive speculation but is, rather, the attempt *to control and restrict what can and cannot be said* to a narrow, outdated, and self-serving framework of reference regarding which Roger Scruton comments, as follows: “[Richard] Rorty was paramount among those thinkers who advance their own opinion as immune to criticism, by pretending that it is not truth but consensus that counts, while defining the consensus in terms of people like themselves<sup>375</sup>”.

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<sup>373</sup> Cf. Foucault, Michel *The Hermeneutics of the Subject* (New York, [orig. 1981-2] 2005) p 460

<sup>374</sup> Benoist, Alain de “On Identity” in *éléments* (2004) p 59. I am reminded of Jacques Ellul’s argument that we live in a system characterised by authoritarianism within anarchy and hence that: “...what we actually observe is a technical order, but *within* a growing chaos (“The Present and the Future” in *Perspectives on our Age* (Toronto, [orig. 1981] 2004) p 56)”

<sup>375</sup> Scruton, Roger “Richard Rorty’s Legacy” in *Open Democracy* (online, 12 June 2007)

## 18 Aristotle on God

We ultimately arrive at Aristotle's view of "God" and of the "divine" regarding which we can begin by setting the context by considering that Aristotle argues that we have no personal relationship with "God" in the general sense that:

"...forasmuch as certain of the lower animals also dream, it may be concluded that dreams are not sent by God (θεόπεμπτα), nor are they designed for this purpose [to reveal the future]. They have a supra-natural aspect (δαιμόνια), however, for nature [their cause] is δαιμονία [supra human], though not itself divine (ἡ γὰρ φύσις δαιμονία, ἀλλ' οὐ θεία) (*Div.* 463b12-15)"

and that: "...nothing is thought to be any longer either good or bad for the dead (*N.E.* V 1115a27)" from which we see that Aristotle argues that we cannot draw the inference that we have some relationship with "God" such as that "He" sends dreams or allows us to live after death<sup>376</sup>. I add that we see that Aristotle concedes that "nature" has a "supra human" or "daemoniac" aspect (this reminding us of Socrates' "daemon") but also argues against Plato's personalisation of "divinity" as "eternal men (ἀνθρώπους αἰδίους)" (*Met.* B 997b11)<sup>377</sup> on the basis that we can maintain our wonder in the mystery of being only by actively avoiding normalising "God" by conflating our representations of the world with the world itself and, ultimately, by conflating "God" with ourselves.

I suggest further that Aristotle's evident caution leaves us with the question regarding "...whether a centaur or god exists (*Post. An.* II 89b33-34)" and with how exactly we can think about something which is beyond the range of our senses and is something that we can imagine or infer but not directly know, as follows:

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<sup>376</sup> Cf. "...those things are noble which which it is possible for a man to possess after death rather than during his lifetime, for the latter involve more selfishness...[and we should strive for] success gained not for oneself, but for others...in a word, all acts of kindness (τὰ εὐεργετήματα), for they are disinterested (οὐ γὰρ εἰς αὐτόν) (*Rhet.* I 1367a1-6) (and see Robert Mayhew's "Aristotle on Prayer" in *RHIZAI* (2007)).

<sup>377</sup> Cf. "It is absurd to suppose that purpose (ἔνεκά του γίγνεσθαι) is not present because we do not observe an agent deliberating (τὸ κινεῖν βουλευσάμενον) (*Phys.* II 199b26-28)"

“How can one prove the essence (τὸ τί ἐστίν)? Anyone who knows *what* “man” or any other thing is (τὸ τί ἐστίν) must also know *that* it is (ὅτι ἐστίν); because no one knows *what* a non-existent thing is (τὸ γὰρ μὴ ὄν οὐδεὶς οἶδεν ὅτι ἐστίν). (He may know the meaning of a phrase, or of a name if, e.g., I speak of a unicorn; but it is impossible to know *what* a unicorn is) (ἀλλὰ τί μὲν σημαίνει ὁ λόγος ἢ τὸ ὄνομα, ὅταν εἴπω τραγέλαφος, τί δ' ἐστὶ τραγέλαφος ἀδύνατον εἰδέναι) (*Post. An.* II 92b4-8)”

and I suggest that Stephen Menn follows Aristotle’s subtleties here well, as follows:

“For Aristotle, as for Plato, “it is evident that there is some eternal and unmoved substance separated from the sensibles (*Met.* Λ 1073a3-5)”, and Aristotle is willing to describe this in deliberately Platonic terms as “something separated and itself-by-itself” (*Met.* Λ 1075a12-13)”...[and so we see that] Aristotle’s general concern is not to avoid separation, but to avoid applying to divine, immaterial substances predicates which are in fact applicable only to things bound up with matter. Aristotle frequently charges the Platonists with improperly assimilating incorruptible things to corruptible things<sup>378</sup>”

and I generally suggest that A.N. Whitehead draws the correct conclusion regarding the carefulness of Aristotle’s approach to “God”, as follows: “...in his consideration of this metaphysical question [Aristotle] was entirely dispassionate; and he is the last European metaphysician of first-rate importance for whom this claim can be made...It may be doubted whether any properly general metaphysics can ever, without the illicit introduction of other considerations, get much further than Aristotle<sup>379</sup>”.

On the basis, then, that Aristotle identifies the problem of human limitedness in respect to how he sees or, rather, infers “God” let us now move on to consider that Aristotle’s basic position on the “divine” is that we possess a human power of reflexivity which runs parallel with a pregnancy of purpose that we find in nature itself. As regards the significance of this situation I suggest that these possibilities and this relationship between these possibilities enable us to see the structuring and

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<sup>378</sup> Menn, Stephen “Aristotle and Plato on God as *Nous* and as the Good” in *Review of Metaphysics* (1992) p 563 (cf. “...they [the Platonists] say there is a man-in-himself and a horse-in-itself and a health-in-itself, with no further qualification – a procedure like that of the people who said there are gods, but in human form. For they were positing nothing but eternal men, nor are they making the Forms anything other than eternal sensible things (*Met.* B 997b8-12)”) )

<sup>379</sup> Whitehead, Alfred North *Science and the Modern World* (New York, [orig. 1925] 1967) p 173

purposiveness of the world itself which Aristotle considers “divine”. In more detail, we see that Aristotle argues regarding this possibility for opportunity generally that:

“...opportunity and moderation (τὸν καιρὸν ἢ τὸ μέτριον), do not fall within the province of a single science to study, but different sorts of opportunity and of moderation are studied by different sciences, for instance opportunity and moderation in respect of food are studied by medicine and gymnastics, in respect of military operations by strategies, and similarly in respect of another pursuit by another science; so that it can hardly be the case that the Absolute Good is the subject of only one science (*E.E.* I 1217b38-1218a1)”

and in respect to the relationship between “opportunity” and “God” we find that Aristotle argues that:

“...opportunity belongs to God, but the right time does not, because nothing is convenient to God (θεῷ γὰρ καιρὸς μὲν ἔστι, χρόνος δ' οὐκ ἔστι δέων διὰ τὸ μηδὲν εἶναι θεῷ ὠφέλιμον) (*Pr. An.* I 48b37-38)”

which suggests to us that we see and use the pregnancy of purpose in nature which is made possible by “God” but which is not necessarily supervised by him.

We find, however, that Aristotle also finds this divine possibility as operating *within us*, as follows:

“...this is what we are investigating – what is the starting-point of motion in the [soul]? The answer then is clear: as in the universe, so there, everything is moved by God; for in a manner the divine element in us is the cause of all our motions (κινεῖ γὰρ πᾶς πάντα τὸ ἐν ἡμῖν θεῖον). And the starting-point of reason is not reason but something superior to reason (λόγου δ' ἀρχὴ οὐ λόγος, ἀλλὰ τι κρεῖττον). What, then, could be superior even to knowledge and to intellect, except God (τί οὖν ἂν κρεῖττον καὶ ἐπιστήμης εἴη καὶ νοῦ πλὴν θεός)? Not goodness, for goodness is an instrument of the mind (ἢ γὰρ ἀρετὴ τοῦ νοῦ ὄργανον); and owing to this, as I was saying some time ago, those are called fortunate who although irrational succeed in whatever they start on. And it does not pay them to deliberate, for they have within them a principle of a kind that is better than mind and deliberation (whereas the others have reason but have not this)...It is clear, then, that there are two kinds of good fortune – one divine, owing to which the fortunate man's success is thought to be due to the aid of God (ὁ εὐτυχὴς διὰ θεὸν), and this is the man who is successful in accordance with his impulse (κατὰ τὴν



ὁρμήν), while the other is he who succeeds against his impulse. Both persons are irrational. The former is more continuous good fortune, the latter is not continuous (*E.E.* VIII 1248a25-1248b8)”

from which we see that “*logos*” is regarded as a corrective faculty which *will bring us back into line with* the “goodness” of nature in lieu of “God” itself and is necessary if a person does not happen to possess divinely-inspired “luck” and, perhaps, “genius”<sup>380</sup>. I add that although “God” is not the same as “goodness” (or “virtue” or “*aretē*”), which is “an instrument of the mind”, it is clear that “*logos*” and “goodness” are derivatives of “God”.

I add that we find another aspect of “God” in the “cycles” of an “unmoved mover” regarding which:

“There is...something which is always moved with an unceasing motion, which is motion in a circle; and this is plain not in theory only but in fact (ἔστι τι ἀεὶ κινούμενον κίνησιν ἄπαυστον, αὕτη δ’ ἡ κύκλω (καὶ τοῦτο οὐ λόγῳ μόνον ἀλλ’ ἔργῳ δῆλον)) (*Met.* Λ 1072a21-23)”

and with these “cycles” existing upon the basis of “order” regarding which: “The chief forms of beauty [are] order (τάξις) and symmetry (συμμετρία) and definiteness (τὸ ὁρισμένον) (*Met.* M 1078a36-1078b1)”<sup>381</sup> and upon the basis of “continuity” regarding which: ““Continuous” means that whose motion is essentially one, and cannot be otherwise; and motion is one when it is indivisible, i.e. indivisible in *time* (συνεχὲς δὲ λέγεται οὗ κίνησις μία καθ’ αὐτὸ καὶ μὴ οἷόν τε ἄλλως: μία δ’ οὗ ἀδιαίρετος, ἀδιαίρετος δὲ κατὰ χρόνον) (*Met.* Δ 1016a5-7)”. We therefore see in outline regarding “God” that he is unknowable by us even if his “goodness”, “*logos*”, “cycles”, and “order” *are* knowable by us.

As regards “God’s” unknowability we can add that he is brute “actuality” or “*energeia*” in the sense that:

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<sup>380</sup> On the subject of fortune see Friedemann Buddensiek’s “Does Good Fortune Matter? *Eudemian Ethics* VIII.2 on Eutuchia” in Fiona Leigh (ed.) *The Eudemian Ethics on the Voluntary, Friendship, and Luck* (Leiden, 2012) and Monte Ransome Johnson’s “Luck in Aristotle’s *Physics* and *Ethics*” in Devin Henry & Karen Margrethe Neilsen (eds.) *Bridging the Gap between Aristotle’s Science and Ethics* (Cambridge, 2015).

<sup>381</sup> Cf. “...how is there to be order unless there is something eternal and independent and permanent? (πῶς γὰρ ἔσται τάξις μὴ τινος ὄντος αἰδίου καὶ χωριστοῦ καὶ μένοντος;) (*Met.* K 1060a27-28)”

“...the actuality of thought is life, and God is that actuality (ἡ γὰρ νοῦ ἐνέργεια ζωή, ἐκεῖνος δὲ ἡ ἐνέργεια) (*Met.* Λ 1072b28)”

and he is unknowable as the origin of our thought and life is also unknowable. I add on this theme that Aristotle suggests elsewhere that we are in a relation with “God” (and also “*nous*”) which is analogous to our relationship with the light of the sun which is utterly alien to us *in its nature* but which enables us to see and live, as follows:

“...the cause of a man (ἀνθρώπου αἷτιον) is (i) his elements: fire and earth as matter, and the particular form (τά τε στοιχεῖα, πῦρ καὶ γῆ ὡς ὕλη καὶ τὸ ἴδιον εἶδος); (ii) some external formal cause, viz. his father (καὶ ἔτι τι ἄλλο ἔξω οἷον ὁ πατήρ); and besides these (iii) the sun and the ecliptic, which are neither matter nor form nor privation nor identical in form with him, but cause motion (καὶ παρὰ ταῦτα ὁ ἥλιος καὶ ὁ λοξὸς κύκλος, οὔτε ὕλη ὄντα οὔτ’ εἶδος οὔτε στερησις οὔτε ὁμοειδὲς ἀλλὰ κινοῦντα) (*Met.* Λ 1071a14-18)”.

and I suggest that Aristotle’s emphasis here is that there are a wide range of fundamentals of nature which we cannot see but which *enable us to live*.

In other words, then, I suggest that we see that Aristotle suggests that our world is simply a *suspended reality* in the sense that:

“...we must observe that neither the matter nor the form comes to be – i.e. the proximate matter and form. For everything that changes is something and is changed by something and into something (πάν γὰρ μεταβάλλει τι καὶ ὑπό τινος καὶ εἰς τι). That by which it is changed is the primary mover; that which is changed, the matter; that into which it is changed, the form (ὕφ’ οὗ μὲν, τοῦ πρώτου κινοῦντος: ὁ δέ, ἡ ὕλη: εἰς ὃ δέ, τὸ εἶδος) (*Met.* Λ 1069b35-1070a2)”

and with examples of the cyclical nature of “life” being that:

“...the seed comes from other individuals which are prior and complete, and the first thing is not seed but the complete being, e.g. we must say that before there is a seed there is a man – not the man produced from the seed, but from another from whom the seed comes (τὸ γὰρ σπέρμα ἐξ ἐτέρων ἐστὶ προτέρων τελείων, καὶ τὸ πρῶτον οὐ σπέρμα ἐστὶν ἀλλὰ τὸ τέλειον: οἷον πρότερον ἄνθρωπον ἂν φαίη τις εἶναι τοῦ

σπέρματος, οὐ τὸν ἐκ τούτου γενόμενον ἀλλ' ἕτερον ἐξ οὗ τὸ σπέρμα) (*Met.* Λ 1072b35-1073a3)”

and also that: “For in the generations of men there is a kind of crop as in the fruits of the field (φορὰ γὰρ τίς ἐστὶν ἐν τοῖς γένεσιν ἀνδρῶν ὥσπερ ἐν τοῖς κατὰ τὰς χώρας γιγνομένοις); sometimes, if the race is good, for a certain period men out of the common are born in it, and then it deteriorates (*Rhet.* II 1390b24-27)”.

In basic conclusion, then, we find that Aristotle refers to “God” as the source of “good” and of “*logos*”, as the “order” and “cycles” of “life”, and also as the existence of brute “actuality” itself, i.e. “God” is the meaning behind the structured existence we encounter in the world. I add here that the consequence of this picturing of “God” is that Aristotle insists that just as we should seek to preserve the discreteness and otherness of “God” as far as we can, we should also maintain an awareness of *our own particular being* and “individuality”, as follows:

“...each man wishes himself what is good (ἕκαστος δ' ἐαυτῷ βούλεται τὰγαθὰ), while no one chooses to possess the whole world if he has first to become someone else (γενόμενος δ' ἄλλος αἰρεῖται οὐδεὶς πάντ' ἔχειν ἐκεῖνο τὸ γενόμενον) (for that matter, even now God possesses the good (ἔχει γὰρ καὶ νῦν ὁ θεὸς τὰγαθόν)); he wishes for this only on condition of being whatever he is (ἀλλ' ὧν ὃ τι ποτ' ἐστίν); and the element that thinks would seem to be the individual man, or to be more so than any other element in him (δόξειε δ' ἂν τὸ νοοῦν ἕκαστος εἶναι ἢ μάλιστα) (*N.E.* IX 1166a19-23)”

and with the human individuality which leads Aristotle to argue that we would not want *as human beings* to change places with “God” also being a critical aspect of Aristotle’s argument against the hypostatisation of Plato’s “third man” (and his conceptualisation of “God”), as follows:

“The universal causes, then, of which we spoke do not *exist*. For the *individual* is the source of the individuals. For while man is the cause of man universally, there *is* no universal man (ἄνθρωπος μὲν γὰρ ἀνθρώπου καθόλου, ἀλλ' οὐκ ἔστιν οὐδεὶς); but Peleus is the cause of Achilles, and your father of you (*Met.* Λ 1071a20-23)”

from which we see that Aristotle concludes regarding “man” (a) that our ideas and abstractions are artificial and limited generally and in respect to “God” in particular, (b) that the individual person is his own human self or personality who cannot be directly

related to the non-human being of “God”, and (c) that we should not misrepresent and mutilate our own individual human being by seeking to apply the abstractions of idealism or of an abstract and imperfectly known “God” to it.

I add that we not only see that “man” shows us a limited and distinct “self” but also that this human personality and self of man suggests a creativity in nature which is suggestive of the existence of “the divine” in nature and that our composite nature shows us (through our struggle) “the divine” in the sense that:

“...we must not follow those who advise us, being men, to think of human things, and, being mortal, of mortal things, but must so far as we can, make ourselves immortal, and strain every nerve to live in accordance with the best thing in us (ἀλλ’ ἐφ’ ὅσον ἐνδέχεται ἀθανατίζειν καὶ πάντα ποιεῖν πρὸς τὸ ζῆν κατὰ τὸ κράτιστον τῶν ἐν αὐτῷ); for even if it is small in bulk, much more does it in power and worth surpass everything. This would seem, too, to be each man himself, since it is the authoritative and better part of him (δόξειε δ’ ἂν καὶ εἶναι ἕκαστος τοῦτο, εἴπερ τὸ κύριον καὶ ἄμεινον). It would be strange, then, if he were to choose not the life of his self but that of something else (ἄτοπον οὖν γίνοιτ’ ἂν, εἰ μὴ τὸν αὐτοῦ βίον αἰροῖτο ἀλλὰ τινος ἄλλου) (N.E. X 1177b31-1178a3)”

which properly emphasises the “divine” importance of our human individuality, personality, creativity, and of our “desire to know” which may not be significant in cosmic terms but which are significant because they define us as people and *give us our meaning*. I suggest that this meaningfulness of “personhood” and of “personality” is expressed well (from a religious perspective) by Nicolas Berdyaev, as follows:

“...personality is the coming into being of the future, it consists of creative acts. Objectivisation is impartiality, the ejection of man into the world of determinism. The existence of personality presupposes freedom. The mystery of freedom is the mystery of personality. And this freedom is not freedom of the will in the elementary sense, freedom of choice, which presupposes rationalisation. The worth of man is the personality within him. Human worth consists solely in personality. Human worth is liberation from slavery, liberation also from the servile understanding of religious life and of the relation between man and God. God is the guarantee of the freedom of personality from the enslaving power of nature and society, of the Kingdom of Caesar and of the object world<sup>382</sup>”.

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<sup>382</sup> Berdyaev, Nicolas *Slavery and Freedom* (London, 1943) p 27.

and that Jonathan Beere explains well our final *human* situation from an Aristotelian perspective as being that: "...our own activity of thinking gives us an inkling of what god does. God's activity counts as thinking in that we understand god's activity, to the extent that we understand it at all, in the following way: starting with human thinking, or at least a certain view of it, we solve certain problems and clarify certain confusions to arrive at a clearer view of god's activity<sup>383</sup>" and gives us a useful conclusion that: "One should not think that god has turned out to be a rather anemic god, but that supreme goodness has turned out to be an extreme of simplicity and activity that is incompatible with the complex albeit orderly goodness familiar in the sublunary realm<sup>384</sup>." In short, then, for Aristotle *we* are not and can not aspire to be "God" but we can see that good, order, and meaningfulness infuse our world even if we only see this "divine" aspect of reality derivatively<sup>385</sup>.

Now, if Aristotle's position is, as above, that we can infer "God" through the "good", "order", "cycles", and "personality" that we find in the world and by inference from the basic existence of a dynamic and ordered "actuality" that: "...if besides sensible things (*παρὰ τὰ αἰσθητὰ*) no others exist, there will be no first principle, no order, no becoming, no heavenly bodies (*οὐκ ἔσται ἀρχὴ καὶ τάξις καὶ γένεσις καὶ τὰ οὐράνια*) (*Met. Λ 1075b25-26*)" we also find that Aristotle does not altogether dismiss the positive value of the traditional Greek myths but does rather explain them historiographically, as follows:

"A tradition has been handed down by the ancient thinkers of very early times, and bequeathed to posterity in the form of a myth, to the effect that these heavenly bodies are gods, and that the Divine pervades the whole of nature (*περιέχει τὸ θεῖον τὴν ὅλην*

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<sup>383</sup> Beere, Jonathan "Thinking Thinking Thinking: On God's Self-thinking in Aristotle's *Metaphysics Λ.9*" (online, 2010) p 27

<sup>384</sup> Beere, Jonathan *Ibid.* p 29-30. Beere adds regarding God's "*nous*" that: "God's thinking can serve as a determinate content in a way that ordinary thinking cannot, because god's thinking is not a relationship between god and something further (*Ibid.* p 29)"

<sup>385</sup> I note that Aristotle does suggest that we have something of the "divine" in us on the basis of: "...the divine element (*θεῖον*) which thought (*ὁ νοῦς*) seems to contain (*Met. Λ 1072b23*)" and regarding other animals he contends that: "...a horse is not happy, nor is a bird nor a fish nor any other existing thing whose designation does not indicate that it possesses in its nature a share of something divine (*ὁ μὴ κατὰ τὴν ἐπωνυμίαν ἐν τῇ φύσει μετέχει θεοῦ τινός*), but it is by some other mode of participating in things good that one of them has a better life and another a worse (*E.E. I 1217a26-29*)"

φύσιν). The rest of their tradition has been added later in mythological form to influence the vulgar and as a constitutional and utilitarian expedient (πρὸς τὴν εἰς τοὺς νόμους καὶ τὸ συμφέρον χρῆσιν); they say that these gods are human in shape or are like certain other animals, and make other statements consequent upon and similar to those which we have mentioned. Now if we separate these statements and accept only the first, that they supposed the primary substances to be gods, we must regard it as an inspired saying; and reflect that whereas every art and philosophy has probably been repeatedly developed to the utmost and has perished again, these beliefs of theirs have been preserved as a relic of former knowledge. To this extent only, then, are the views of our forefathers and of the earliest thinkers intelligible to us (*Met.* A 1074b1-14)”

and (having argued that “myths” are a vulgarisation of a perennial philosophy) Aristotle traces philosophy back to “wonder”, as follows:

“All [people] begin, as we have said, by wondering that things should be as they are, e.g. in regard to marionettes, or the solstices, or the incommensurability of the diagonal of a square; because it seems wonderful to everyone who has not yet perceived the cause that a thing should not be measurable by the smallest unit (*Met.* A 983a13-17)”

and also back to “myths” which are the natural expression of this “wonder”, as follows: “...the myth-lover is in a sense a philosopher, since myths are composed of wonders (διὸ καὶ ὁ φιλόμυθος φιλόσοφος πῶς ἐστίν· ὁ γὰρ μῦθος σύγκειται ἐκ θαυμασίων) (*Met.* A 982b18-19)”. I comment that we are reasonably brought back through these historical considerations to Aristotle’s own basic position that: “All men (πάντες ἄνθρωποι) by nature (φύσει) desire (ὀρέγονται) to know (τοῦ εἰδέναι) (*Met.* A 980a22)” and also that Aristotle also suggests that “dialectic” and the parsing of opinions is another preliminary for his form of mature philosophy.

In tracking Aristotle’s thoughts on “God” backwards we find that Aristotle also sees value in Socrates’ “*daemon*” (and we began our discussion on “God” with Aristotle’s thought that: “...nature is δαιμονία [supra human], though not itself divine (ἢ γὰρ φύσις δαιμονία, ἀλλ’ οὐ θεία)”), as follows:

“...the *daimonion* is nothing else than a god or the work of a god; but he who thinks it to be the work of a god necessarily believe that gods exists (τὸ δαιμόνιον οὐδέν ἐστιν ἀλλ’ ἢ θεὸς ἢ θεοῦ ἔργον· καίτοι ὅστις οἶεται θεοῦ ἔργον εἶναι) (*Rhet.* II 1398a15-17)”

and that Aristotle defends Socrates and, interestingly, attacks Plato, as follows:

“...as Aristippus, when in his opinion Plato had expressed himself too presumptuously, said, “Our friend at any rate never spoke like that,” referring to Socrates...[and] in the *Socrates* of Theodectes: “What holy place has he profaned? Which of the gods recognised by the city has he neglected to honour?” (*Rhet.* II 1398b29-31 & 1399a8-10)”

and that Aristotle defends the truthful man on a Socratic basis, as follows:

“...a priestess refused to allow her son to speak in public; “For if,” said she, “you say what is just, men will hate you; if you say what is unjust, the gods will.” On the other hand, “you *should* speak in public; for if you say what is just, the gods will love you, if you say what is unjust, men will” (*Rhet.* II 1399a21-25)”

which leads us to see (a) that Aristotle sees value in Socrates’ thought that we each have a spirit or conscience (as well as “thought”) which is peculiar to us and is in some way representable as being “divine” (b) that Aristotle sees value in his formal (pagan) religion which serves to sanctify a locality and to bind a society together and (c) that both “God” and “man” are in some sense actors in an entangled world and it is hence that Aristotle adds that: “...if not even the gods (οἱ θεοὶ) know everything, hardly can men (*Rhet.* II 1397b13)”<sup>386</sup>.

I add that we have already seen (as throughout) that Aristotle is temperamentally ill-disposed to Plato’s idealism and we do rather find that he is better disposed to Heraclitus’ everyday realism, as follows:

“There is a story which tells us how some visitors once wished to meet Heraclitus, and when they entered and saw him in the kitchen, warming himself at the stove, they hesitated; but Heraclitus said, “Come in; don’t be afraid; there are gods even here” (*PA* I 645a19-24)”

from which I ultimately conclude that Aristotle’s “God” is grounded in being and is inferred from our structured observation of everyday lived being through philosophy. I suggest further that Aristotle’s thinking on “God” and “man” is best explained through the maxim of Leibniz that “one draws back to leap higher”, i.e. man can “see” the unity

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<sup>386</sup> Cf. “...even God and the good man are capable of doing bad deeds (*Top.* IV 126a34-5)”

provided by God only because his character is so conflicted that he is required to leap so much higher.

My own view on “God” accepts the scepticism of Joseph de Maistre that:

“I have read millions of witticisms about the ignorance of the ancients *who saw spirits everywhere*: it seems to me that we are much more foolish in never seeing them anywhere. They never stop talking about *physical causes*, but what is a physical cause?<sup>387</sup>”

and finds good sense in Aristotle’s approach to “the divine” which is both limited and thorough in its thought that “the divine” simply “pervades the whole of nature”. I argue that by removing “God” and its balance and force we run into the temptation to set ourselves up as “God” and / or to lose sight of the balance that we find expressed by the world (however we seek to explain it). I also argue that an Aristotelian “God” avoids the terrible literalness and puritanism that we find exhibited in both biological creationists and also in “Dawkinists” and that it shows us that the pretention of literal purity and certainty relies upon such “straw man” arguments as that which de Maistre exposes as follows: “Who has ever maintained that there was a need for syllogisms to smelt metals, to crystallise salts or to shatter blocks?<sup>388</sup>”.

Ultimately, I suggest that all *real* philosophers and, probably, all *reflective* scientists have understood the limitedness of science and hence the limitedness of the philosophy (or sophism) which claims to base itself upon the idea that “science” is all-encompassing truth. On this last point I believe that we can to some extent at least reverse Werner Heisenberg’s assessment (certainly in Heisenberg’s case) that: “...we may be certain that that final and purest clarity, which is the aim of science, was entirely familiar to Goethe the poet<sup>389</sup>”. I conclude that Aristotle’s philosophical architectonic is a reasonable and thorough assessment of reality in the sense that it is ambitious and expansive and also knows its own limits and insists upon keeping them in mind. The desire to dispense with structures and limits may, conversely, seem to be modest but it

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<sup>387</sup> Maistre, Joseph de *An Examination of the Philosophy of Bacon* (Montreal, [orig. 1836] 1998) p xviii

<sup>388</sup> Maistre, Joseph de *Ibid.* p 18

<sup>389</sup> Heisenberg, Werner “Goethe and Newton on Colour” in *Philosophical Problems of Modern Physics* (Woodbridge, [orig. 1941] 1979) p 76



has, rather, the contrary tendency to be confused and grasping. I therefore commend Aristotle's philosophical architectonic to the reader.

## *Glossary of Greek Terms*

Detail of some core Greek terms employed by Aristotle. Most definitions are extracted from Liddell & Scott, with a few notes from Martin Heidegger [MH]. More detail on how Aristotle uses these terms will be found in the main text – below are only brief, indicative outlines of these complex philosophically-employed terms.

**ἀγχίνοια (agchinoia)** – quick wit, readiness of mind

**αἴσθησις (aisthēsis)** – perception by the senses; common name of the senses – touch, hearing, sight, taste, smell; also **ἀναισθησία** – insensibility to pleasure or pain

**αἰτία (aitia)** – cause; [orig.] a charge, accusation; see also **συναίτιος (joint cause)**

**αἰὼν (aiōn)** – period of existence, lifetime; era, epoch of time

**ἀκμή (akmē)** – the highest point of anything; the bloom, flower, prime of a man's age

**ακρασία (akrasia)** – incontinence, lack of guiding principle

**ἀληθεία (alētheia)** – truth, reality, as opposed to appearance, MH “revealing the order at the start” – see also **οὐσία** and **ἀρχή**

**ἁμαρτία (harmatia)** – a failure, fault, sin; from **ἁμαρτάνω** – to miss, miss the mark

**ἀναλογία (analogia)** – proportion, analogy

**ἀνάλυσις (analysis)** – a loosening, a breaking down something along the lines of its meaning; often contrasted with **σύνθεσις (“seeing together”)**

**ἀνομοιομερῶν (anomoioimerōn)** – “non-uniform” parts of the body viz. face, hand, foot; contrasted with **ὁμοιομερῶν (“uniform parts”)** such as flesh, bone, blood *etc.*

**ἀόριστος (aoristos)** – without boundaries, undefined, indefinite; often contrasted with **ὀρισμένον (determinateness, boundedness)**

**ἀπόδειξις (apodeixis)** – proof, demonstration; setting forth, showing forth, exposition

**ἄπορία (aporia)** – difficulty of passing, perplexity; also **ἄπορος** without passing

**ἀρετή (aretē)** – excellence (of all οὐσίαι), virtue (of man)

**ἀρχή (archē)** – a beginning, origin, first cause, the cause of change and the principle of something being something such and behaving so; also power, sovereignty, dominion; also **ἄρχων – ruler, commander** and see also **υπάρχω (spring up)**

**ἀρχιτέκτονος (architektonos)** – master-craftsman; guiding artist who understands his materials (as a scientist understands his field of investigation); also **ἀρχιτεκτονική (master artistry)**

**ἄφή (haphē)** – a touch, contact, touching, the physical contact between two different objects, the animal sense or sensation of physical contact

**βίος (bios)** – life in a specifically human life (animal life in general uses **ζωή (zōē)**); a course of life, manner of living; a living, livelihood

**βούλευσις (bouleusis)** – deliberation about worldly affairs; often contrasted in its various forms with the various forms of **ἐπιστήμη (scientific knowledge)**

**βούλησις (boulēsis)** – willing, will, wish; a form of **ὄρεξις (appetite)**

**γένος (genos)** – race, stock, family; a class sort kind; an abstract grouping which covers but does not directly refer to species, e.g. animal to pig; see also **εἶδος (form)**

**γνώμη (gnomē)** – understanding, a means of knowing, mind, thought, judgement, intelligence; see also **διάνοια (intelligence)** and **νοῦς (intuition)**

**δεινότης (deinotēs)** – terribleness, cleverness

**διάθεσις (diathesis)** – a disposition, arrangement, bodily disposition; see also **ἔξις (ethical state)** and **πάθος (emotion)**

**διάνοια (dianoia)** - thought, intellect, intelligence; see also **γνώμη (understanding)** and **νοῦς (intuition)**

**δύναμις (dunamis)** – power, potentiality, faculty; often compared with **ἐνέργεια (activity)**

**ἔθος / (ethos)** – an accustomed place, a custom, mores; also ἠθικός ἡθικός – of or for morals, and **τὰ ἠθικά** – a treatise on morals; see also **ἔξις (having, possession)**

**ἔθνος (ethnos)** – a number of people accustomed to live together; flocks; a nation, people, tribe

**εἶναι (einai)** – to be, to exist; also **τὸ ὄν – Being**; and **τὸ τί ἦν εἶναι – essence**, that which enables a thing come to be what it becomes

**ἕκαστος (hekastos)** – particular; every, every one, each, each one; see also **ἕτερος (heteros)**

**ἐμπειρία (empeiria)** – experience, experience in or acquaintance with something; see also **πείρα (trial)**

**ἐν (hen)** – one, a unity; of the state, condition, position, in which one is; often compared with **πολλαχῶς (manifold)**

**ἐνδέχεται (endechetai)** – admitting of being or of not being

**ἐνέργεια (energeia)** – actuality, activity; work; derived from **ἔργον (work)**, often compared with **δύναμις (power)**

**ἐντελέχεια (entelecheia)** – entelechy, goal pointing principle (of specific type of οὐσία); often used with but distinguished from **ἐνέργεια (activity)**

**ἔξις (hexis)** – a having, possession; an ethical state, *esp.* a good habit; see also **ἦθος (custom)**, and also **διάθεσις (disposition)** and **πάθος (emotion)**

**ἐξῶθεν (exōthen)** – from outside

**ἐπαγωγή (epagōgē)** – induction, knowing the world through the process of reasoning from particulars to other particulars and also to universals (i.e. to what is **καθόλου**)

**ἐπαμφοτερίζειν (epamphoterizein)** – to admit a double sense, to “dualise”

**ἐπιθυμία (epithumia)** – desire, longing; a form of **ὄρεξις (appetite)**

**ἐπιστήμη (epistēmē)** – knowledge, scientific knowledge; knowledge of the “why” as well as the “what”; understanding of the principles of some subject matter, a coming to a resolution, point of standing-still (*eph-istemai*); often contrasted in its various forms with the various forms of **βούλευσις (human deliberation)**

**ἔργον (ergon)** – work, function of something; activity, MH “the manner of presencing”

**ἔσχατον (eschaton)** – most extreme example, point, instance of a phenomenon

**ἕτερος (heteros)** – the other, one of two; see also **ἕκαστος (each one)**

**εὐδαιμονία (eudaimonia)** – happiness, good fortune, having a beneficial **δαίμων**

**ἡγούμενον (hēgoumenon)** – ruling part, governing principle; see also **ἀρχή (origin)**

**ἡδονή (hedonē)** – pleasure

**ἦθος (ēthos)** – see **ἔθος**

**θυμός (thumos)** – passion, spirit, courage, seat of self; a form of **ὄρεξις (appetite)**

**θύραθεν (thurathen)** – from outside, from outside the door

**ἴδιος (idios)** – ones’ own, pertaining to oneself, peculiar, property

**καθόλου (katholou)** – on the whole; “universal” in the sense of being what the human mind can grasp about the forms of the world through particulars by means of **ἐπαγωγή (induction)**

**καιρός (kairos)** – due measure, proportion, fitness; the right point in time, the proper time or season of action, the exact or critical time

**κάλος (kalos)** – beautiful, fine, noble

**κατηγορία (katēgoria)** – category; [orig.] accusation, charge [in a lawcourt]

**κίνησις (kinēsis)** – movement, motion

**κοινός (koinos)** – common, shared in common, common to or with another

**κοινωνία (koinōnia)** – community, partnership, fellowship

**κόσμος (kosmos)** – the world universe; the perfect order of being; good behaviour, decency; compared with **τάξις (particulate order)**

**κρασις (krasis)** – blending, compounding, combination

**κράτος (kratos)** – governing power over something

**κύκλος (kuklos)** – ring, circle, round; any circular motion, an orbit of the heavenly bodies, revolution of the seasons, cycle of events

**κύριος (kurios)** – authoritative, dominant, decisive (power, principle, or person)

**λόγος (logos)** – the word or that by which the inward thought is expressed; ratio

**μέθοδος (methodos)** – method, inquiry as a path to nature

**μέσος (mesos, to meson)** – the middle, moderate, mediating

**μεταβολή (metabolē)** – a change, changing, transition (e.g. conversion of food in the metabolic process)

**μέτριος (metrios)** – moderate, holding to the mean; temperate; proportionate, fitting

**μέτρον (metron)** – a measure or rule, that by which anything is measured; measure, length, size

**μίμησις (mimēsis)** – imitation, representation by means of art

**μιξις (mixis)** – mixing, mingling; intercourse with others (compare with **κρασις (blending)**)

**μοῖρα (moira)** – human fate, destiny

**μορφή (morphē)** – form, shape, figure

**μόριον (morion)** – part, a part of a **ὅλος (whole)**

**μῦθος (muthos)** – anything delivered by word of mouth; a tale, story, narrative, fable

**νομός (nomos)** – anything assigned, a usage, custom, law, ordinance; often contrasted with **φύσις (nature)**; also **νόμισμα (money)** anything sanctioned by custom, usage, institution

**νοῦς (nous)** – intuition; mental perception; natural reason; see also **ἀγχίνοια (quickness of wit)**, **διάνοια (intelligence)**, and **γνώμη (understanding)**

**οἰκεῖος (oikeios)** – [orig.] of the house; proper, fitting, suitable for a thing and private to it; conformable to the nature of a thing; also **ἴδιος (idios)** – one's own, pertaining to oneself; private, personal

**ὅλος (holos)** – whole, a whole; often used with **μόριον (part)**

**ὁμοιομερῶν (homoioimerōn)** – “uniform parts” of the body such as flesh, bone, blood *etc.*; contrasted with **ἀνομοιομερῶν (“non-uniform” parts)** of the body such as face, hand, foot *etc.*

**ὄρεξις (orexis)** – appetite, appetition of three types: **ἐπιθυμία, θυμός and βούλησις**

**ὀρισμός (horismos)** – marking out by boundaries, limitation; the definition of a word

**ὀρμή (hormē)** – violent movement onward, impulse, the first stir or start in a thing

**ὅρος (horos)** – boundary, landmark, limit; see also **πέρᾱς (limit)** and **ἔσχατον (final instance)**

**οὗ ἕνεκα (hou heneka)** – that for the sake of which; the final cause; see also **τέλος (end)** and **ἀρχή (origin)**

**οὐσία (ousia)** – that which is one's own, one's substance or property or belongings; the being, essence, nature of a thing; MH “presencing, unconcealedness” – see also **ἀληθεία (truth, revealedness)**

**πάθος (pathos)** a passive characteristic of something; an emotion; a passive state or condition; the incidents or changes to which a thing is liable; often contrasted with **ἔξις (habit)**

**παρρησία (parrēsia)** freeness, openness, frankness, truth-telling  
**πειρα (peira)** - trial, attempt, essay, experiment; see also **ἐμπειρία (experiment)**  
**πέρας (peras)** – an end, limit, boundary; see also **ὅρος (limit)**  
**περιέχων (periechōn)** – that which surrounds something (the “form”, for e.g., surrounds the “matter”)  
**πνεῦμα (pneuma)** – breeze, influence, breath, that which is breathed forth, spirit  
**ποίησις (poiēsis)** – a making, fabrication, creation production; a passive suffering; often contrasted with **πραξις (action)**  
**πόλις (polis)** – city, republic, body of citizens; also **πολιτεία** – the condition and rights of a citizen, citizenship  
**πολιτεία (politeia)** – the condition or constitution of a state; the body of citizens; civic life, the rights of a citizen; citizenship, rights of a citizen (civitas).  
**πολλαχῶς (pollachōs)** – the manifold, the manifoldness of being  
**πραξις (praxis)** – an action, act, doing; also **πρᾶγμα (pragma)** an action which has been done, an actualised thing; often contrasted with **ποίησις (poiēsis)**  
**προαίρεσις (prohairesis)** – a choosing one thing before another, a deliberate choice, a resolution; a principle of action, a commitment to something  
**πρότερος (proteros)** – prior; before, former, sooner; contrasted with **ὕστερος (posterior)**  
**σημεῖον (sēmeion)** – sign, mark, token; a sign from the gods, an omen; a sign or signal; a sign or proof  
**σοφία (sophia)** – intellectually guided wisdom; intuitive wisdom combined with knowledge which enables true thinking and **φιλο-σοφία** – the systematic treatment of a subject and proper investigation of truth and nature; often compared with **φρόνησις (practical wisdom)**  
**σπέρμα (sperma)** – seed, origin  
**σπουδαῖος (spoudaios)** – term used to specifically reference a good man as opposed to general terms such as **κάλος (fine)** and **ἀγαθος (good)**  
**στέρησις (sterēsis)** – privation, deprivation  
**συμβεβηκός (sumbebēkos)** – a chance event, accident, contingency  
**συμβολή (sumbolē)** – a coming together, a contract  
**συμμετρία (summetria)** – commensurability; symmetry, due proportion  
**συναίτιος (sunaitios)** – being the cause of a thing jointly with another  
**σύνεσις (sunesis)** – judgement, a coming-together, union; quick comprehension, mother-wit, intelligence  
**συνεχής (sunechēs)** – continuous, continuous with or contiguous to, in a line with (in space), continuous, unintermitting (in time); constant, persevering (in persons), holding together  
**σύνθεσις (sunthesis)** – a seeing together, combination; often contrasted with **ἀνάλυσις (analysis)**  
**σύνθετον (suntheton)** – composite, complex thing; also **σύνολον (sunolon)** a whole which is a composite  
**συνωνυμία (sunōnumia)** – synonym, “focal reference”  
**σχῆμα (schēma)** – form, shape  
**σώζω (sōzō)** – preserve; to keep, observe, maintain laws  
**σῶμα (sōma)** – the living body  
**σωρός (sōros)** – heap; often contrasted with **ὅλος (whole)**  
**σωτηρία (sōteria)** – saving, deliverance, preservation, safety  
**τάξις (taxis)** – order; an arranging, order of battle, the order or disposition of an army; compared with **κόσμος (cosmic order)**

**τέλος (telos)** – the fulfilment or completion of anything; also **τελευτή (finishing, completion)**

**τέχνη (technē)** – art, skill; an art, i.e. a system or method of making or doing; often contrasted with **ἐπιστήμη (scientific understanding)**

**τόδε τι (tode ti)** – the this itself, a defined individual “this”

**τόπος (topos)** – place; a place, occasion, opportunity; subject topic; see also **χώρα (chōra)**

**τύχη (tuchē)** – chance

**ῥλη (hulē)** – a wood, forest, woodland; firewood, fuel; matter (or “energy”); a subject matter

**ὑποκειμένον (hupokeimenon)** – substratum; that which lies present as enformed or enformable matter

**ὑστερος (husteros)** – posterior; following, coming after; contrasted with **πρότερος (prior)**

**ὑπάρχω (huparchō)** – (from **ἀρχή**) to begin, make a beginning, to begin to be, come into being, arise, spring up – MH “presencing which rules from what already lies present”; also **ὑπαρχή (beginning)** and **ὑπαρχος (commanding under another, a lieutenant)**

**φαντασία (phantasia)** – imagination, the power by which an object is presented

**φάντασμα (phantasma)** – image, appearance of something

**φρόνησις (phronēsis)** – practical wisdom, prudence; the ability to manage one’s affairs and to act effectively and well in the world; often compared with **σοφία (intellectual wisdom)**

**φυλακτικός (phulaktikos)** – preservative, vigilant, observant

**φύσις (phusis)** – the nature, natural qualities, powers, constitution, condition, of a person or thing; from **φύω** – to bring forth, put forth leaves, etc.; often contrasted with **νομός (human law, convention)**

**χαός (chaos)** – chaos

**χώρα (chōra)** – the space in which a thing is; a land, country; one’s place in life; see also **τόπος (place)**

**χωριστός (chōristos)** – separate or separable in thought

**ψυχή (psychē)** – soul; informing essence of something

**ὀρισμένον (hōrismenon)** – boundedness; something which has a boundary, is determinate; a bounded and determined something; often contrasted with **ἀόριστος (indefinite)**

**ὥς ἐπὶ τὸ πολὺ (hōs epi to polu)** – to tend for the most part, things which happen for the most part (but admit exceptions)

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(\*) = available online on authors' homepages, internet journals, academic sites etc.

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